

PTO/SB/05 (03-01)

Approved for use through 10/31/2002. OMB 0651-0032

UTILITY PATENT APPLICATION TRANSMITTAL

(Only for new nonprovisional applications under 37 CFR 1.53(b))

Attorney Docket No.

111325-151

First Inventor

Mark J. Stefik et al.

Title

CONTENT RENDERING REPOSITORY

Express Mail Label No.

APPLICATION ELEMENTS

See MPEP chapter 600 concerning utility patent application contents.

1. ☐ Fee Transmittal Form (e.g., PTO/SB/17)
(Submit an original and a duplicate for fee processing)
2. ☐ Applicant claims small entity status.
See 37 CFR 1.27.
3. ☒ Specification [Total Pages 130]
(preferred arrangement set forth below)
 - Descriptive title of the invention
 - Cross Reference to Related Applications (if applicable)
 - Statement Regarding Fed sponsored R & D (if applicable)
 - Reference to sequence listing, a table, or a computer program listing appendix (if applicable)
 - Background of the Invention
 - Brief Summary of the Invention
 - Brief Description of the Drawings (if filed)
 - Detailed Description
 - Claim(s)
 - Abstract of the Disclosure
4. ☒ Drawing(s) (35 U.S.C. 113) [Total Sheets 13]
5. Oath or Declaration [Total Pages ☐]
 - a. ☐ Newly executed (original or copy)
 - b. ☐ Copy from a prior application (37 CFR 1.63(d))
(for continuation/divisional with Box 18 completed)
 - i. ☐ DELETION OF INVENTOR(S)
Signed statement attached deleting inventor(s) named in the prior application, see 37 CFR 1.63(d)(2) and 1.33(b)
6. ☐ Application Data Sheet. See 37 CFR 1.76

ADDRESS TO: Commissioner for Patents
Box Patent Application
Washington, DC 20231

7. ☐ CD-ROM or CD-R in duplicate, large table or Computer Program (Appendix)
8. Nucleotide and/or Amino Acid Sequence Submission (if applicable, all necessary)
 - a. ☐ Computer Readable Form (CRF)
 - b. Specification Sequence Listing on:
 - i. ☐ CD-ROM or CD-R (2 copies; or
 - ii. ☐ paper
 - c. ☐ Statements verifying identity of above copies

ACCOMPANYING APPLICATION PARTS

9. ☐ Assignment Papers (cover sheet & document(s))
10. ☐ 37 CFR 3.73(b) Statement ☐ Power of Attorney
(when there is an assignee)
11. ☐ English Translation Document (if applicable)
12. ☐ Information Disclosure ☐ Copies of IDS
Statement (IDS)/PTO-1449 Citations
13. ☐ Preliminary Amendment
14. ☒ Return Receipt Postcard (MPEP 503)
(Should be specifically itemized)
15. ☐ Certified Copy of Priority Document(s)
(if foreign priority is claimed)
16. ☐ Nonpublication request under 35 U.S.C. 122(b)(2)(B)(i). Applicant must attach form PTO/SB/35 or its equivalent.
17. ☐ Other: _____

18. If a CONTINUING APPLICATION, check appropriate box, and supply the requisite information below and in a preliminary amendment, or in an Application Data Sheet under 37 CFR 1.76:

☒ Continuation ☐ Divisional ☐ Continuation-in-part (CIP) of prior application No.: 09/778,006 filed 02/07/2001; which is a Division of USSN: 08/967,084 filed 11/10/1997, now Pat. No. 6,236,971 and which is a Continuation of USSN: 08/344,760 filed 11/23/1994, now abandoned

Prior application information:

Examiner James A. Reagan

Group / Art Unit: 3621

For CONTINUATION OR DIVISIONAL APPS only: The entire disclosure of the prior application, from which an oath or declaration is supplied under Box 5b, is considered a part of the disclosure of the accompanying continuation or divisional application and is hereby incorporated by reference. The incorporation can only be relied upon when a portion has been inadvertently omitted from the submitted application parts.

19. CORRESPONDENCE ADDRESS

☒ Customer Number or Bar Code Label

22204

or ☐ Correspondence address below

Name

Address

City

State

Zip Code

Country

Telephone

Fax

Name (Print/Type)

Marc S. Kaufman

Registration No. (Attorney/Agent)

35,212

Signature

Date

January 16, 2003

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re PATENT Application of)
Mark J. STEFIK et al.) Art Unit: 3621 (expected)
Continuation Application of Serial No. 09/778,006) Examiner: James A. Reagan
Filing Date: **January 16, 2003**)
For: **CONTENT RENDERING REPOSITORY**)

PRELIMINARY AMENDMENT

Director of Patents and Trademarks
Washington, D.C. 20231

January 16, 2003

Sir:

Prior to examination of this application, please amend the above-identified application as follows:

In the Title:

Please delete the title and use the following new title:

"Content Rendering Repository"

In the Specification:

On pages 8 and 9 replace to present Summary of the Invention with a new Summary of the Invention as following:

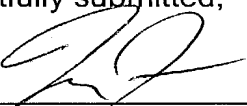
-- An aspect of the invention is a rendering system adapted for use in a system for managing use of content and operative to rendering content in accordance with usage rights associated with the content. The system includes a rendering device configured to render the content and a repository coupled to the rendering device and operative to enforce usage rights associated with the content and permit the rendering device to render the content in accordance with a manner of use specified by the usage rights. --

REMARKS

Please enter this amendment before calculating the filing fee and issuing a substantive Office action.

Examination on the merits is respectfully requested.

Respectfully submitted,

By: 

Marc S. Kaufman
Registration No. 35,212

NIXON PEABODY LLP
8180 Greensboro Drive, Suite 800
McLean, Virginia 22102
Telephone: (703) 770-9300
Fax: (703) 770-9400

MSK/kbd

SYSTEM FOR CONTROLLING THE DISTRIBUTION AND USE OF DIGITAL WORKS USING DIGITAL TICKETS

Field of the Invention

The present invention relates to the field of distribution and usage rights enforcement for digitally encoded works.

Background of the Invention

A fundamental issue facing the publishing and information industries as they consider electronic publishing is how to prevent the unauthorized and unaccounted distribution or usage of electronically published materials. Electronically published materials are typically distributed in a digital form and recreated on a computer based system having the capability to recreate the materials. Audio and video recordings, software, books and multimedia works are all being electronically published. Companies in these industries receive royalties for each accounted for delivery of the materials, e.g. the sale of an audio CD at a retail outlet. Any unaccounted distribution of a work results in an unpaid royalty (e.g. copying the audio recording CD to another digital medium.)

The ease in which electronically published works can be "perfectly" reproduced and distributed is a major concern. The transmission of digital works over networks is commonplace. One such widely used network is the Internet. The Internet is a widespread network facility by which computer users in many universities, corporations and government entities

communicate and trade ideas and information. Computer bulletin boards found on the Internet and commercial networks such as CompuServ and Prodigy allow for the posting and retrieving of digital information. Information services such as Dialog and LEXIS/NEXIS provide databases of current information on a wide variety of topics. Another factor which will exacerbate the situation is the development and expansion of the National Information Infrastructure (the NII). It is anticipated that, as the NII grows, the transmission of digital works over networks will increase many times over. It would be desirable to utilize the NII for distribution of digital works without the fear of widespread unauthorized copying.

The most straightforward way to curb unaccounted distribution is to prevent unauthorized copying and transmission. For existing materials that are distributed in digital form, various safeguards are used. In the case of software, copy protection schemes which limit the number of copies that can be made or which corrupt the output when copying is detected have been employed. Another scheme causes software to become disabled after a predetermined period of time has lapsed. A technique used for workstation based software is to require that a special hardware device must be present on the workstation in order for the software to run, e.g., see U.S. Patent No. 4,932,054 entitled "Method and Apparatus for Protecting Computer Software Utilizing Coded Filter Network in Conjunction with an Active Coded Hardware Device." Such devices are provided with the software and are commonly referred to as dongles.

Yet another scheme is to distribute software, but which requires a "key" to enable it's use. This is employed in distribution schemes where "demos" of the software are provided on a medium along with the entire product. The demos can be freely used, but in order to use the actual product, the key must be purchased. These scheme do not hinder copying of the software once the key is initially purchased.

A system for ensuring that licenses are in place for using licensed products is described in PCT Publication WO 93/01550 to Griswold entitled "License Management System and Method." The licensed product may be any electronically published work but is most effective for use with works that are used for extended periods of time such as software programs. Griswold requires that the licensed product contain software to invoke a license check monitor at predetermined time intervals. The license check monitor generates request datagrams which identify the licensee. The request datagrams are sent to a license control system over an appropriate communication facility. The license control system then checks the datagram to determine if the datagram is from a valid licensee. The license control system then sends a reply datagram to the license check monitor indicating denial or approval of usage. The license control system will deny usage in the event that request datagrams go unanswered after a predetermined period of time (which may indicate an unauthorized attempt to use the licensed product). In this system, usage is managed at a central location by the response datagrams. So for example if license fees have not been paid, access to the licensed product is terminated.

It is argued by Griswold that the described system is advantageous because it can be implemented entirely in software. However, the system described by Griswold has limitations. An important limitation is that during the use of the licensed product, the user must always be coupled to an appropriate communication facility in order to send and receive datagrams. This creates a dependency on the communication facility. So if the communication facility is not available, the licensed product cannot be used. Moreover, some party must absorb the cost of communicating with the license server.

A system for controlling the distribution of digitally encoded books is embodied in a system available from VPR Systems, LTD. of St. Louis, Missouri. The VPR system is self-contained and is comprised of: (1) point of sale kiosks for storing and downloading of books, (2) personal storage mediums (cartridges) to which the books are downloaded, and (3) readers for viewing the book. In a purchase transaction, a purchaser will purchase a voucher card representing the desired book. The voucher will contain sufficient information to identify the book purchased and perhaps some demographic information relating to the sales transaction. To download the book, the voucher and the cartridge are inserted into the kiosk.

The VPR system may also be used as a library. In such an embodiment, the kiosk manages the number of "copies" that may be checked out at one time. Further, the copy of the book is erased from the users cartridge after a certain check-out time has expired. However, individuals cannot loan books because the cartridges may only be used with the owners reader.

The foregoing distribution and protection schemes operate in part by preventing subsequent distribution of the work. While this certainly prevents unauthorized distributions, it does so by sacrificing the potential for subsequent revenue bearing uses. For example, it may be desirable to allow the lending of a purchased work to permit exposure of the work to potential buyers. Another example would be to permit the creation of a derivative work for a fee. Yet another example would be to permit copying the work for a fee (essentially purchasing it). Thus, it would be desirable to provide flexibility in how the owner of a digital work may allow it to be distributed.

While flexibility in distribution is a concern, the owners of a work want to make sure they are paid for such distributions. In U.S. Patent No. 4,977, 594 to Shear, entitled "Database Usage Metering and Protection System and Method," a system for metering and billing for usage of information distributed on a CD-ROM is described. The system requires the addition of a billing module to the computer system. The billing module may operate in a number of different ways. First, it may periodically communicate billing data to a central billing facility, whereupon the user may be billed. Second, billing may occur by disconnecting the billing module and the user sending it to a central billing facility where the data is read and a user bill generated.

U.S. Patent No. 5, 247, 575, Sprague et al., entitled "Information Distribution System", describes an information distribution system which provides and charges only for user selected information. A plurality of

encrypted information packages (IPs) are provided at the user site, via high and/or low density storage media and/or by broadcast transmission. Some of the IPs may be of no interest to the user. The IPs of interest are selected by the user and are decrypted and stored locally. The IPs may be printed, displayed or even copied to other storage medias. The charges for the selected IP's are accumulated within a user apparatus and periodically reported by telephone to a central accounting facility. The central accounting facility also issues keys to decrypt the IPs. The keys are changed periodically. If the central accounting facility has not issued a new key for a particular user station, the station is unable to retrieve information from the system when the key is changed.

A system available from Wave Systems Corp. of Princeton, New York, provides for metering of software usage on a personal computer. The system is installed onto a computer and collects information on what software is in use, encrypts it and then transmits the information to a transaction center. From the transaction center, a bill is generated and sent to the user. The transaction center also maintains customer accounts so that licensing fees may be forwarded directly to the software providers. Software operating under this system must be modified so that usage can be accounted.

Known techniques for billing do not provide for billing of copies made of the work. For example, if data is copied from the CD-ROM described in Shear, any subsequent use of the copy of the information cannot be metered or billed. In other words, the means for billing runs with the media rather

THE UNIVERSITY OF CHICAGO LIBRARY

Summary of the Invention

A system for controlling the distribution and use of digital works using digital tickets is disclosed. A ticket is an indicator that the ticket holder has already paid for or is otherwise entitled to some specified right, product or service. In the present invention, a "digital ticket" is used to enable the ticket holder to exercise usage rights specifying the requirement of the digital ticket. Usage rights are used to define how a digital work may be used or distributed. Specific instances of usage rights are used to indicate a particular manner of use or distribution. A usage right may specify a digital ticket which must be present before the right may be exercised. For example, a digital ticket may be specified in a Copy right of a digital work, so that exercise of the Copy right requires the party that desires a copy of the digital work be in possession of the necessary digital ticket. After a copy of the digital work is successfully sent to the requesting party, the digital ticket is "punched" to indicate that a copy of the digital work has been made. When the ticket is "punched" a predetermined number of times, it may no longer be used.

Digital works are stored in repositories. Repositories enforce the usage rights for digital works. Each repository has a "generic ticket agent" which punches tickets. In some instances only the generic ticket agent is necessary. In other instances, punching by a "special ticket agent" residing on another repository may be desired. Punching by a "special ticket agent" enables greater security and control of the digital work. For example, it can help prevent digital ticket forgery. Special ticket agents are also useful in situations where an external database needs to be updated or checked.

A digital ticket is merely an instance of a digital work. Thus, a digital ticket may be distributed among repositories in the same fashion as other digital works.

A digital ticket may be used in many commercial scenarios such as in the purchase of software and prepaid upgrades. A digital ticket may also be used to limit the number of times that a right may be exercised. For example, a user may purchase a copy of a digital work, along with the right to make up to 5 Copies. In this case, the Copy right would have associated therewith a digital ticket that can be punched up to 5 times. Other such commercial scenarios will become apparent from the detailed description.

Brief Description of the Drawings

Figure 1 is a flowchart illustrating a simple instantiation of the operation of the currently preferred embodiment of the present invention.

Figure 2 is a block diagram illustrating the various repository types and the repository transaction flow between them in the currently preferred embodiment of the present invention.

Figure 3 is a block diagram of a repository coupled with a credit server in the currently preferred embodiment of the present invention.

Figures 4a and 4b are examples of rendering systems as may be utilized in the currently preferred embodiment of the present invention.

Figure 5 illustrates a contents file layout for a digital work as may be utilized in the currently preferred embodiment of the present invention.

Figure 6 illustrates a contents file layout for an individual digital work of the digital work of Figure 5 as may be utilized in the currently preferred embodiment of the present invention.

Figure 7 illustrates the components of a description block of the currently preferred embodiment of the present invention.

Figure 8 illustrates a description tree for the contents file layout of the digital work illustrated in Figure 5.

Figure 9 illustrates a portion of a description tree corresponding to the individual digital work illustrated in Figure 6.

Figure 10 illustrates a layout for the rights portion of a description block as may be utilized in the currently preferred embodiment of the present invention.

Figure 11 is a description tree wherein certain d-blocks have PRINT usage rights and is used to illustrate "strict" and "lenient" rules for resolving usage rights conflicts.

Figure 12 is a block diagram of the hardware components of a repository as are utilized in the currently preferred embodiment of the present invention.

Figure 13 is a block diagram of the functional (logical) components of a repository as are utilized in the currently preferred embodiment of the present invention.

Figure 14 is diagram illustrating the basic components of a usage right in the currently preferred embodiment of the present invention.

Figure 15 lists the usage rights grammar of the currently preferred embodiment of the present invention.

Figure 16 is a flowchart illustrating the steps of certificate delivery, hotlist checking and performance testing as performed in a registration

transaction as may be performed in the currently preferred embodiment of the present invention.

Figure 17 is a flowchart illustrating the steps of session information exchange and clock synchronization as may be performed in the currently preferred embodiment of the present invention, after each repository in the registration transaction has successfully completed the steps described in Figure 16.

Figure 18 is a flowchart illustrating the basic flow for a usage transaction, including the common opening and closing step, as may be performed in the currently preferred embodiment of the present invention.

Figure 19 is a state diagram of server and client repositories in accordance with a transport protocol followed when moving a digital work from the server to the client repositories, as may be performed in the currently preferred embodiment of the present invention.

Detailed Description of the Preferred Embodiment

TABLE OF CONTENTS

	Page No.
<u>OVERVIEW</u>	15
<u>RENDERING SYSTEMS</u>	19
<u>STRUCTURE OF DIGITAL WORKS</u>	21
<u>ATTACHING USAGE RIGHTS TO A DIGITAL WORK</u>	26
<i>Resolving Conflicting Rights</i>	27
<u>REPOSITORIES</u>	28
<i>Repository Security Classes</i>	35
<i>Repository User Interface</i>	37
<u>CREDIT SERVERS</u>	38
<u>USAGE RIGHTS LANGUAGE</u>	40
<i>Copy Count Specification</i>	48
<i>Control Specification</i>	48
<i>Time Specification</i>	49
<i>Security Class and Authorization Specification</i>	51
<i>Usage Fees and Incentives Specification</i>	54
<i>Examples of Sets of Usage Rights</i>	58
<u>REPOSITORY TRANSACTIONS</u>	61
<i>Message Transmission</i>	62
<i>Session Initiation Transactions</i>	63
<i>Billing Transactions</i>	69
<i>Usage Transactions</i>	71
Transmission Protocol.....	76

	Page No.
The Copy Transaction	80
The Transfer Transaction	81
The Loan Transaction	82
The Play Transaction	85
The Print Transaction	86
The Backup Transaction	88
The Restore Transaction	89
The Delete Transaction	91
The Directory Transaction	91
The Folder Transaction	92
The Extract Transaction	93
The Embed Transaction	94
The Edit Transaction	95
The Authorization Transaction	97
The Install Transaction	99
The Uninstall Transaction	101
<u>DISTRIBUTION AND USE SCENARIOS</u>	103
APPENDIX A GLOSSARY	120

OVERVIEW

A system for controlling use and distribution of digital works is disclosed. The present invention is directed to supporting commercial transactions involving digital works. The transition to digital works profoundly and fundamentally changes how creativity and commerce can work. It changes the cost of transporting or storing works because digital property is almost "massless." Digital property can be transported at electronic speeds and requires almost no warehousing. Keeping an unlimited supply of virtual copies on hand requires essentially no more space than keeping one copy on hand. The digital medium also lowers the costs of alteration, reuse and billing.

There is a market for digital works because creators are strongly motivated to reuse portions of digital works from others rather than creating their own completely. This is because it is usually so much easier to use an existing stock photo or music clip than to create a new one from scratch.

Herein the terms "digital work", "work" and "content" refer to any work that has been reduced to a digital representation. This would include any audio, video, text, or multimedia work and any accompanying interpreter (e.g. software) that may be required for recreating the work. The term composite work refers to a digital work comprised of a collection of other digital works. The term "usage rights" or "rights" is a term which refers to rights granted to a recipient of a digital work. Generally, these rights define how a digital work can be used and if it can be further distributed. Each

usage right may have one or more specified conditions which must be satisfied before the right may be exercised. Appendix 1 provides a Glossary of the terms used herein.

A key feature of the present invention is that usage rights are permanently "attached" to the digital work. Copies made of a digital work will also have usage rights attached. Thus, the usage rights and any associated fees assigned by a creator and subsequent distributor will always remain with a digital work.

The enforcement elements of the present invention are embodied in repositories. Among other things, repositories are used to store digital works, control access to digital works, bill for access to digital works and maintain the security and integrity of the system.

The combination of attached usage rights and repositories enable distinct advantages over prior systems. As noted in the prior art, payment of fees are primarily for the initial access. In such approaches, once a work has been read, computational control over that copy is gone. Metaphorically, "the content genie is out of the bottle and no more fees can be billed." In contrast, the present invention never separates the fee descriptions from the work. Thus, the digital work genie only moves from one trusted bottle (repository) to another, and all uses of copies are potentially controlled and billable.

Figure 1 is a high level flowchart omitting various details but which demonstrates the basic operation of the present invention. Referring to

Figure 1, a creator creates a digital work, step 101. The creator will then determine appropriate usage rights and fees, attach them to the digital work, and store them in Repository 1, step 102. The determination of appropriate usage rights and fees will depend on various economic factors. The digital work remains securely in Repository 1 until a request for access is received. The request for access begins with a session initiation by another repository. Here a Repository 2 initiates a session with Repository 1, step 103. As will be described in greater detail below, this session initiation includes steps which helps to insure that the respective repositories are trustworthy. Assuming that a session can be established, Repository 2 may then request access to the Digital Work for a stated purpose, step 104. The purpose may be, for example, to print the digital work or to obtain a copy of the digital work. The purpose will correspond to a specific usage right. In any event, Repository 1 checks the usage rights associated with the digital work to determine if the access to the digital work may be granted, step 105. The check of the usage rights essentially involves a determination of whether a right associated with the access request has been attached to the digital work and if all conditions associated with the right are satisfied. If the access is denied, repository 1 terminates the session with an error message, step 106. If access is granted, repository 1 transmits the digital work to repository 2, step 107. Once the digital work has been transmitted to repository 2, repository 1 and 2 each generate billing information for the access which is transmitted to a credit server, step 108. Such double billing reporting is done to insure against attempts to circumvent the billing process.

Figure 2 illustrates the basic interactions between repository types in the present invention. As will become apparent from Figure 2, the various repository types will serve different functions. It is fundamental that repositories will share a core set of functionality which will enable secure and trusted communications. Referring to Figure 2, a repository 201 represents the general instance of a repository. The repository 201 has two modes of operation; a server mode and a requester mode. When in the server mode, the repository will be receiving and processing access requests to digital works. When in the requester mode, the repository will be initiating requests to access digital works. Repository 201 is general in the sense that it's primary purpose is as an exchange medium for digital works. During the course of operation, the repository 201 may communicate with a plurality of other repositories, namely authorization repository 202, rendering repository 203 and master repository 204. Communication between repositories occurs utilizing a repository transaction protocol 205.

Communication with an authorization repository 202 may occur when a digital work being accessed has a condition requiring an authorization. Conceptually, an authorization is a digital certificate such that possession of the certificate is required to gain access to the digital work. An authorization is itself a digital work that can be moved between repositories and subjected to fees and usage rights conditions. An authorization may be required by both repositories involved in an access to a digital work.

Communication with a rendering repository 203 occurs in connection with the rendering of a digital work. As will be described in greater detail

below, a rendering repository is coupled with a rendering device (e.g. a printer device) to comprise a rendering system.

Communication with a master repository 205 occurs in connection with obtaining an identification certificate. Identification certificates are the means by which a repository is identified as "trustworthy". The use of identification certificates is described below with respect to the registration transaction.

Figure 3 illustrates the repository 201 coupled to a credit server 301. The credit server 301 is a device which accumulates billing information for the repository 201. The credit server 301 communicates with repository 201 via billing transactions 302 to record billing transactions. Billing transactions are reported to a billing clearinghouse 303 by the credit server 301 on a periodic basis. The credit server 301 communicates to the billing clearinghouse 303 via clearinghouse transactions 304. The clearinghouse transactions 304 enable a secure and encrypted transmission of information to the billing clearinghouse 303.

RENDERING SYSTEMS

A rendering system is generally defined as a system comprising a repository and a rendering device which can render a digital work into its desired form. Examples of a rendering system may be a computer system, a digital audio system, or a printer. A rendering system has the same security features as a repository. The coupling of a rendering repository with the

rendering device may occur in a manner suitable for the type of rendering device.

Figure 4a illustrates a printer as an example of a rendering system. Referring to Figure 4, printer system 401 has contained therein a printer repository 402 and a print device 403. It should be noted that the dashed line defining printer system 401 defines a secure system boundary. Communications within the boundary is assumed to be secure. Depending on the security level, the boundary also represents a barrier intended to provide physical integrity. The printer repository 402 is an instantiation of the rendering repository 205 of Figure 2. The printer repository 402 will in some instances contain an ephemeral copy of a digital work which remains until it is printed out by the print engine 403. In other instances, the printer repository 402 may contain digital works such as fonts, which will remain and can be billed based on use. This design assures that all communication lines between printers and printing devices are encrypted, unless they are within a physically secure boundary. This design feature eliminates a potential "fault" point through which the digital work could be improperly obtained. The printer device 403 represents the printer components used to create the printed output.

Also illustrated in Figure 4a is the repository 404. The repository 404 is coupled to the printer repository 402. The repository 404 represents an external repository which contains digital works.

Figure 4b is an example of a computer system as a rendering system. A computer system may constitute a "multi-function" device since it may

execute digital works (e.g. software programs) and display digital works (e.g. a digitized photograph). Logically, each rendering device can be viewed as having its own repository, although only one physical repository is needed. Referring to Figure 4b, a computer system 410 has contained therein a display/execution repository 411. The display/execution repository 411 is coupled to display device, 412 and execution device 413. The dashed box surrounding the computer system 410 represents a security boundary within which communications are assumed to be secure. The display/execution repository 411 is further coupled to a credit server 414 to report any fees to be billed for access to a digital work and a repository 415 for accessing digital works stored therein.

STRUCTURE OF DIGITAL WORKS

Usage rights are attached directly to digital works. Thus, it is important to understand the structure of a digital work. The structure of a digital work, in particular composite digital works, may be naturally organized into an acyclic structure such as a hierarchy. For example, a magazine has various articles and photographs which may have been created and are owned by different persons. Each of the articles and photographs may represent a node in a hierarchical structure. Consequently, controls, i.e. usage rights, may be placed on each node by the creator. By enabling control and fee billing to be associated with each node, a creator of a work can be assured that the rights and fees are not circumvented.

In the currently preferred embodiment, the file information for a digital work is divided into two files: a "contents" file and a "description tree" file. From the perspective of a repository, the "contents" file is a stream of addressable bytes whose format depends completely on the interpreter used to play, display or print the digital work. The description tree file makes it possible to examine the rights and fees for a work without reference to the content of the digital work. It should be noted that the term description tree as used herein refers to any type of acyclic structure used to represent the relationship between the various components of a digital work.

Figure 5 illustrates the layout of a contents file. Referring to Figure 5, a digital work 509 is comprised of story A 510, advertisement 511, story B 512 and story C 513. It is assumed that the digital work is stored starting at a relative address of 0. Each of the parts of the digital work are stored linearly so that story A 510 is stored at approximately addresses 0-30,000, advertisement 511 at addresses 30,001-40,000, story B 512 at addresses 40,001-60,000 and story C 513 at addresses 60,001-85K. The detail of story A 510 is illustrated in Figure 6. Referring to Figure 6, the story A 510 is further broken down to show text 614 stored at address 0-1500, soldier photo 615 at addresses 1501-10,000, graphics 616 stored at addresses 10,001-25,000 and sidebar 617 stored address 25,001-30,000. Note that the data in the contents file may be compressed (for saving storage) or encrypted (for security).

From Figures 5 and 6 it is readily observed that a digital work can be represented by its component parts as a hierarchy. The description tree for a

digital work is comprised of a set of related descriptor blocks (d-blocks). The contents of each d-block is described with respect to Figure 7. Referring to Figure 7, a d-block 700 includes an identifier 701 which is a unique identifier for the work in the repository, a starting address 702 providing the start address of the first byte of the work, a length 703 giving the number of bytes in the work, a rights portion 704 wherein the granted usage rights and their status data are maintained, a parent pointer 705 for pointing to a parent d-block and child pointers 706 for pointing to the child d-blocks. In the currently preferred embodiment, the identifier 701 has two parts. The first part is a unique number assigned to the repository upon manufacture. The second part is a unique number assigned to the work upon creation. The rights portion 704 will contain a data structure, such as a look-up table, wherein the various information associated with a right is maintained. The information required by the respective usage rights is described in more detail below. D-blocks form a strict hierarchy. The top d-block of a work has no parent; all other d-blocks have one parent. The relationship of usage rights between parent and child d-blocks and how conflicts are resolved is described below.

A special type of d-block is a "shell" d-block. A shell d-block adds no new content beyond the content of its parts. A shell d-block is used to add rights and fee information, typically by distributors of digital works.

Figure 8 illustrates a description tree for the digital work of Figure 5. Referring to Figure 8, a top d-block 820 for the digital work points to the various stories and advertisements contained therein. Here, the top d-block

820 points to d-block 821 (representing story A 510), d-block 822 (representing the advertisement 511), d-block 823 (representing story B 512) and d-block 824 (representing story C 513).

The portion of the description tree for Story A 510 is illustrated in Figure 9. D-block 925 represents text 614, d-block 926 represents photo 615, d-block 927 represents graphics 616 by and d-block 928 represents sidebar 617.

The rights portion 704 of a descriptor block is further illustrated in Figure 10. Figure 10 illustrates a structure which is repeated in the rights portion 704 for each right. Referring to Figure 10, each right will have a right code field 1001 and status information field 1002. The right code field 1001 will contain a unique code assigned to a right. The status information field 1002 will contain information relating to the state of a right and the digital work. Such information is indicated below in Table 1. The rights as stored in the rights portion 304 may typically be in numerical order based on the right code.

The approach for representing digital works by separating description data from content assumes that parts of a file are contiguous but takes no position on the actual representation of content. In particular, it is neutral to the question of whether content representation may take an object oriented approach. It would be natural to represent content as objects. In principle, it may be convenient to have content objects that include the billing structure and rights information that is represented in the d-blocks. Such variations in the design of the representation are possible and are

Property	Value	Use
Copies-in-Use	Number	A counter of the number of copies of a work that are in use. Incremented when another copy is used; decremented when use is completed.
Loan-Period	Time-Units	Indicator of the maximum number of time-units that a document can be loaned out
Loaner-Copy	Boolean	Indicator that the current work is a loaned out copy of an authorized digital work.
Remaining-Time	Time-Units	Indicator of the remaining time of use on a metered document right.
Document-Descr	String	A string containing various identifying information about a document. The exact format of this is not specified, but it can include information such as a publisher name, author name, ISBN number, and so on.
Revenue-Owner	RO-Descr	A handle identifying a revenue owner for a digital work. This is used for reporting usage fees.
Publication-Date	Date-Descr	The date that the digital work was published.
History-list	History-Rec	A list of events recording the repostories and dates for operations that copy, transfer, backup, or restore a digital work.

TABLE 1
DIGITAL WORK STATE INFORMATION

viable alternatives but may introduce processing overhead, e.g. the interpretation of the objects.

Digital works are stored in a repository as part of a hierarchical file system. Folders (also termed directories and sub-directories) contain the digital works as well as other folders. Digital works and folders in a folder

are ordered in alphabetical order. The digital works are typed to reflect how the files are used. Usage rights can be attached to folders so that the folder itself is treated as a digital work. Access to the folder would then be handled in the same fashion as any other digital work. As will be described in more detail below, the contents of the folder are subject to their own rights. Moreover, file management rights may be attached to the folder which define how folder contents can be managed.

ATTACHING USAGE RIGHTS TO A DIGITAL WORK

It is fundamental to the present invention that the usage rights are treated as part of the digital work. As the digital work is distributed, the scope of the granted usage rights will remain the same or may be narrowed. For example, when a digital work is transferred from a document server to a repository, the usage rights may include the right to loan a copy for a predetermined period of time (called the original rights). When the repository loans out a copy of the digital work, the usage rights in the loaner copy (called the next set of rights) could be set to prohibit any further rights to loan out the copy. The basic idea is that one cannot grant more rights than they have.

The attachment of usage rights into a digital work may occur in a variety of ways. If the usage rights will be the same for an entire digital work, they could be attached when the digital work is processed for deposit in the digital work server. In the case of a digital work having different usage rights for the various components, this can be done as the digital work is being created. An authoring tool or digital work assembling tool could be

utilized which provides for an automated process of attaching the usage rights.

As will be described below, when a digital work is copied, transferred or loaned, a "next set of rights" can be specified. The "next set of rights" will be attached to the digital work as it is transported.

Resolving Conflicting Rights

Because each part of a digital work may have its own usage rights, there will be instances where the rights of a "contained part" are different from its parent or container part. As a result, conflict rules must be established to dictate when and how a right may be exercised. The hierarchical structure of a digital work facilitates the enforcement of such rules. A "strict" rule would be as follows: a right for a part in a digital work is sanctioned if and only if it is sanctioned for the part, for ancestor d-blocks containing the part and for all descendent d-blocks. By sanctioned, it is meant that (1) each of the respective parts must have the right, and (2) any conditions for exercising the right are satisfied.

It also possible to implement the present invention using a more lenient rule. In the more lenient rule, access to the part may be enabled to the descendent parts which have the right, but access is denied to the descendents which do not.

Example of applying both the strict rule and lenient is illustrated with reference to Figure 11. Referring to Figure 11, a root d-block 1101 has child d-blocks 1102-1105. In this case, root d-block represents a magazine, and each of the child d-blocks 1102-1105 represent articles in the magazine. Suppose that a request is made to PRINT the digital work represented by root d-block 1101 wherein the strict rule is followed. The rights for the root d-block 1101 and child d-blocks 1102-1105 are then examined. Root d-block 1101 and child d-blocks 1102 and 1105 have been granted PRINT rights. Child d-block 1103 has not been granted PRINT rights and child d-block 1104 has PRINT rights conditioned on payment of a usage fee.

Under the strict rule the PRINT right cannot be exercised because the child d-block does not have the PRINT right. Under the lenient rule, the result would be different. The digital works represented by child d-blocks 1102 and 1105 could be printed and the digital work represented by d-block 1104 could be printed so long as the usage fee is paid. Only the digital work represented by d-block 1103 could not be printed. This same result would be accomplished under the strict rule if the requests were directed to each of the individual digital works.

The present invention supports various combinations of allowing and disallowing access. Moreover, as will be described below, the usage rights grammar permits the owner of a digital work to specify if constraints may be imposed on the work by a container part. The manner in which digital

works may be sanctioned because of usage rights conflicts would be implementation specific and would depend on the nature of the digital works.

REPOSITORIES

Many of the powerful functions of repositories -- such as their ability to "loan" digital works or automatically handle the commercial reuse of digital works -- are possible because they are trusted systems. The systems are trusted because they are able to take responsibility for fairly and reliably carrying out the commercial transactions. That the systems can be responsible ("able to respond") is fundamentally an issue of integrity. The integrity of repositories has three parts: physical integrity, communications integrity, and behavioral integrity.

Physical integrity refers to the integrity of the physical devices themselves. Physical integrity applies both to the repositories and to the protected digital works. Thus, the higher security classes of repositories themselves may have sensors that detect when tampering is attempted on their secure cases. In addition to protection of the repository itself, the repository design protects access to the content of digital works. In contrast with the design of conventional magnetic and optical devices -- such as floppy disks, CD-ROMs, and videotapes -- repositories never allow non-trusted systems to access the works directly. A maker of generic computer systems cannot guarantee that their platform will not be used to make unauthorized copies. The manufacturer provides generic capabilities for reading and writing information, and the general nature of the functionality

of the general computing device depends on it. Thus, a copy program can copy arbitrary data. This copying issue is not limited to general purpose computers. It also arises for the unauthorized duplication of entertainment "software" such as video and audio recordings by magnetic recorders. Again, the functionality of the recorders depends on their ability to copy and they have no means to check whether a copy is authorized. In contrast, repositories prevent access to the raw data by general devices and can test explicit rights and conditions before copying or otherwise granting access. Information is only accessed by protocol between trusted repositories.

Communications integrity refers to the integrity of the communications channels between repositories. Roughly speaking, communications integrity means that repositories cannot be easily fooled by "telling them lies." Integrity in this case refers to the property that repositories will only communicate with other devices that are able to present proof that they are certified repositories, and furthermore, that the repositories monitor the communications to detect "impostors" and malicious or accidental interference. Thus the security measures involving encryption, exchange of digital certificates, and nonces described below are all security measures aimed at reliable communication in a world known to contain active adversaries.

Behavioral integrity refers to the integrity in what repositories do. What repositories do is determined by the software that they execute. The integrity of the software is generally assured only by knowledge of its source. Restated, a user will trust software purchased at a reputable

computer store but not trust software obtained off a random (insecure) server on a network. Behavioral integrity is maintained by requiring that repository software be certified and be distributed with proof of such certification, i.e. a digital certificate. The purpose of the certificate is to authenticate that the software has been tested by an authorized organization, which attests that the software does what it is supposed to do and that it does not compromise the behavioral integrity of a repository. If the digital certificate cannot be found in the digital work or the master repository which generated the certificate is not known to the repository receiving the software, then the software cannot be installed.

In the description of Figure 2, it was indicated that repositories come in various forms. All repositories provide a core set of services for the transmission of digital works. The manner in which digital works are exchanged is the basis for all transaction between repositories. The various repository types differ in the ultimate functions that they perform. Repositories may be devices themselves, or they may be incorporated into other systems. An example is the rendering repository 205 of Figure 2.

A repository will have associated with it a repository identifier. Typically, the repository identifier would be a unique number assigned to the repository at the time of manufacture. Each repository will also be classified as being in a particular security class. Certain communications and transactions may be conditioned on a repository being in a particular security class. The various security classes are described in greater detail below.

As a prerequisite to operation, a repository will require possession of an identification certificate. Identification certificates are encrypted to prevent forgery and are issued by a Master repository. A master repository plays the role of an authorization agent to enable repositories to receive digital works. Identification certificates must be updated on a periodic basis. Identification certificates are described in greater detail below with respect to the registration transaction.

A repository has both a hardware and functional embodiment. The functional embodiment is typically software executing on the hardware embodiment. Alternatively, the functional embodiment may be embedded in the hardware embodiment such as an Application Specific Integrated Circuit (ASIC) chip.

The hardware embodiment of a repository will be enclosed in a secure housing which if compromised, may cause the repository to be disabled. The basic components of the hardware embodiment of a repository are described with reference to Figure 12. Referring to Figure 12, a repository is comprised of a processing means 1200, storage system 1207, clock 1205 and external interface 1206. The processing means 1200 is comprised of a processor element 1201 and processor memory 1202. The processing means 1201 provides controller, repository transaction and usage rights transaction functions for the repository. Various functions in the operation of the repository such as decryption and/or decompression of digital works and transaction messages are also performed by the processing means 1200. The processor element 1201 may be a microprocessor or other suitable

computing component. The processor memory 1202 would typically be further comprised of Read Only Memories (ROM) and Random Access Memories (RAM). Such memories would contain the software instructions utilized by the processor element 1201 in performing the functions of the repository.

The storage system 1207 is further comprised of descriptor storage 1203 and content storage 1204. The description tree storage 1203 will store the description tree for the digital work and the content storage will store the associated content. The description tree storage 1203 and content storage 1204 need not be of the same type of storage medium, nor are they necessarily on the same physical device. So for example, the descriptor storage 1203 may be stored on a solid state storage (for rapid retrieval of the description tree information), while the content storage 1204 may be on a high capacity storage such as an optical disk.

The clock 1205 is used to time-stamp various time based conditions for usage rights or for metering usage fees which may be associated with the digital works. The clock 1205 will have an uninterruptable power supply, e.g. a battery, in order to maintain the integrity of the time-stamps. The external interface means 1206 provides for the signal connection to other repositories and to a credit server. The external interface means 1206 provides for the exchange of signals via such standard interfaces such as RS-232 or Personal Computer Manufacturers Card Industry Association (PCMCIA) standards, or FDDI. The external interface means 1206 may also provide network connectivity.

The functional embodiment of a repository is described with reference to Figure 13. Referring to Figure 13, the functional embodiment is comprised of an operating system 1301, core repository services 1302, usage transaction handlers 1303, repository specific functions, 1304 and a user interface 1305. The operating system 1301 is specific to the repository and would typically depend on the type of processor being used. The operating system 1301 would also provide the basic services for controlling and interfacing between the basic components of the repository.

The core repository services 1302 comprise a set of functions required by each and every repository. The core repository services 1302 include the session initiation transactions which are defined in greater detail below. This set of services also includes a generic ticket agent which is used to "punch" a digital ticket and a generic authorization server for processing authorization specifications. Digital tickets and authorizations are specific mechanisms for controlling the distribution and use of digital works and are described in more detail below. Note that coupled to the core repository services are a plurality of identification certificates 1306. The identification certificates 1306 are required to enable the use of the repository.

The usage transactions handler 1303 comprise functionality for processing access requests to digital works and for billing fees based on access. The usage transactions supported will be different for each repository type. For example, it may not be necessary for some repositories to handle access requests for digital works.

The repository specific functionality 1304 comprises functionality that is unique to a repository. For example, the master repository has special functionality for issuing digital certificates and maintaining encryption keys. The repository specific functionality 1304 would include the user interface implementation for the repository.

Repository Security Classes

For some digital works the losses caused by any individual instance of unauthorized copying is insignificant and the chief economic concern lies in assuring the convenience of access and low-overhead billing. In such cases, simple and inexpensive handheld repositories and network-based workstations may be suitable repositories, even though the measures and guarantees of security are modest.

At the other extreme, some digital works such as a digital copy of a first run movie or a bearer bond or stock certificate would be of very high value so that it is prudent to employ caution and fairly elaborate security measures to ensure that they are not copied or forged. A repository suitable for holding such a digital work could have elaborate measures for ensuring physical integrity and for verifying authorization before use.

By arranging a universal protocol, all kinds of repositories can communicate with each other in principle. However, creators of some works will want to specify that their works will only be transferred to repositories whose level of security is high enough. For this reason, document repositories have a ranking system for classes and levels of security. The

security classes in the currently preferred embodiment are described in Table 2.

Level	Description of Security
0	Open system. Document transmission is unencrypted. No digital certificate is required for identification. The security of the system depends mostly on user honesty, since only modest knowledge may be needed to circumvent the security measures. The repository has no provisions for preventing unauthorized programs from running and accessing or copying files. The system does not prevent the use of removable storage and does not encrypt stored files.
1	Minimal security. Like the previous class except that stored files are minimally encrypted, including ones on removable storage.
2	Basic security. Like the previous class except that special tools and knowledge are required to compromise the programming, the contents of the repository, or the state of the clock. All digital communications are encrypted. A digital certificate is provided as identification. Medium level encryption is used. Repository identification number is unforgeable.
3	General security. Like the previous class plus the requirement of special tools are needed to compromise the physical integrity of the repository and that modest encryption is used on all transmissions. Password protection is required to use the local user interface. The digital clock system cannot be reset without authorization. No works would be stored on removable storage. When executing works as programs, it runs them in their own address space and does not give them direct access to any file storage or other memory containing system code or works. They can access works only through the transmission transaction protocol.
4	Like the previous class except that high level encryption is used on all communications. Sensors are used to record attempts at physical and electronic tampering. After such tampering, the repository will not perform other transactions until it has reported such tampering to a designated server.
5	Like the previous class except that if the physical or digital attempts at tampering exceed some preset thresholds that threaten the physical integrity of the repository or the integrity of digital and cryptographic barriers, then the repository will save only document description records of history but will erase or destroy any digital identifiers that could be misused if released to an unscrupulous party. It also modifies any certificates of authenticity to indicate that the physical system has been compromised. It also erases the contents of designated documents.

TABLE 2
REPOSITORY SECURITY LEVELS

Level	Description of Security
6	Like the previous class except that the repository will attempt wireless communication to report tampering and will employ noisy alarms.
10	This would correspond to a very high level of security. This server would maintain constant communications to remote security systems reporting transactions, sensor readings, and attempts to circumvent security.

TABLE 2
REPOSITORY SECURITY LEVELS

The characterization of security levels described in Table 2 is not intended to be fixed. More important is the idea of having different security levels for different repositories. It is anticipated that new security classes and requirements will evolve according to social situations and changes in technology.

Repository User Interface

A user interface is broadly defined as the mechanism by which a user interacts with a repository in order to invoke transactions to gain access to a digital work, or exercise usage rights. As described above, a repository may be embodied in various forms. The user interface for a repository will differ depending on the particular embodiment. The user interface may be a graphical user interface having icons representing the digital works and the various transactions that may be performed. The user interface may be a generated dialog in which a user is prompted for information.

The user interface itself need not be part of the repository. As a repository may be embedded in some other device, the user interface may

merely be a part of the device in which the repository is embedded. For example, the repository could be embedded in a "card" that is inserted into an available slot in a computer system. The user interface may be combination of a display, keyboard, cursor control device and software executing on the computer system.

At a minimum, the user interface must permit a user to input information such as access requests and alpha numeric data and provide feedback as to transaction status. The user interface will then cause the repository to initiate the suitable transactions to service the request. Other facets of a particular user interface will depend on the functionality that a repository will provide.

CREDIT SERVERS

In the present invention, fees may be associated with the exercise of a right. The requirement for payment of fees is described with each version of a usage right in the usage rights language. The recording and reporting of such fees is performed by the credit server. One of the capabilities enabled by associating fees with rights is the possibility of supporting a wide range of charging models. The simplest model, used by conventional software, is that there is a single fee at the time of purchase, after which the purchaser obtains unlimited rights to use the work as often and for as long as he or she wants. Alternative models, include metered use and variable fees. A single work can have different fees for different uses. For example, viewing a photograph on a display could have different fees than making a hardcopy or including it in a newly created work. A key to these alternative charging

models is to have a low overhead means of establishing fees and accounting for credit on these transactions.

A credit server is a computational system that reliably authorizes and records these transactions so that fees are billed and paid. The credit server reports fees to a billing clearinghouse. The billing clearinghouse manages the financial transactions as they occur. As a result, bills may be generated and accounts reconciled. Preferably, the credit server would store the fee transactions and periodically communicate via a network with billing clearinghouse for reconciliation. In such an embodiment, communications with the billing clearinghouse would be encrypted for integrity and security reasons. In another embodiment, the credit server acts as a "debit card" where transactions occur in "real-time" against a user account.

A credit server is comprised of memory, a processing means, a clock, and interface means for coupling to a repository and a financial institution (e.g. a modem). The credit server will also need to have security and authentication functionality. These elements are essentially the same elements as those of a repository. Thus, a single device can be both a repository and a credit server, provided that it has the appropriate processing elements for carrying out the corresponding functions and protocols. Typically, however, a credit server would be a card-sized system in the possession of the owner of the credit. The credit server is coupled to a repository and would interact via financial transactions as described below. Interactions with a financial institution may occur via protocols established by the financial institutions themselves.

In the currently preferred embodiment credit servers associated with both the server and the repository report the financial transaction to the billing clearinghouse. For example, when a digital work is copied by one repository to another for a fee, credit servers coupled to each of the repositories will report the transaction to the billing clearinghouse. This is desirable in that it insures that a transaction will be accounted for in the event of some break in the communication between a credit server and the billing clearinghouse. However, some implementations may embody only a single credit server reporting the transaction to minimize transaction processing at the risk of losing some transactions.

USAGE RIGHTS LANGUAGE

The present invention uses statements in a high level "usage rights language" to define rights associated with digital works and their parts. Usage rights statements are interpreted by repositories and are used to determine what transactions can be successfully carried out for a digital work and also to determine parameters for those transactions. For example, sentences in the language determine whether a given digital work can be copied, when and how it can be used, and what fees (if any) are to be charged for that use. Once the usage rights statements are generated, they are encoded in a suitable form for accessing during the processing of transactions.

Defining usage rights in terms of a language in combination with the hierarchical representation of a digital work enables the support of a wide

variety of distribution and fee schemes. An example is the ability to attach multiple versions of a right to a work. So a creator may attach a PRINT right to make 5 copies for \$10.00 and a PRINT right to make unlimited copies for \$100.00. A purchaser may then choose which option best fits his needs. Another example is that rights and fees are additive. So in the case of a composite work, the rights and fees of each of the components works is used in determining the rights and fees for the work as a whole. Other features and benefits of the usage rights language will become apparent in the description of distribution and use scenarios provided below.

The basic contents of a right are illustrated in Figure 14. Referring to Figure 14, a right 1450 has a transactional component 1451 and a specifications component 1452. A right 1450 has a label (e.g. COPY or PRINT) which indicate the use or distribution privileges that are embodied by the right. The transactional component 1451 corresponds to a particular way in which a digital work may be used or distributed. The transactional component 1451 is typically embodied in software instructions in a repository which implement the use or distribution privileges for the right. The specifications components 1452 are used to specify conditions which must be satisfied prior to the right being exercised or to designate various transaction related parameters. In the currently preferred embodiment, these specifications include copy count 1453, Fees and Incentives 1454, Time 1455, Access and Security 1456 and Control 1457. Each of these specifications will be described in greater detail below with respect to the language grammar elements.

The usage rights language is based on the grammar described below. A grammar is a convenient means for defining valid sequence of symbols for a language. In describing the grammar the notation "[a | b | c]" is used to indicate distinct choices among alternatives. In this example, a sentence can have either an "a", "b" or "c". It must include exactly one of them. The braces { } are used to indicate optional items. Note that brackets, bars and braces are used to describe the language of usage rights sentences but do not appear in actual sentences in the language.

In contrast, parentheses are part of the usage rights language. Parentheses are used to group items together in lists. The notation (x*) is used to indicate a variable length list, that is, a list containing one or more items of type x. The notation (x)* is used to indicate a variable number of lists containing x.

Keywords in the grammar are words followed by colons. Keywords are a common and very special case in the language. They are often used to indicate a single value, typically an identifier. In many cases, the keyword and the parameter are entirely optional. When a keyword is given, it often takes a single identifier as its value. In some cases, the keyword takes a list of identifiers.

In the usage rights language, time is specified in an hours:minutes:seconds (or hh:mm:ss) representation. Time zone indicators, e.g. PDT for Pacific Daylight Time, may also be specified. Dates are represented as year/ month/day (or YYYY/MMM/DD). Note that these time

and date representations may specify moments in time or units of time. Money units are specified in terms of dollars.

Finally, in the usage rights language, various "things" will need to interact with each other. For example, an instance of a usage right may specify a bank account, a digital ticket, etc.. Such things need to be identified and are specified herein using the suffix "-ID."

The Usage Rights Grammar is listed in its entirety in Figure 15 and is described below.

Grammar element 1501 "**Digital Work Rights := (Rights*)**" define the digital work rights as a set of rights. The set of rights attached to a digital work define how that digital work may be transferred, used, performed or played. A set of rights will attach to the entire digital work and in the case of compound digital works, each of the components of the digital work. The usage rights of components of a digital may be different.

Grammar element 1502 "**Right := (Right-Code {Copy-Count} {Control-Spec} {Time-Spec} {Access-Spec} {Fee-Spec})**" enumerates the content of a right. Each usage right must specify a right code. Each right may also optionally specify conditions which must be satisfied before the right can be exercised. These conditions are copy count, control, time, access and fee conditions. In the currently preferred embodiment, for the optional elements, the following defaults apply: copy count equals 1, no time limit on the use of the right, no access tests or a security level required to use the

right and no fee is required. These conditions will each be described in greater detail below.

It is important to note that a digital work may have multiple versions of a right, each having the same right code. The multiple version would provide alternative conditions and fees for accessing the digital work.

Grammar element 1503 "**Right-Code := Render-Code | Transport-Code | File-Management-Code | Derivative-Works-Code | Configuration-Code**" distinguishes each of the specific rights into a particular right type (although each right is identified by distinct right codes). In this way, the grammar provides a catalog of possible rights that can be associated with parts of digital works. In the following, rights are divided into categories for convenience in describing them.

Grammar element 1504 "**Render-Code := [Play : {Player: Player-ID} | Print: {Printer: Printer-ID}]**" lists a category of rights all involving the making of ephemeral, transitory, or non-digital copies of the digital work. After use the copies are erased.

- **Play** A process of rendering or performing a digital work on some processor. This includes such things as playing digital movies, playing digital music, playing a video game, running a computer program, or displaying a document on a display.
- **Print** To render the work in a medium that is not further protected by usage rights, such as printing on paper.

Grammar element 1505 "**Transport-Code := [Copy | Transfer | Loan {Remaining-Rights: Next-Set-of-Rights}]{(Next-Copy-Rights: Next-Set of Rights)}**" lists a category of rights involving the making of persistent, usable copies of the digital work on other repositories. The optional Next-Copy-Rights determine the rights on the work after it is transported. If this is not specified, then the rights on the transported copy are the same as on the original. The optional Remaining-Rights specify the rights that remain with a digital work when it is loaned out. If this is not specified, then the default is that no rights can be exercised when it is loaned out.

- **Copy** Make a new copy of a work

- **Transfer** Moving a work from one repository to another.
- **Loan** Temporarily loaning a copy to another repository for a specified period of time.

Grammar element 1506 "**File-Management-Code := Backup {Back-Up-Copy-Rights: Next-Set -of Rights}| Restore | Delete | Folder | Directory {Name:Hide-Local | Hide -Remote}{Parts:Hide-Local | Hide-Remote}**" lists a category of rights involving operations for file management, such as the making of backup copies to protect the copy owner against catastrophic equipment failure.

Many software licenses and also copyright law give a copy owner the right to make backup copies to protect against catastrophic failure of equipment. However, the making of uncontrolled backup copies is

inherently at odds with the ability to control usage, since an uncontrolled backup copy can be kept and then restored even after the authorized copy was sold.

The File management rights enable the making and restoring of backup copies in a way that respects usage rights, honoring the requirements of both the copy owner and the rights grantor and revenue owner. Backup copies of work descriptions (including usage rights and fee data) can be sent under appropriate protocol and usage rights control to other document repositories of sufficiently high security. Further rights permit organization of digital works into folders which themselves are treated as digital works and whose contents may be "hidden" from a party seeking to determine the contents of a repository.

- Backup To make a backup copy of a digital work as protection against media failure.
- Restore To restore a backup copy of a digital work.
- Delete To delete or erase a copy of a digital work.
- Folder To create and name folders, and to move files and folders between folders.
- Directory To hide a folder or it's contents.

Grammar element 1507 "Derivative-Works-Code: [Extract |
Embed | Edit {Process: Process-ID}] {Next-Copy-Rights : Next-Set-of

Rights}” lists a category of rights involving the use of a digital work to create new works.

- **Extract** To remove a portion of a work, for the purposes of creating a new work.
- **Embed** To include a work in an existing work.
- **Edit** To alter a digital work by copying, selecting and modifying portions of an existing digital work.

Grammar element 1508 “**Configuration-Code := Install | Uninstall**” lists a category of rights for installing and uninstalling software on a repository (typically a rendering repository.) This would typically occur for the installation of a new type of player within the rendering repository.

- **Install:** To install new software on a repository.
- **Uninstall:** To remove existing software from a repository.

Grammar element 1509 “**Next-Set-of-Rights := {(Add: Set-Of-Rights)} {(Delete: Set-Of-Rights)} {(Replace: Set-Of-Rights)} {(Keep: Set-Of-Rights)}**” defines how rights are carried forward for a copy of a digital work. If the Next-Copy-Rights is not specified, the rights for the next copy are the same as those of the current copy. Otherwise, the set of rights for the next copy can be specified. Versions of rights after **Add:** are added to the current set of rights. Rights after **Delete:** are deleted from the current set of rights. If only right codes are listed after **Delete:**, then all versions of

rights with those codes are deleted. Versions of rights after Replace:
subsume all versions of rights of the same type in the current set of rights.

If Remaining-Rights is not specified, then there are no rights for the original after all Loan copies are loaned out. If Remaining-Rights is specified, then the Keep: token can be used to simplify the expression of what rights to keep behind. A list of right codes following keep means that all of the versions of those listed rights are kept in the remaining copy. This specification can be overridden by subsequent Delete: or Replace: specifications.

Copy Count Specification

For various transactions, it may be desirable to provide some limit as to the number of "copies" of the work which may be exercised simultaneously for the right. For example, it may be desirable to limit the number of copies of a digital work that may be loaned out at a time or viewed at a time.

Grammar element 1510 “Copy-Count := (Copies: positive-integer | 0 | unlimited)” provides a condition which defines the number of “copies” of a work subject to the right . A copy count can be 0, a fixed number, or unlimited. The copy-count is associated with each right, as opposed to there being just a single copy-count for the digital work. The Copy-Count for a right is decremented each time that a right is exercised. When the Copy-Count equals zero, the right can no longer be exercised. If the Copy-Count is not specified, the default is one.

Control Specification

Rights and fees depend in general on rights granted by the creator as well as further restrictions imposed by later distributors. Control specifications deal with interactions between the creators and their distributors governing the imposition of further restrictions and fees. For example, a distributor of a digital work may not want an end consumer of a digital work to add fees or otherwise profit by commercially exploiting the purchased digital work.

Grammar element 1511 "**Control-Spec := (Control: {Restrictable | Unrestrictable} {Unchargeable | Chargeable})**" provides a condition to specify the effect of usage rights and fees of parents on the exercise of the right. A digital work is restrictable if higher level d-blocks can impose further restrictions (time specifications and access specifications) on the right. It is unrestrictable if no further restrictions can be imposed. The default setting is restrictable. A right is unchargeable if no more fees can be imposed on the use of the right. It is chargeable if more fees can be imposed. The default is chargeable.

Time Specification

It is often desirable to assign a start date or specify some duration as to when a right may be exercised. Grammar element 1512 "**Time-Spec := ({Fixed-Interval | Sliding-Interval | Meter-Time} Until: Expiration-Date)**" provides for specification of time conditions on the exercise of a right. Rights may be granted for a specified time. Different kinds of time specifications are appropriate for different kinds of rights. Some rights may

be exercised during a fixed and predetermined duration. Some rights may be exercised for an interval that starts the first time that the right is invoked by some transaction. Some rights may be exercised or are charged according to some kind of metered time, which may be split into separate intervals. For example, a right to view a picture for an hour might be split into six ten minute viewings or four fifteen minute viewings or twenty three minute viewings.

The terms "time" and "date" are used synonymously to refer to a moment in time. There are several kinds of time specifications. Each specification represents some limitation on the times over which the usage right applies. The Expiration-Date specifies the moment at which the usage right ends. For example, if the Expiration-Date is "Jan 1, 1995," then the right ends at the first moment of 1995. If the Expiration-Date is specified as *forever*, then the rights are interpreted as continuing without end. If only an expiration date is given, then the right can be exercised as often as desired until the expiration date.

Grammar element 1513 "**Fixed-Interval := From: Start-Time**" is used to define a predetermined interval that runs from the start time to the expiration date.

Grammar element 1514 "**Sliding-Interval := Interval: Use-Duration**" is used to define an indeterminate (or "open") start time. It sets limits on a continuous period of time over which the contents are accessible. The period starts on the first access and ends after the duration has passed or the expiration date is reached, whichever comes first. For example, if the

right gives 10 hours of continuous access, the use-duration would begin when the first access was made and end 10 hours later.

Grammar element 1515 "Meter-Time:= Time-Remaining: Remaining-Use" is used to define a "meter time," that is, a measure of the time that the right is actually exercised. It differs from the Sliding-Interval specification in that the time that the digital work is in use need not be continuous. For example, if the rights guarantee three days of access, those days could be spread out over a month. With this specification, the rights can be exercised until the meter time is exhausted or the expiration date is reached, whichever comes first.

Remaining-Use:= Time-Unit

Start-Time:= Time-Unit

Use-Duration:= Time-Unit

All of the time specifications include time-unit specifications in their ultimate instantiation.

Security Class and Authorization Specification

The present invention provides for various security mechanisms to be introduced into a distribution or use scheme. Grammar element 1516 "Access-Spec:= ({SC: Security-Class} {Authorization: Authorization-ID*} {Other-Authorization: Authorization-ID*} {Ticket: Ticket-ID})" provides a means for restricting access and transmission.

Access specifications can specify a required security class for a repository to exercise a right or a required authorization test that must be satisfied.

The keyword "SC:" is used to specify a minimum security level for the repositories involved in the access. If "SC:" is not specified, the lowest security level is acceptable.

The optional "Authorization:" keyword is used to specify required authorizations on the same repository as the work. The optional "Other-Authorization:" keyword is used to specify required authorizations on the other repository in the transaction.

The optional "Ticket:" keyword specifies the identity of a ticket required for the transaction. A transaction involving digital tickets must locate an appropriate digital ticket agent who can "punch" or otherwise validate the ticket before the transaction can proceed. Tickets are described in greater detail below.

In a transaction involving a repository and a document server, some usage rights may require that the repository have a particular authorization, that the server have some authorization, or that both repositories have (possibly different) authorizations. Authorizations themselves are digital works (hereinafter referred to as an authorization object) that can be moved between repositories in the same manner as other digital works. Their copying and transferring is subject to the same rights and fees as other digital works. A repository is said to have an authorization if that authorization object is contained within the repository.

In some cases, an authorization may be required from a source other than the document server and repository. An authorization object referenced by an Authorization-ID can contain digital address information to be used to set up a communications link between a repository and the authorization source. These are analogous to phone numbers. For such access tests, the communication would need to be established and authorization obtained before the right could be exercised.

For one-time usage rights, a variant on this scheme is to have a digital ticket. A ticket is presented to a digital ticket agent, whose type is specified on the ticket. In the simplest case, a certified generic ticket agent, available on all repositories, is available to "punch" the ticket. In other cases, the ticket may contain addressing information for locating a "special" ticket agent. Once a ticket has been punched, it cannot be used again for the same kind of transaction (unless it is unpunched or refreshed in the manner described below.) Punching includes marking the ticket with a timestamp of the date and time it was used. Tickets are digital works and can be copied or transferred between repositories according to their usage rights.

In the currently preferred embodiment, a "punched" ticket becomes "unpunched" or "refreshed" when it is copied or extracted. The Copy and Extract operations save the date and time as a property of the digital ticket. When a ticket agent is given a ticket, it can simply check whether the digital copy was made after the last time that it was punched. Of course, the digital ticket must have the copy or extract usage rights attached thereto.

The capability to unpunch a ticket is important in the following cases:

- A digital work is circulated at low cost with a limitation that it can be used only once.
- A digital work is circulated with a ticket that can be used once to give discounts on purchases of other works.
- A digital work is circulated with a ticket (included in the purchase price and possibly embedded in the work) that can be used for a future upgrade.

In each of these cases, if a paid copy is made of the digital work (including the ticket) the new owner would expect to get a fresh (unpunched) ticket, whether the copy seller has used the work or not. In contrast, loaning a work or simply transferring it to another repository should not revitalize the ticket.

Usage Fees and Incentives Specification

The billing for use of a digital work is fundamental to a commercial distribution system. Grammar Element 1517 "**Fee-Spec: = {Scheduled-Discount} Regular-Fee-Spec | Scheduled-Fee-Spec | Markup-Spec**" provides a range of options for billing for the use of digital works.

A key feature of this approach is the development of low-overhead billing for transactions in potentially small amounts. Thus, it becomes feasible to collect fees of only a few cents each for thousands of transactions.

The grammar differentiates between uses where the charge is per use from those where it is metered by the time unit. Transactions can support fees that the user pays for using a digital work as well as incentives paid by the right grantor to users to induce them to use or distribute the digital work.

The optional scheduled discount refers to the rest of the fee specification-- discounting it by a percentage over time. If it is not specified, then there is no scheduled discount. Regular fee specifications are constant over time. Scheduled fee specifications give a schedule of dates over which the fee specifications change. Markup specifications are used in d-blocks for adding a percentage to the fees already being charged.

Grammar Element 1518 **"Scheduled-Discount:= (Scheduled-Discount: (Time-Spec Percentage)*"** A Scheduled-Discount is a essentially a scheduled modifier of any other fee specification for this version of the right of the digital work. (It does not refer to children or parent digital works or to other versions of rights.). It is a list of pairs of times and percentages. The most recent time in the list that has not yet passed at the time of the transaction is the one in effect. The percentage gives the discount percentage. For example, the number 10 refers to a 10% discount.

Grammar Element 1519 **"Regular-Fee-Spec := ({Fee: | Incentive: } [Per-Use-Spec | Metered-Rate-Spec | Best-Price-Spec | Call-For-Price-Spec] {Min: Money-Unit Per: Time-Spec}{Max: Money-Unit Per: Time-Spec} To: Account-ID)"** provides for several kinds of fee specifications.

Fees are paid by the copy-owner/user to the revenue-owner if **Fee:** is specified. Incentives are paid by the revenue-owner to the user if **Incentive:** is specified. If the **Min:** specification is given, then there is a minimum fee to be charged per time-spec unit for its use. If the **Max:** specification is given, then there is a maximum fee to be charged per time-spec for its use. When **Fee:** is specified, **Account-ID** identifies the account to which the fee is to be paid. When **Incentive:** is specified, **Account-ID** identifies the account from which the fee is to be paid.

Grammar element 1520 "**Per-Use-Spec := Per-Use: Money-unit**" defines a simple fee to be paid every time the right is exercised, regardless of how much time the transaction takes.

Grammar element 1521 "**Metered-Rate-Spec := Metered: Money-Unit Per: Time-Spec**" defines a metered-rate fee paid according to how long the right is exercised. Thus, the time it takes to complete the transaction determines the fee.

Grammar element 1522 "**Best-Price-Spec := Best-Price: Money-unit Max: Money-unit**" is used to specify a best-price that is determined when the account is settled. This specification is to accommodate special deals, rebates, and pricing that depends on information that is not available to the repository. All fee specifications can be combined with tickets or authorizations that could indicate that the consumer is a wholesaler or that he is a preferred customer, or that the seller be authorized in some way. The amount of money in the **Max:** field is the maximum amount that the use will

cost. This is the amount that is tentatively debited from the credit server. However, when the transaction is ultimately reconciled, any excess amount will be returned to the consumer in a separate transaction.

Grammar element 1523 "**Call-For-Price-Spec := Call-For-Price**" is similar to a "**Best-Price-Spec**" in that it is intended to accommodate cases where prices are dynamic. A **Call-For-Price Spec** requires a communication with a dealer to determine the price. This option cannot be exercised if the repository cannot communicate with a dealer at the time that the right is exercised. It is based on a secure transaction whereby the dealer names a price to exercise the right and passes along a deal certificate which is referenced or included in the billing process.

Grammar element 1524 "**Scheduled-Fee-Spec:= (Schedule: (Time-Spec Regular-Fee-Spec)*)**" is used to provide a schedule of dates over which the fee specifications change. The fee specification with the most recent date not in the future is the one that is in effect. This is similar to but more general than the scheduled discount. It is more general, because it provides a means to vary the fee agreement for each time period.

Grammar element 1525 "**Markup-Spec:= Markup: percentage To: Account-ID**" is provided for adding a percentage to the fees already being charged. For example, a 5% markup means that a fee of 5% of cumulative fee so far will be allocated to the distributor. A markup specification can be applied to all of the other kinds of fee specifications. It is typically used in a shell provided by a distributor. It refers to fees associated with d-blocks that

are parts of the current d-block. This might be a convenient specification for use in taxes, or in distributor overhead.

Examples of Sets of Usage Rights

- ((Play) (Transfer (SC: 3)) (Delete))

This work can be played without requirements for fee or authorization on any rendering system. It can be transferred to any other repository of security level 3 or greater. It can be deleted.

- ((Play) (Transfer (SC: 3)) (Delete) (Backup) (Restore (Fee:Per-Use: \$5 To: Account-ID-678)))

Same as the previous example plus rights for backup and restore. The work can be backed up without fee. It can be restored for a \$5 fee payable to the account described by Account-ID-678.

- ((Play) (Transfer (SC: 3))

(Copy (SC:3)(Fee: Per-Use: \$5 To: Account-ID-678))

(Delete (Incentive: Per-Use: \$2.50 To: Account-ID-678)))

This work can be played, transferred, copied, or deleted. Copy or transfer operations can take place only with repositories of security level three or greater. The fee to make a copy is \$5 payable to Account-ID-678. If a copy is deleted, then an incentive of \$2.50 is paid to the former copy owner.

- ((Play) (Transfer (SC: 3))

Copy (SC: 3) (Fee: Per-Use: \$10 To: Account-ID-678))

Delete) (Backup) (Restore (SC: 3) (Fee: Per-Use: \$5 To: Account-ID-678)))

Same as the previous example plus fees for copying. The work can be copied digitally for a fee of \$10 payable to Account-ID-678. The repository on which the work is copied or restored must be at security level 3 or greater.

- ((Play) (Transfer (SC: 3))

(Copy Authorization: License-123-ID (SC: 3)))

The digital work can be played, transferred, or copied. Copies or transfers must be on repositories of security level 3 or greater. Copying requires the license License-123-ID issued to the copying repository. None of the rights require fees.

- ((Play) (Print Printer: Printer-567-ID (Fee: Per-Use: \$1 To: Account-ID-678)))

This work can be played for free. It can be printed on any printer with the identifier Printer-567-ID for a fee of \$1 payable to the account described by Account-ID-678.

- ((Play Player: Player-876-ID) (From: 94/02/14 Until: 95/02/15) (Fee: Metered: \$0.01 Per: 0:1:0 Min: \$0.25 Per: 0/1/0 To: Account-ID-567))

This work can be played on any player holding the ID Player-876-ID. The time of this right is from February 14, 1994 until February 15, 1995. The fee for use is one cent per minute with a minimum of 25 cents in any day that it is used, payable to the account described by Account-ID-567.

- ((Play) (Transfer) (Delete)(Loan 2 (Delete: Transfer Loan)))

This work can be played, transferred, deleted, or loaned. Up to two copies can be loaned out at a time. The loaned copy has the same rights except that it cannot be transferred. When both copies are loaned out, no rights can be exercised on the original on the repository.

- ((Play) (Transfer) (Delete) (Backup) (Restore (SC:3))

(Loan 2 Remaining-Copy-Rights: (Delete: Play Transfer)

Next-Set-of-Rights: (Delete: Transfer Loan)))

Similar to previous example. Rights to Backup and Restore the work are added, where restoration requires a repository of at least security level three. When all copies of the work are loaned out, the remaining copy cannot be played or transferred.

- ((Play) (Transfer) (Copy) (Print) (Backup) (Restore (SC:3))

(Loan 1 Remaining-Copy-Rights: (Add: Play Print Backup)

Next-Set-of-Rights: (Delete: Transfer Loan)

(Fee: Metered: \$10 Per: 1:0:0 To: Account-ID-567))

(Loan 1 Remaining-Copy-Rights:

Add: ((Play Player: Player-876-ID) 2 (From: 94/02/14 Until: 95/02/15)

(Fee: Metered: \$0.01 Per: 0:1:0 Min: \$0.25 Per: 0/1/0

To: Account-ID-567))))

The original work has rights to Play, Transfer, Copy, Print, Backup, Restore, and Loan. There are two versions of the Loan right. The first version of the loan right costs \$10 per day but allows the original copy owner to exercise free use of the Play, Print and Backup rights. The second version of the Loan right is free. None of the original rights are applicable. However a right to Play the work at the specified metered rate is added.

- ((Play Player: Player-Small-Screen-123-ID)

(Embed (Fee: Per-Use \$.01 To: Account-678-ID))

(Copy (Fee: Per-Use \$1.00 To: Account-678-ID)))

The digital work can be played on any player with the identifier Player-Small-Screen-123-ID. It can be embedded in a larger work. The embedding requires a modest one cent registration fee to Account-678-ID. Digital copies can be made for \$1.00.

REPOSITORY TRANSACTIONS

When a user requests access to a digital work, the repository will initiate various transactions. The combination of transactions invoked will

depend on the specifications assigned for a usage right. There are three basic types of transactions, Session Initiation Transactions, Financial Transactions and Usage Transactions. Generally, session initiation transactions are initiated first to establish a valid session. When a valid session is established, transactions corresponding to the various usage rights are invoked. Finally, request specific transactions are performed.

Transactions occur between two repositories (one acting as a server), between a repository and a document playback platform (e.g. for executing or viewing), between a repository and a credit server or between a repository and an authorization server. When transactions occur between more than one repository, it is assumed that there is a reliable communication channel between the repositories. For example, this could be a TCP/IP channel or any other commercially available channel that has built-in capabilities for detecting and correcting transmission errors. However, it is not assumed that the communication channel is secure. Provisions for security and privacy are part of the requirements for specifying and implementing repositories and thus form the need for various transactions.

Message Transmission

Transactions require that there be some communication between repositories. Communication between repositories occurs in units termed as messages. Because the communication line is assumed to be unsecure, all communications with repositories that are above the lowest security class are encrypted utilizing a public key encryption technique. Public key encryption is a well known technique in the encryption arts. The term key

refers to a numeric code that is used with encryption and decryption algorithms. Keys come in pairs, where "writing keys" are used to encrypt data and "checking keys" are used to decrypt data. Both writing and checking keys may be public or private. Public keys are those that are distributed to others. Private keys are maintained in confidence.

Key management and security is instrumental in the success of a public key encryption system. In the currently preferred embodiment, one or more master repositories maintain the keys and create the identification certificates used by the repositories.

When a sending repository transmits a message to a receiving repository, the sending repository encrypts all of its data using the public writing key of the receiving repository. The sending repository includes its name, the name of the receiving repository, a session identifier such as a nonce (described below), and a message counter in each message.

In this way, the communication can only be read (to a high probability) by the receiving repository, which holds the private checking key for decryption. The auxiliary data is used to guard against various replay attacks to security. If messages ever arrive with the wrong counter or an old nonce, the repositories can assume that someone is interfering with communication and the transaction terminated.

The respective public keys for the repositories to be used for encryption are obtained in the registration transaction described below.

Session Initiation Transactions

A usage transaction is carried out in a session between repositories. For usage transactions involving more than one repository, or for financial transactions between a repository and a credit server, a registration transaction is performed. A second transaction termed a login transaction, may also be needed to initiate the session. The goal of the registration transaction is to establish a secure channel between two repositories who know each others identities. As it is assumed that the communication channel between the repositories is reliable but not secure, there is a risk that a non-repository may mimic the protocol in order to gain illegitimate access to a repository.

The registration transaction between two repositories is described with respect to Figures 16 and 17. The steps described are from the perspective of a "repository-1" registering its identity with a "repository-2". The registration must be symmetrical so the same set of steps will be repeated for repository-2 registering its identity with repository-1. Referring to Figure 16, repository-1 first generates an encrypted registration identifier, step 1601 and then generates a registration message, step 1602. A registration message is comprised of an identifier of a master repository, the identification certificate for the repository-1 and an encrypted random registration identifier. The identification certificate is encrypted by the master repository in its private key and attests to the fact that the repository (here repository-1) is a bona fide repository. The identification certificate also contains a public key for the repository, the repository security level and a timestamp (indicating a time after which the certificate is no longer

valid.) The registration identifier is a number generated by the repository for this registration. The registration identifier is unique to the session and is encrypted in repository-1's private key. The registration identifier is used to improve security of authentication by detecting certain kinds of communications based attacks. Repository-1 then transmit the registration message to repository-2, step 1603.

Upon receiving the registration message, repository-2 determines if it has the needed public key for the master repository, step 1604. If repository-2 does not have the needed public key to decrypt the identification certificate, the registration transaction terminates in an error, step 1618.

Assuming that repository-2 has the proper public key the identification certificate is decrypted, step 1605. Repository-2 saves the encrypted registration identifier, step 1606, and extracts the repository identifier, step 1607. The extracted repository identifier is checked against a "hotlist" of compromised document repositories, step 1608. In the currently preferred embodiment, each repository will contain "hotlists" of compromised repositories. If the repository is on the "hotlist", the registration transaction terminates in an error per step 1618. Repositories can be removed from the hotlist when their certificates expire, so that the list does not need to grow without bound. Also, by keeping a short list of hotlist certificates that it has previously received, a repository can avoid the work of actually going through the list. These lists would be encrypted by a master repository. A minor variation on the approach to improve efficiency would have the repositories first exchange lists of names of hotlist certificates, ultimately

exchanging only those lists that they had not previously received. The "hotlists" are maintained and distributed by Master repositories.

Note that rather than terminating in error, the transaction could request that another registration message be sent based on an identification certificate created by another master repository. This may be repeated until a satisfactory identification certificate is found, or it is determined that trust cannot be established.

Assuming that the repository is not on the hotlist, the repository identification needs to be verified. In other words, repository-2 needs to validate that the repository on the other end is really repository-1. This is termed performance testing and is performed in order to avoid invalid access to the repository via a counterfeit repository replaying a recording of a prior session initiation between repository-1 and repository-2. Performance testing is initiated by repository-2 generating a performance message, step 1609. The performance message consists of a nonce, the names of the respective repositories, the time and the registration identifier received from repository-1. A nonce is a generated message based on some random and variable information (e.g. the time or the temperature.) The nonce is used to check whether repository-1 can actually exhibit correct encrypting of a message using the private keys it claims to have, on a message that it has never seen before. The performance message is encrypted using the public key specified in the registration message of repository-1. The performance message is transmitted to repository-1, step 1610, where it is decrypted by repository-1 using its private key, step 1611. Repository-1 then checks to

make sure that the names of the two repositories are correct, step 1612, that the time is accurate, step 1613 and that the registration identifier corresponds to the one it sent, step 1614. If any of these tests fails, the transaction is terminated per step 1616. Assuming that the tests are passed, repository-1 transmits the nonce to repository-2 in the clear, step 1615. Repository-2 then compares the received nonce to the original nonce, step 1617. If they are not identical, the registration transaction terminates in an error per step 1618. If they are the same, the registration transaction has successfully completed.

At this point, assuming that the transaction has not terminated, the repositories exchange messages containing session keys to be used in all communications during the session and synchronize their clocks. Figure 17 illustrates the session information exchange and clock synchronization steps (again from the perspective of repository-1.) Referring to Figure 17, repository-1 creates a session key pair, step 1701. A first key is kept private and is used by repository-1 to encrypt messages. The second key is a public key used by repository-2 to decrypt messages. The second key is encrypted using the public key of repository-2, step 1702 and is sent to repository-2, step 1703. Upon receipt, repository-2 decrypts the second key, step 1704. The second key is used to decrypt messages in subsequent communications. When each repository has completed this step, they are both convinced that the other repository is bona fide and that they are communicating with the original. Each repository has given the other a key to be used in decrypting further communications during the session. Since that key is itself

transmitted in the public key of the receiving repository only it will be able to decrypt the key which is used to decrypt subsequent messages.

After the session information is exchanged, the repositories must synchronize their clocks. Clock synchronization is used by the repositories to establish an agreed upon time base for the financial records of their mutual transactions. Referring back to Figure 17, repository-2 initiates clock synchronization by generating a time stamp exchange message, step 1705, and transmits it to repository-1, step 1706. Upon receipt, repository-1 generates its own time stamp message, step 1707 and transmits it back to repository-2, step 1708. Repository-2 notes the current time, step 1709 and stores the time received from repository-1, step 1710. The current time is compared to the time received from repository-1, step 1711. The difference is then checked to see if it exceeds a predetermined tolerance (e.g. one minute), step 1712. If it does, repository-2 terminates the transaction as this may indicate tampering with the repository, step 1713. If not repository-2 computes an adjusted time delta, step 1714. The adjusted time delta is the difference between the clock time of repository-2 and the average of the times from repository-1 and repository-2.

To achieve greater accuracy, repository-2 can request the time again up to a fixed number of times (e.g. five times), repeat the clock synchronization steps, and average the results.

A second session initiation transaction is a Login transaction. The Login transaction is used to check the authenticity of a user requesting a transaction. A Login transaction is particularly prudent for the

authorization of financial transactions that will be charged to a credit server. The Login transaction involves an interaction between the user at a user interface and the credit server associated with a repository. The information exchanged here is a login string supplied by the repository/credit server to identify itself to the user, and a Personal Identification Number (PIN) provided by the user to identify himself to the credit server. In the event that the user is accessing a credit server on a repository different from the one on which the user interface resides, exchange of the information would be encrypted using the public and private keys of the respective repositories.

Billing Transactions

Billing Transactions are concerned with monetary transaction with a credit server. Billing Transaction are carried out when all other conditions are satisfied and a usage fee is required for granting the request. For the most part, billing transactions are well understood in the state of the art. These transactions are between a repository and a credit server, or between a credit server and a billing clearinghouse. Briefly, the required transactions include the following:

- Registration and LOGIN transactions by which the repository and user establish their bona fides to a credit server. These transactions would be entirely internal in cases where the repository and credit server are implemented as a single system.

- Registration and LOGIN transactions, by which a credit server establishes its bona fides to a billing clearinghouse.
- An Assign-fee transaction to assign a charge. The information in this transaction would include a transaction identifier, the identities of the repositories in the transaction, and a list of charges from the parts of the digital work. If there has been any unusual event in the transaction such as an interruption of communications, that information is included as well.
- An Begin-charges transaction to assign a charge. This transaction is much the same as an assign-fee transaction except that it is used for metered use. It includes the same information as the assign-fee transaction as well as the usage fee information. The credit-server is then responsible for running a clock.
- An End-charges transaction to end a charge for metered use. (In a variation on this approach, the repositories would exchange periodic charge information for each block of time.)
- A report-charges transaction between a personal credit server and a billing clearinghouse. This transaction is invoked at least once per billing period. It is used to pass along information about charges. On debit and credit cards, this transaction would also be used to update balance information and credit limits as needed.

All billing transactions are given a transaction ID and are reported to the credit servers by both the server and the client. This reduces possible loss of billing information if one of the parties to a transaction loses a banking card and provides a check against tampering with the system.

Usage Transactions

After the session initiation transactions have been completed, the usage request may then be processed. To simplify the description of the steps carried out in processing a usage request, the term requester is used to refer to a repository in the requester mode which is initiating a request, and the term server is used to refer to a repository in the server mode and which contains the desired digital work. In many cases such as requests to print or view a work, the requester and server may be the same device and the transactions described in the following would be entirely internal. In such instances, certain transaction steps, such as the registration transaction, need not be performed.

There are some common steps that are part of the semantics of all of the usage rights transactions. These steps are referred to as the common transaction steps. There are two sets -- the "opening" steps and the "closing" steps. For simplicity, these are listed here rather than repeating them in the descriptions of all of the usage rights transactions.

Transactions can refer to a part of a digital work, a complete digital work, or a Digital work containing other digital works. Although not described in detail herein, a transaction may even refer to a folder comprised

of a plurality of digital works. The term "work" is used to refer to what ever portion or set of digital works is being accessed.

Many of the steps here involve determining if certain conditions are satisfied. Recall that each usage right may have one or more conditions which must be satisfied before the right can be exercised. Digital works have parts and parts have parts. Different parts can have different rights and fees. Thus, it is necessary to verify that the requirements are met for ALL of the parts that are involved in a transaction. For brevity, when reference is made to checking whether the rights exist and conditions for exercising are satisfied, it is meant that all such checking takes place for each of the relevant parts of the work.

Figure 18 illustrates the initial common opening and closing steps for a transaction. At this point it is assumed that registration has occurred and that a "trusted" session is in place. General tests are tests on usage rights associated with the folder containing the work or some containing folder higher in the file system hierarchy. These tests correspond to requirements imposed on the work as a consequence of its being on the particular repository, as opposed to being attached to the work itself. Referring to Figure 18, prior to initiating a usage transaction, the requester performs any general tests that are required before the right associated with the transaction can be exercised, step, 1801. For example, install, uninstall and delete rights may be implemented to require that a requester have an authorization certificate before the right can be exercised. Another example is the requirement that a digital ticket be present and punched before a

digital work may be copied to a requester. If any of the general tests fail, the transaction is not initiated, step, 1802. Assuming that such required tests are passed, upon receiving the usage request, the server generates a transaction identifier that is used in records or reports of the transaction, step 1803. The server then checks whether the digital work has been granted the right corresponding to the requested transaction, step 1804. If the digital work has not been granted the right corresponding to the request, the transaction terminates, step 1805. If the digital work has been granted the requested right, the server then determines if the various conditions for exercising the right are satisfied. Time based conditions are examined, step 1806. These conditions are checked by examining the time specification for the the version of the right. If any of the conditions are not satisfied, the transaction terminates per step 1805.

Assuming that the time based conditions are satisfied, the server checks security and access conditions, step 1807. Such security and access conditions are satisfied if: 1) the requester is at the specified security class, or a higher security class, 2) the server satisfies any specified authorization test and 3) the requester satisfies any specified authorization tests and has any required digital tickets. If any of the conditions are not satisfied, the transaction terminates per step 1805.

Assuming that the security and access conditions are all satisfied, the server checks the copy count condition, step 1808. If the copy count equals zero, then the transaction cannot be completed and the transaction terminates per step 1805.

Assuming that the copy count does not equal zero, the server checks if the copies in use for the requested right is greater than or equal to any copy count for the requested right (or relevant parts), step 1809. If the copies in use is greater than or equal to the copy count, this indicates that usage rights for the version of the transaction have been exhausted. Accordingly, the server terminates the transaction, step 1805. If the copy count is less than the copies in use for the transaction the transaction can continue, and the copies in use would be incremented by the number of digital works requested in the transaction, step 1810.

The server then checks if the digital work has a "Loan" access right, step 1811. The "Loan" access right is a special case since remaining rights may be present even though all copies are loaned out. If the digital work has the "Loan" access right, a check is made to see if all copies have been loaned out, step 1812. The number of copies that could be loaned is the sum of the Copy-Counts for all of the versions of the loan right of the digital work. For a composite work, the relevant figure is the minimal such sum of each of the components of the composite work. If all copies have been loaned out, the remaining rights are determined, step 1813. The remaining-rights is determined from the remaining rights specifications from the versions of the Loan right. If there is only one version of the Loan right, then the determination is simple. The remaining rights are the ones specified in that version of the Loan right, or none if Remaining-Rights: is not specified. If there are multiple versions of the Loan right and all copies of all of the versions are loaned out, then the remaining rights is taken as the minimum

set (intersection) of remaining rights across all of the versions of the loan right. The server then determines if the requested right is in the set of remaining rights, step 1814. If the requested right is not in the set of remaining rights, the server terminates the transaction, step 1805.

If Loan is not a usage right for the digital work or if all copies have not been loaned out or the requested right is in the set of remaining rights, fee conditions for the right are then checked, step 1815. This will initiate various financial transactions between the repository and associated credit server. Further, any metering of usage of a digital work will commence. If any financial transaction fails, the transaction terminates per step 1805.

It should be noted that the order in which the conditions are checked need not follow the order of steps 1806-1815.

At this point, right specific steps are now performed and are represented here as step 1816. The right specific steps are described in greater detail below.

The common closing transaction steps are now performed. Each of the closing transaction steps are performed by the server after a successful completion of a transaction. Referring back to Figure 18, the copies in use value for the requested right is decremented by the number of copies involved in the transaction, step 1817. Next, if the right had a metered usage fee specification, the server subtracts the elapsed time from the Remaining-Use-Time associated with the right for every part involved in the transaction, step 1818. Finally, if there are fee specifications associated

with the right, the server initiates End-Charge financial transaction to confirm billing, step 1819.

Transmission Protocol

An important area to consider is the transmission of the digital work from the server to the requester. The transmission protocol described herein refers to events occurring after a valid session has been created. The transmission protocol must handle the case of disruption in the communications between the repositories. It is assumed that interference such as injecting noise on the communication channel can be detected by the integrity checks (e.g., parity, checksum, etc.) that are built into the transport protocol and are not discussed in detail herein.

The underlying goal in the transmission protocol is to preclude certain failure modes, such as malicious or accidental interference on the communications channel. Suppose, for example, that a user pulls a card with the credit server at a specific time near the end of a transaction. There should not be a vulnerable time at which "pulling the card" causes the repositories to fail to correctly account for the number of copies of the work that have been created. Restated, there should be no time at which a party can break a connection as a means to avoid payment after using a digital work.

If a transaction is interrupted (and fails), both repositories restore the digital works and accounts to their state prior to the failure, modulo records of the failure itself.

Figure 19 is a state diagram showing steps in the process of transmitting information during a transaction. Each box represents a state of a repository in either the server mode (above the central dotted line 1901) or in the requester mode (below the dotted line 1901). Solid arrows stand for transitions between states. Dashed arrows stand for message communications between the repositories. A dashed message arrow pointing to a solid transition arrow is interpreted as meaning that the transition takes place when the message is received. Unlabeled transition arrows take place unconditionally. Other labels on state transition arrows describe conditions that trigger the transition.

Referring now to Figure 19, the server is initially in a state 1902 where a new transaction is initiated via start message 1903. This message includes transaction information including a transaction identifier and a count of the blocks of data to be transferred. The requester, initially in a wait state 1904 then enters a data wait state 1905.

The server enters a data transmit state 1906 and transmits a block of data 1907 and then enters a wait for acknowledgement state 1908. As the data is received, the requesters enters a data receive state 1909 and when the data blocks is completely received it enters an acknowledgement state 1910 and transmits an Acknowledgement message 1911 to the server.

If there are more blocks to send, the server waits until receiving an Acknowledgement message from the requester. When an Acknowledgement message is received it sends the next block to the

requester and again waits for acknowledgement. The requester also repeats the same cycle of states.

If the server detects a communications failure before sending the last block, it enters a cancellation state 1912 wherein the transaction is cancelled. Similarly, if the requester detects a communications failure before receiving the last block it enters a cancellation state 1913.

If there are no more blocks to send, the server commits to the transaction and waits for the final Acknowledgement in state 1914. If there is a communications failure before the server receives the final Acknowledgement message, it still commits to the transaction but includes a report about the event to its credit server in state 1915. This report serves two purposes. It will help legitimize any claims by a user of having been billed for receiving digital works that were not completely received. Also it helps to identify repositories and communications lines that have suspicious patterns of use and interruption. The server then enters its completion state 1916

On the requester side, when there are no more blocks to receive, the requester commits to the transaction in state 1917. If the requester detects a communications failure at this state, it reports the failure to its credit server in state 1918, but still commits to the transaction. When it has committed, it sends an acknowledgement message to the server. The server then enters its completion state 1919

The key property is that both the server and the requester cancel a transaction if it is interrupted before all of the data blocks are delivered, and commits to it if all of the data blocks have been delivered.

There is a possibility that the server will have sent all of the data blocks (and committed) but the requester will not have received all of them and will cancel the transaction. In this case, both repositories will presumably detect a communications failure and report it to their credit server. This case will probably be rare since it depends on very precise timing of the communications failure. The only consequence will be that the user at the requester repository may want to request a refund from the credit services -- and the case for that refund will be documented by reports by both repositories.

To prevent loss of data, the server should not delete any transferred digital work until receiving the final acknowledgement from the requester. But it also should not use the file. A well known way to deal with this situation is called "two-phase commit" or 2PC.

Two-phase commit works as follows. The first phase works the same as the method described above. The server sends all of the data to the requester. Both repositories mark the transaction (and appropriate files) as uncommitted. The server sends a ready-to-commit message to the requester. The requester sends back an acknowledgement. The server then commits and sends the requester a commit message. When the requester receives the commit message, it commits the file.

If there is a communication failure or other crash, the requester must check back with the server to determine the status of the transaction. The server has the last word on this. The requester may have received all of the data, but if it did not get the final message, it has not committed. The server can go ahead and delete files (except for transaction records) once it commits, since the files are known to have been fully transmitted before starting the 2PC cycle.

There are variations known in the art which can be used to achieve the same effect. For example, the server could use an additional level of encryption when transmitting a work to a client. Only after the client sends a message acknowledging receipt does it send the key. The client then agrees to pay for the digital work. The point of this variation is that it provides a clear audit trail that the client received the work. For trusted systems, however, this variation adds a level of encryption for no real gain in accountability.

The transaction for specific usage rights are now discussed.

The Copy Transaction

A Copy transaction is a request to make one or more independent copies of the work with the same or lesser usage rights. Copy differs from the extraction right discussed later in that it refers to entire digital works or entire folders containing digital works. A copy operation cannot be used to remove a portion of a digital work.

- The requester sends the server a message to initiate the Copy Transaction. This message indicates the work to be copied, the version of the copy right to be used for the transaction, the destination address information (location in a folder) for placing the work, the file data for the work (including its size), and the number of copies requested.
- The repositories perform the common opening transaction steps.
- The server transmits the requested contents and data to the client according to the transmission protocol. If a Next-Set-Of-Rights has been provided in the version of the right, those rights are transmitted as the rights for the work. Otherwise, the rights of the original are transmitted. In any event, the Copy-Count field for the copy of the digital work being sent right is set to the number-of-copies requested.
- The requester records the work contents, data, and usage rights and stores the work. It records the date and time that the copy was made in the properties of the digital work.
- The repositories perform the common closing transaction steps.

The Transfer Transaction

A Transfer transaction is a request to move copies of the work with the same or lesser usage rights to another repository. In contrast with a copy transaction, this results in removing the work copies from the server.

A loan transaction is a mechanism for loaning copies of a digital work. The maximum duration of the loan is determined by an internal parameter of the digital work. Works are automatically returned after a predetermined time period.

- The requester sends the server a message to initiate the Transfer Transaction. This message indicates the work to be loaned, the version of the loan right to be used in the transaction, the destination address information for placing the work, the number of copies involved, the file data for the work, and the period of the loan.
- The server checks the validity of the requested loan period, and ends with an error if the period is not valid. Loans for a loaned copy cannot extend beyond the period of the original loan to the server.
- The repositories perform the common opening transaction steps.
- The server transmits the requested contents and data to the requester. If a Next-Set-Of-Rights has been provided, those rights are transmitted as the rights for the work. Otherwise, the rights of the original are transmitted, as modified to reflect the loan period.
- The requester records the digital work contents, data, usage rights, and loan period and stores the work.
- The server updates the usage rights information in the digital work to reflect the number of copies loaned out.

- The repositories perform the common closing transaction steps.
- The server updates the usage rights data for the digital work. This may preclude use of the work until it is returned from the loan. The user on the requester platform can now use the transferred copies of the digital work. A user accessing the original repository cannot use the digital work , unless there are copies remaining. What happens next depends on the order of events in time.

Case 1. If the time of the loan period is not yet exhausted and the requester sends the repository a Return message.

-
- The return message includes the requester identification, and the transaction ID.
 - The server decrements the copies-in-use field by the number of copies that were returned. (If the number of digital works returned is greater than the number actually borrowed, this is treated as an error.) This step may now make the work available at the server for other users.
 - The requester deactivates its copies and removes the contents from its memory.

Case 2. If the time of the loan period is exhausted and the requester has not yet sent a Return message.

- The server decrements the copies-in-use field by the number digital works that were borrowed.
- The requester automatically deactivates its copies of the digital work. It terminates all current uses and erases the digital work copies from memory. One question is why a requester would ever return a work earlier than the period of the loan, since it would be returned automatically anyway. One reason for early return is that there may be a metered fee which determines the cost of the loan. Returning early may reduce that fee.

The Play Transaction

A play transaction is a request to use the contents of a work. Typically, to "play" a work is to send the digital work through some kind of transducer, such as a speaker or a display device. The request implies the intention that the contents will not be communicated digitally to any other system. For example, they will not be sent to a printer, recorded on any digital medium, retained after the transaction or sent to another repository.

This term "play" is natural for examples like playing music, playing a movie, or playing a video game. The general form of play means that a "player" is used to use the digital work. However, the term play covers all media and kinds of recordings. Thus one would "play" a digital work, meaning, to render it for reading, or play a computer program, meaning to execute it. For a digital ticket the player would be a digital ticket agent.

- The requester sends the server a message to initiate the play transaction. This message indicates the work to be played, the version of the play right to be used in the transaction, the identity of the player being used, and the file data for the work.
- The server checks the validity of the player identification and the compatibility of the player identification with the player specification in the right. It ends with an error if these are not satisfactory.
- The repositories perform the common opening transaction steps.
- The server and requester read and write the blocks of data as requested by the player according to the transmission protocol. The requester plays the work contents, using the player.
- When the player is finished, the player and the requester remove the contents from their memory.
- The repositories perform the common closing transaction steps.

The Print Transaction

A Print transaction is a request to obtain the contents of a work for the purpose of rendering them on a "printer." We use the term "printer" to include the common case of writing with ink on paper. However, the key aspect of "printing" in our use of the term is that it makes a copy of the digital work in a place outside of the protection of usage rights. As with all rights, this may require particular authorization certificates.

Once a digital work is printed, the publisher and user are bound by whatever copyright laws are in effect. However, printing moves the contents outside the control of repositories. For example, absent any other enforcement mechanisms, once a digital work is printed on paper, it can be copied on ordinary photocopying machines without intervention by a repository to collect usage fees. If the printer to a digital disk is permitted, then that digital copy is outside of the control of usage rights. Both the creator and the user know this, although the creator does not necessarily give tacit consent to such copying, which may violate copyright laws.

- The requester sends the server a message to initiate a Print transaction. This message indicates the work to be played, the identity of the printer being used, the file data for the work, and the number of copies in the request.
- The server checks the validity of the printer identification and the compatibility of the printer identification with the printer specification in the right. It ends with an error if these are not satisfactory.
- The repositories perform the common opening transaction steps.
- The server transmits blocks of data according to the transmission protocol.
- The requester prints the work contents, using the printer.
- When the printer is finished, the printer and the requester remove the contents from their memory.

- The repositories perform the common closing transaction steps.

The Backup Transaction

A Backup transaction is a request to make a backup copy of a digital work, as a protection against media failure. In the context of repositories, secure backup copies differ from other copies in three ways: (1) they are made under the control of a Backup transaction rather than a Copy transaction, (2) they do not count as regular copies, and (3) they are not usable as regular copies. Generally, backup copies are encrypted.

Although backup copies may be transferred or copied, depending on their assigned rights, the only way to make them useful for playing, printing or embedding is to restore them.

The output of a Backup operation is both an encrypted data file that contains the contents and description of a work, and a restoration file with an encryption key for restoring the encrypted contents. In many cases, the encrypted data file would have rights for "printing" it to a disk outside of the protection system, relying just on its encryption for security. Such files could be stored anywhere that was physically safe and convenient. The restoration file would be held in the repository. This file is necessary for the restoration of a backup copy. It may have rights for transfer between repositories.

- The requester sends the server a message to initiate a backup transaction. This message indicates the work to be backed up, the

version of the backup right to be used in the transaction, the destination address information for placing the backup copy, the file data for the work.

- The repositories perform the common opening transaction steps.
- The server transmits the requested contents and data to the requester. If a Next-Set-Of-Rights has been provided, those rights are transmitted as the rights for the work. Otherwise, a set of default rights for backup files of the original are transmitted by the server.
- The requester records the work contents, data, and usage rights. It then creates a one-time key and encrypts the contents file. It saves the key information in a restoration file.
- The repositories perform the common closing transaction steps.

In some cases, it is convenient to be able to archive the large, encrypted contents file to secure offline storage, such as a magneto-optical storage system or magnetic tape. This creation of a non-repository archive file is as secure as the encryption process. Such non-repository archive storage is considered a form of "printing" and is controlled by a print right with a specified "archive-printer." An archive-printer device is programmed to save the encrypted contents file (but not the description file) offline in such a way that it can be retrieved.

The Restore Transaction

A Restore transaction is a request to convert an encrypted backup copy of a digital work into a usable copy. A restore operation is intended to be used to compensate for catastrophic media failure. Like all usage rights, restoration rights can include fees and access tests including authorization checks.

- The requester sends the server a message to initiate a Restore transaction. This message indicates the work to be restored, the version of the restore right for the transaction, the destination address information for placing the work, and the file data for the work.
- The server verifies that the contents file is available (i.e. a digital work corresponding to the request has been backed-up.) If it is not, it ends the transaction with an error.
- The repositories perform the common opening transaction steps.
- The server retrieves the key from the restoration file. It decrypts the work contents, data, and usage rights.
- The server transmits the requested contents and data to the requester according to the transmission protocol. If a Next-Set-Of-Rights has been provided, those rights are transmitted as the rights for the work. Otherwise, a set of default rights for backup files of the original are transmitted by the server.
- The requester stores the digital work.

- The repositories perform the common closing transaction steps.

The Delete Transaction

A Delete transaction deletes a digital work or a number of copies of a digital work from a repository. Practically all digital works would have delete rights.

- The requester sends the server a message to initiate a delete transaction. This message indicates the work to be deleted, the version of the delete right for the transaction.
- The repositories perform the common opening transaction steps.
- The server deletes the file, erasing it from the file system.
- The repositories perform the common closing transaction steps.

The Directory Transaction

A Directory transaction is a request for information about folders, digital works, and their parts. This amounts to roughly the same idea as protection codes in a conventional file system like TENEX, except that it is generalized to the full power of the access specifications of the usage rights language.

The Directory transaction has the important role of passing along descriptions of the rights and fees associated with a digital work. When a user wants to exercise a right, the user interface of his repository implicitly

makes a directory request to determine the versions of the right that are available. Typically these are presented to the user -- such as with different choices of billing for exercising a right. Thus, many directory transactions are invisible to the user and are exercised as part of the normal process of exercising all rights.

- The requester sends the server a message to initiate a Directory transaction. This message indicates the file or folder that is the root of the directory request and the version of the directory right used for the transaction.
- The server verifies that the information is accessible to the requester. In particular, it does not return the names of any files that have a HIDE-NAME status in their directory specifications, and it does not return the parts of any folders or files that have HIDE-PARTS in their specification. If the information is not accessible, the server ends the transaction with an error.
- The repositories perform the common opening transaction steps.
- The server sends the requested data to the requester according to the transmission protocol.
- The requester records the data.
- The repositories perform the common closing transaction steps.

The Folder Transaction

A Folder transaction is a request to create or rename a folder, or to move a work between folders. Together with Directory rights, Folder rights control the degree to which organization of a repository can be accessed or modified from another repository.

- The requester sends the server a message to initiate a Folder transaction. This message indicates the folder that is the root of the folder request, the version of the folder right for the transaction, an operation, and data. The operation can be one of create, rename, and move file. The data are the specifications required for the operation, such as a specification of a folder or digital work and a name.
- The repositories perform the common opening transaction steps.
- The server performs the requested operation -- creating a folder, renaming a folder, or moving a work between folders.
- The repositories perform the common closing transaction steps.

The Extract Transaction

A extract transaction is a request to copy a part of a digital work and to create a new work containing it. The extraction operation differs from copying in that it can be used to separate a part of a digital work from d-blocks or shells that place additional restrictions or fees on it. The extraction operation differs from the edit operation in that it does not change the contents of a work, only its embedding in d-blocks. Extraction creates a new digital work.

- The requester sends the server a message to initiate an Extract transaction. This message indicates the part of the work to be extracted, the version of the extract right to be used in the transaction, the destination address information for placing the part as a new work, the file data for the work, and the number of copies involved.
- The repositories perform the common opening transaction steps.
- The server transmits the requested contents and data to the requester according to the transmission protocol. If a Next-Set-Of-Rights has been provided, those rights are transmitted as the rights for the new work. Otherwise, the rights of the original are transmitted. The Copy-Count field for this right is set to the number-of-copies requested.
- The requester records the contents, data, and usage rights and stores the work. It records the date and time that new work was made in the properties of the work.
- The repositories perform the common closing transaction steps.

The Embed Transaction

An embed transaction is a request to make a digital work become a part of another digital work or to add a shell d-block to enable the adding of fees by a distributor of the work..

- The requester sends the server a message to initiate an Embed transaction. This message indicates the work to be embedded, the

version of the embed right to be used in the transaction, the destination address information for placing the part as a a work, the file data for the work, and the number of copies involved.

- The server checks the control specifications for all of the rights in the part and the destination. If they are incompatible, the server ends the transaction with an error.
- The repositories perform the common opening transaction steps.
- The server transmits the requested contents and data to the requester according to the transmission protocol. If a Next-Set-Of-Rights has been provided, those rights are transmitted as the rights for the new work. Otherwise, the rights of the original are transmitted. The Copy-Count field for this right is set to the number-of-copies requested.
- The requester records the contents, data, and usage rights and embeds the work in the destination file.
- The repositories perform the common closing transaction steps.

The Edit Transaction

An Edit transaction is a request to make a new digital work by copying, selecting and modifying portions of an existing digital work. This operation can actually change the contents of a digital work. The kinds of changes that are permitted depend on the process being used. Like the extraction operation, edit operates on portions of a digital work. In contrast with the extract operation, edit does not effect the rights or location of the work. It

only changes the contents. The kinds of changes permitted are determined by the type specification of the processor specified in the rights. In the currently preferred embodiment, an edit transaction changes the work itself and does not make a new work. However, it would be a reasonable variation to cause a new copy of the work to be made.

- The requester sends the server a message to initiate an Edit transaction. This message indicates the work to be edited, the version of the edit right to be used in the transaction, the file data for the work (including its size), the process-ID for the process, and the number of copies involved.
- The server checks the compatibility of the process-ID to be used by the requester against any process-ID specification in the right. If they are incompatible, it ends the transaction with an error.
- The repositories perform the common opening transaction steps.
- The requester uses the process to change the contents of the digital work as desired. (For example, it can select and duplicate parts of it; combine it with other information; or compute functions based on the information. This can amount to editing text, music, or pictures or taking whatever other steps are useful in creating a derivative work.)
- The repositories perform the common closing transaction steps.

The edit transaction is used to cover a wide range of kinds of works. The category describes a process that takes as its input any portion of a digital

work and then modifies the input in some way. For example, for text, a process for editing the text would require edit rights. A process for "summarizing" or counting words in the text would also be considered editing. For a music file, processing could involve changing the pitch or tempo, or adding reverberations, or any other audio effect. For digital video works, anything which alters the image would require edit rights. Examples would be colorizing, scaling, extracting still photos, selecting and combining frames into story boards, sharpening with signal processing, and so on.

Some creators may want to protect the authenticity of their works by limiting the kinds of processes that can be performed on them. If there are no edit rights, then no processing is allowed at all. A processor identifier can be included to specify what kind of process is allowed. If no process identifier is specified, then arbitrary processors can be used. For an example of a specific process, a photographer may want to allow use of his photograph but may not want it to be colorized. A musician may want to allow extraction of portions of his work but not changing of the tonality.

Authorization Transactions

There are many ways that authorization transactions can be defined. In the following, our preferred way is to simply define them in terms of other transactions that we already need for repositories. Thus, it is convenient sometimes to speak of "authorization transactions," but they are actually made up of other transactions that repositories already have.

A usage right can specify an authorization-ID, which identifies an authorization object (a digital work in a file of a standard format) that the repository must have and which it must process. The authorization is given to the generic authorization (or ticket) server of the repository which begins to interpret the authorization.

As described earlier, the authorization contains a server identifier, which may just be the generic authorization server or it may be another server. When a remote authorization server is required, it must contain a digital address. It may also contain a digital certificate.

If a remote authorization server is required, then the authorization process first performs the following steps:

- The generic authorization server attempts to set up the communications channel. (If the channel cannot be set up, then authorization fails with an error.)
- When the channel is set up, it performs a registration process with the remote repository. (If registration fails, then the authorization fails with an error.)
- When registration is complete, the generic authorization server invokes a "Play" transaction with the remote repository, supplying the authorization document as the digital work to be played, and the remote authorization server (a program) as the "player." (If the

player cannot be found or has some other error, then the authorization fails with an error.)

- The authorization server then "plays" the authorization. This involves decrypting it using either the public key of the master repository that issued the certificate or the session key from the repository that transmitted it. The authorization server then performs various tests. These tests vary according to the authorization server. They include such steps as checking issue and validity dates of the authorization and checking any hot-lists of known invalid authorizations. The authorization server may require carrying out any other transactions on the repository as well, such as checking directories, getting some person to supply a password, or playing some other digital work. It may also invoke some special process for checking information about locations or recent events. The "script" for such steps is contained within the authorization server.
- If all of the required steps are completed satisfactorily, the authorization server completes the transaction normally, signaling that authorization is granted.

The Install Transaction

An Install transaction is a request to install a digital work as runnable software on a repository. In a typical case, the requester repository is a rendering repository and the software would be a new kind or new version of

a player. Also in a typical case, the software would be copied to file system of the requester repository before it is installed.

- The requester sends the server an Install message. This message indicates the work to be installed, the version of the Install right being invoked, and the file data for the work (including its size).
- The repositories perform the common opening transaction steps.
- The requester extracts a copy of the digital certificate for the software. If the certificate cannot be found or the master repository for the certificate is not known to the requester, the transaction ends with an error.
- The requester decrypts the digital certificate using the public key of the master repository, recording the identity of the supplier and creator, a key for decrypting the software, the compatibility information, and a tamper-checking code. (This step certifies the software.)
- The requester decrypts the software using the key from the certificate and computes a check code on it using a 1-way hash function. If the check-code does not match the tamper-checking code from the certificate, the installation transaction ends with an error. (This step assures that the contents of the software, including the various scripts, have not been tampered with.)

- The requester retrieves the instructions in the compatibility-checking script and follows them. If the software is not compatible with the repository, the installation transaction ends with an error. (This step checks platform compatibility.)
- The requester retrieves the instructions in the installation script and follows them. If there is an error in this process (such as insufficient resources), then the transaction ends with an error. Note that the installation process puts the runnable software in a place in the repository where it is no longer accessible as a work for exercising any usage rights other than the execution of the software as part of repository operations in carrying out other transactions.
- The repositories perform the common closing transaction steps.

The Uninstall Transaction

An Uninstall transaction is a request to remove software from a repository. Since uncontrolled or incorrect removal of software from a repository could compromise its behavioral integrity, this step is controlled.

- The requester sends the server an Uninstall message. This message indicates the work to be uninstalled, the version of the Uninstall right being invoked, and the file data for the work (including its size).
- The repositories perform the common opening transaction steps.

- The requester extracts a copy of the digital certificate for the software. If the certificate cannot be found or the master repository for the certificate is not known to the requester, the transaction ends with an error.
- The requester checks whether the software is installed. If the software is not installed, the transaction ends with an error.
- The requester decrypts the digital certificate using the public key of the master repository, recording the identity of the supplier and creator, a key for decrypting the software, the compatibility information, and a tamper-checking code. (This step authenticates the certification of the software, including the script for uninstalling it.)
- The requester decrypts the software using the key from the certificate and computes a check code on it using a 1-way hash function. If the check-code does not match the tamper-checking code from the certificate, the installation transaction ends with an error. (This step assures that the contents of the software, including the various scripts, have not been tampered with.)
- The requester retrieves the instructions in the uninstallation script and follows them. If there is an error in this process (such as insufficient resources), then the transaction ends with an error.
- The repositories perform the common closing transaction steps.

DISTRIBUTION AND USE SCENARIOS

To appreciate the robustness and flexibility of the present invention, various distribution and use scenarios for digital works are illustrated below. These scenarios are meant to be exemplary rather than exhaustive.

Consumers as Unpaid Distributors

In this scenario, a creator distributes copies of his works to various consumers. Each consumer is a potential distributor of the work. If the consumer copies the digital work (usually for a third party), a fee is collected and automatically paid to the creator.

This scenario is a new twist for digital works. It depends on the idea that "manufacturing" is just copying and is essentially free. It also assumes that the consumers as distributors do not require a fee for their time and effort in distributing the work.

This scenario is performed as follows:

A creator creates a digital work. He grants a Copy right with fees paid back to himself. If he does not grant an Embed right, then consumers cannot use the mechanism to act as distributors to cause fees to be paid to themselves on future copies. Of course, they could negotiate side deals or trades to transfer money on their own, outside of the system.

Paid Distributors

In another scenario, every time a copy of a digital work is sold a fee is paid to the creator and also to the immediate distributor.

This scenario does not give special status to any particular distributor. Anyone who sells a document has the right to add a fee to the sale price. The fee for sale could be established by the consumer. It could also be a fixed nominal amount that is contributed to the account of some charity.

This scenario is performed as follows:

A creator creates a digital work. He grants a Copy right with fees to be paid back to himself. He grants an Embed right, so that anyone can add shells to have fees paid to themselves.

A distributor embeds the work in a shell, with fees specified to be paid back to himself. If the distributor is content to receive fees only for copies that he sells himself, he grants an Extract right on the shell.

When a consumer buys a copy from the distributor, fees are paid both to the distributor and to the creator. If he chooses, the consumer can extract the work from the distributor's shell. He cannot extract it from the creator's shell. He can add his own shell with fees to be paid to himself.

Licensed Distribution

- In this scenario, a creator wants to protect the reputation and value of his work by making certain requirements on its distributors. He issues licenses to distributors that satisfy the requirements, and in turn, promises

to reward their efforts by assuring that the work will not be distributed over competing channels. The distributors incur expenses for selecting the digital work, explaining it to buyers, promoting its sale, and possibly for the license itself. The distributor obtains the right to enclose the digital work in a shell, whose function is to permit the attachment of usage fees to be paid to the distributor in addition to the fees to be paid to the creator.

This differs from the previous scenario in that it precludes the typical copy owner from functioning as a distributor, since the consumer lacks a license to copy the document. Thus, a consumer cannot make copies, even for free. All copies must come initially from authorized distributors. This version makes it possible to hold distributors accountable in some way for the sales and support of the work, by controlling the distribution of certificates that enable distributors to legitimately charge fees and copy owners to make copies. Since licenses are themselves digital works, the same mechanisms give the creators control over distributors by charging for licenses and putting time limits on their validity.

This scenario is performed as follows:

A creator purchases a digital distribution license that he will hand out to his distributors. He puts access requirements (such as a personal license) on the Copy and Transfer rights on the distribution license so that only he can copy or transfer it.

The creator also creates a digital work. He grants an Embed right and a Copy right, both of which require the distribution license to be exercised. He

grants a Play right so that the work can be played by anyone. He may optionally add a Transfer or Loan right, so that end consumers can do some non-commercial exchange of the work among friends.

A distributor obtains the distribution license and a number of copies of the work. He makes copies for his customers, using his distribution license.

A customer buys and uses the work. He cannot make new copies because he lacks a distribution license.

Super Distributors

This is a variation on the previous scenarios. A distributor can sell to anyone and anyone can sell additional copies, resulting in fees being paid back to the creator. However, only licensed distributors can add fees to be paid to themselves.

This scenario gives distributors the right to add fees to cover their own advertising and promotional costs, without making them be the sole suppliers. Their customers can also make copies, thus broadening the channel without diminishing their revenues. This is because distributors collect fees from copies of any copies that they originally sold. Only distributors can add fees.

This scenario is performed similarly to the previous ones. There are two key differences. (1) The creator only grants Embed rights for people who have a Distribution license. This is done by putting a requirement for a distributor's license on the Embed right. Consequently, non-distributors

cannot add their own fees. (2) The Distributor does not grant Extract rights, so that consumers cannot avoid paying fees to the Distributor if they make subsequent copies. Consequently, all subsequent copies result in fees paid to the Distributor and the Creator.

1-Level Distribution Fees

In this scenario, a distributor gets a fee for any copy he sells directly. However, if one of his customers sells further copies, he gets no further fee for those copies.

This scenario pays a distributor only for use of copies that he actually sold.

This scenario is performed similarly to the previous ones. The key feature is that the distributor creates a shell which specifies fees to be paid to him. He puts Extract rights on the shell. When a consumer buys the work, he can extract away the distributor's shell. Copies made after that will not require fees to be paid to the distributor.

Distribution Trees

In another scenario, distributors sell to other distributors and fees are collected at each level. Every copy sold by any distributor -- even several d-blocks down in the chain -- results in a fee being paid back to all of the previous distributors.

This scenario is like a chain letter or value chain. Every contributor or distributor along the way obtains fees, and is thereby encouraged to promote the sale of copies of the digital work.

This scenario is performed similarly to the previous ones. The key feature is that the distributor creates a shell which specifies fees to be paid to him. He does not grant Extract rights on the shell. Consequently, all future copies that are made will result in fees paid to him.

Weighted Distribution Trees

In this scenario, distributors make money according to a distribution tree. The fee that they make depends on various parameters, such as time since their sale or the number of subsequent distributors.

This is a generalized version of the Distribution Tree scenario, in that it tries to vary the fee to account for the significance of the role of the distributor.

This scenario is similar to the previous one. The difference is that the fee specification on the distributor's shell has provisions for changes in prices. For example, there could be a fee schedule so that copies made after the passage of time will require lower fees to be paid to the distributor. Alternatively, the distributor could employ a "best-price" billing option, using any algorithm he chooses to determine the fee up to the maximum specified in the shell.

Fees for Reuse

In this scenario, a first creator creates a work. It is distributed by a first distributor and purchased by a second creator. The second creator extracts a portion of the work and embeds in it a new work distributed by a second distributor. A consumer buys the new work from the second distributor. The first creator receives fees from every transaction; the first distributor receives fees only for his sale; the second creator and second distributor receive fees for the final sale.

This scenario shows how that flexible automatic arrangements can be set up to create automatic charging systems that mirror current practice. This scenario is analogous to when an author pays a fee to reuse a figure in some paper. In the most common case, a fee is paid to the creator or publisher, but not to the bookstore that sold the book.

The mechanisms for derived works are the same as those for distribution.

Limited Reuse

In this scenario, several first creators create works. A second creator makes a selection of these, publishing a collection made up of the parts together with some new interstitial material. (For example, the digital work could be a selection of music or a selection of readings.) The second creator wants to continue to allow some of the selected works to be extractable, but not the interstitial material.

This scenario deals with fine grained control of the rights and fees for reuse.

This scenario is performed as follows:

The first creators create their original works. If they grant extraction and embedding rights, then the second creator can include them in a larger collected work. The second creator creates the interstitial material. He does grant an Extract right on the interstitial material. He grants Extract rights on a subset of the reused material. A consumer of the collection can only extract portions that have that right. Fees are automatically collected for all parts of the collection.

Commercial Libraries

Commercial libraries buy works with the right to loan. They limit the loan period and charge their own fees for use. This scenario deals with fees for loaning rather than fees for making copies. The fees are collected by the same automatic mechanisms.

The mechanisms are the same as previous scenarios except that the fees are associated with the Loan usage right rather than the Copy usage right.

Demo Versions

A creator believes that if people try his work that they will want to buy it or use it. Consumers of his work can copy the work for free, and play (or

execute) a limited version of the work for free, and can play or use the full featured version for a fee.

This scenario deals with fees for loaning rather than fees for making copies. The fees are collected by the same automatic mechanisms.

This scenario is performed as follows:

The creator creates a digital work and grants various rights and fees. The creator grants Copy and Embed rights without a fee, in order to ensure widespread distribution of the work. Another of the rights is a limited play right with little or no fee attached. For example, this right may be for playing only a portion of the work. The play right can have various restrictions on its use. It could have a ticket that limits the number of times it is used. It could have internal restrictions that limit its functionality. It could have time restrictions that invalidate the right after a period of time or a period of use. Different fees could be associated with other versions of the Play right.

Upgrading a Digital Work with a Vendor

A consumer buys a digital work together with an agreement that he can upgrade to a new version at a later date for a modest fee, much less than the usual purchase price. When the new version becomes available, he goes to a qualified vendor to make the transaction.

This scenario deals with a common situation in computer software. It shows how a purchase may include future "rights." Two important features

of the scenario are that the transaction must take place at a qualified vendor, and that the transaction can be done only once per copy of the digital work purchased.

This scenario is performed as follows:

The creator creates a digital work, an upgrade ticket, and a distribution license. The upgrade ticket uses the a generic ticket agent that comes with repositories. As usual, the distribution license does not have Copy or Transfer rights. He distributes a bundled copies of the work and the ticket to his distributors as well as distribution licenses.

The distributor sells the old bundled work and ticket to customers.

The customer extracts the work and the ticket. He uses the work according to the agreements until the new version becomes available.

When the new work is ready, the creator gives it to distributors. The new work has a free right to copy from a distributor if a ticket is available.

The consumer goes to distributors and arranges to copy the work. The transaction offers the ticket. The distributor's repository punches the ticket and copies the new version to the consumers repository.

The consumer can now use the new version of the work.

Distributed Upgrading of Digital Works

A consumer buys a digital work together with an agreement that he can upgrade to a new version at a later date for a modest fee, much less than the

invention is the use of tickets in the access controls for the making of the analog copies.

This scenario is performed as follows:

The creator sells a work together with limited printing rights. The printing rights specify the kind of printer (e.g., a kind of cassette recorder or a kind of desktop paper printer) and also the kind of ticket required. The creator either bundles a limited number of tickets or sells them separately. If the tickets use the generic ticket agent, the consumer with the tickets can exercise the right at his convenience.

Demand Publishing

Professors in a business school want to put together course books of readings selected from scenario studies from various sources. The bookstore wants to be able to print the books from digital masters, without negotiating for and waiting for approval of printing of each of the scenarios. The copyright holders of the scenarios want to be sure that they are paid for every copy of their work that is printed.

On many college campuses, the hassle of obtaining copy clearances in a timely way has greatly reduced the viability of preparing course books. Print shops have become much more cautious about copying works in the absence of documented permission.

Demand Publishing is performed as follows: the creator sells a work together with printing rights for a fee. There can be rights to copy

(distribute) the work between bookstore repositories, with or without fee. The printing rights specify the kind of printer. Whenever a bookstore prints one of the works (either standalone or embedded in a collection), the fee is credited to the creator automatically. To discourage unauthorized copying of the print outs, it would be possible for the printer to print tracer messages discretely on the pages identifying the printing transaction, the copy number, and any other identifying information. The tracer information could be secretly embedded in the text itself (encoded in the grey scale) or hidden in some other way.

Metered Use and Multiple Price Packages

A consumer does not know what music to purchase until he decides whether he likes it. He would like to be able to take it home and listen to it, and then decide whether to purchase. Furthermore, he would like the flexibility of paying less if he listens to it very infrequently.

This scenario just uses the capability of the approach to have multiple versions of a right on a digital work. Each version of the right has its own billing scheme. In this scenario, the creator of the work can offer the Copy right without fee, and defer billing to the exercise of the Play right. One version of the play right would allow a limited performance without fee -- a right to "demo". Another version of the right could have a metered rate, of say \$.25 per hour of play. Another version could have a fee of \$15.00 for the first play, but no fee for further playing. When the consumer exercises a play right, he specifies which version of the right is being selected and is billed accordingly.

Fees for Font Usage

A designer of type fonts invests several months in the design of special fonts. The most common way of obtaining revenue for this work is to sell copies of the fonts to publishers for unlimited use over unlimited periods of time. A font designer would like to charge a rate that reflects the amount that the font is used.

This scenario is performed as follows: the font designer creates a font as a digital work. He creates versions of the Play right that bill either for metered use or "per-use". Each version of the play right would require that the player (a print layout program) be of an approved category. The font designer assigns appropriate fees to exercise the Copy right. When a publisher client wants to use a font, he includes it as input to a layout program, and is billed automatically for its use. In this way, a publisher who makes little use of a font pays less than one who uses it a lot.

Rational Database Usage Charges

Online information retrieval services typically charge for access in a way that most clients find unpredictable and uncorrelated to value or information use. The fee depends on which databases are open, dial-up connect time, how long the searches require, and which articles are printed out. There are no provisions for extracting articles or photographs, no method for paying to reuse information in new works, no distinction between having the terminal sit idly versus actively searching for data, no distinction between reading articles on the screen and doing nothing, and

higher rates per search when the centralized facility is busy and slow servicing other clients. Articles can not be offloaded to the client's machine for off-site search and printing. To offer such billing or the expanded services, the service company would need a secure way to account for and bill for how information is used.

This scenario is performed as follows:

The information service bundles its database as files in a repository. The information services company assigns different fees for different rights on the information files. For example, there could be a fee for copying a search database or a source file and a different fee for printing. These fees would be in addition to fees assigned by the original creator for the services. The fees for using information would be different for using them on the information service company's computers or the client's computers. This billing distinction would be controlled by having different versions of the rights, where the version for use on the service company's computer requires a digital certificate held locally. Fees for copying or printing files would be handled in the usual way, by assigning fees to exercising those rights. The distinction between searching and viewing information would be made by having different "players" for the different functions. This distinction would be maintained on the client's computers as well as the service computers. Articles could be extracted for reuse under the control of Extract and Embed rights. Thus, if a client extracts part of an article or photograph, and then sells copies of a new digital work incorporating it, fees could automatically be collected both by the information service and earlier creators and

distributors of the digital work. In this way, the information retrieval service could both offer a wider selection of services and billing that more accurately reflects the client's use of the information.

Print Spooling with Rights

In the simplest scenario, when a user wants to print a digital document he issues a print command to the user interface. If the document has the appropriate rights and the conditions are satisfied, the user agrees to the fee and the document is printed. In other cases, the printer may be on a remote repository and it is convenient to spool the printing to a later time. This leads to several issues. The user requesting the printing wants to be sure that he is not billed for the printing until the document is actually printed. Restated, if he is billed at the time the print job is spooled but the job is canceled before printing is done, he does not want to pay. Another issue is that when spooling is permitted, there are now two times at which rights, conditions and fees could be checked: the time at which a print job is spooled and the time at which a print is made. As with all usage rights, it is possible to have rights that expire and to have rights whose fee depends on various conditions. What is needed is a means to check rights and conditions at the time that printing is actually done.

This scenario is performed as follows: A printing repository is a repository with the usual repository characteristics plus the hardware and software to enable printing. Suppose that a user logs into a home repository and wants to spool print jobs for a digital work at a remote printing repository. The user interface for this could treat this as a request to "spool"

prints. Underneath this "spooling" request, however, are standard rights and requests. To support such requests, the creator of the work provides a Copy right, which can be used to copy the work to a printing repository. In the default case, this Copy right would have no fees associated for making the copy. However, the Next-Set-Of-Rights for the copy would only include the Print rights, with the usual fees for each variation of printing. This version of the Copy right could be called the "print spooling" version of the Copy right. The user's "spool request" is implemented as a Copy transaction to put a copy of the work on the printing repository, followed by Print transactions to create the prints of the work. In this way, the user is only billed for printing that is actually done. Furthermore, the rights, conditions and fees for printing the work are determined when the work is about to be printed.

Thus, a system for enforcing the usage rights of digital works is disclosed. While the embodiments disclosed herein are preferred, it will be appreciate from this teaching that various alternative, modifications, variations or improvements therein may be made by those skilled in the art, which are intended to be encompassed by the following claims.

APPENDIX A**GLOSSARY****AUTHORIZATION REPOSITORY:**

A special type of repository which provides an authorization service. An authorization may be specified by a usage right. The authorization must be obtained before the right may be exercised.

BILLING CLEARINGHOUSE:

A financial institution or the like whose purpose is to reconcile billing information received from credit servers. The billing clearinghouse may generate bills to users or alternatively, credit and debit accounts involved in the commercial transactions.

BILLING TRANSACTIONS:

The protocol used by which a repository reports billing information to a credit server.

CLEARINGHOUSE TRANSACTIONS:

The protocol used between a credit server and a clearinghouse.

COMPOSITE DIGITAL WORK:

A digital work comprised of distinguishable parts. Each of the distinguishable parts is itself a digital work which have have usage rights attached.

CONTENT:

The digital information (i.e. raw bits) representing a digital work.

COPY OWNER:

A term which refers to the party who owns a digital work stored in a repository. In the typical case, this party has purchased various rights to the document for printing, viewing, transferring, or other specific uses.

CREATOR:

A term which refers to a party who produces a digital work.

CREDIT SERVER:

A device which collects and reports billing information for a repository. In many implementations, this could be built as part of a repository. It requires a means for periodically communicating with a billing clearinghouse.

DESCRIPTION TREE:

A structure which describes the location of content and the usage rights and usage fees for a digital work. A description tree is comprised of description blocks. Each description block corresponds to a digital work or to an interest (typically a revenue bearing interest) in a digital work.

DIGITAL WORK (WORK):

Any encapsulated digital information. Such digital information may represent music, a magazine or book, or a multimedia composition. Usage rights and fees are attached to the digital work.

DISTRIBUTOR:

A term which refers to a party who legitimately obtains a copy of a digital work and offers it for sale.

IDENTIFICATION (DIGITAL) CERTIFICATE:

A signed digital message that attests to the identity of the possessor. Typically, digital certificates are encrypted in the private key of a well-known master repository.

MASTER REPOSITORY:

A special type of repository which issues identification certificates and distributes lists of repositories whose integrity have been compromised and which should be denied access to digital works (referred to as repository "hotlists".)

PUBLIC KEY ENCRYPTION:

An encryption technique used for secure transmission of messages on a communication channel. Key pairs are used for the encryption and decryption of messages. Typically one key is referred to as the public key and the other is the private key. The keys are inverses of each other from the perspective of encryption. Restated, a digital work that is encrypted by one key in the pair can be decrypted only by the other.

REGISTRATION TRANSACTIONS:

The protocol used between repositories to establish a trusted session.

RENDERING REPOSITORY:

A special type of repository which is typically coupled to a rendering system. The rendering repository will typically be embodied within the secure boundaries of a rendering system.

RENDERING SYSTEM:

The combination of a rendering repository and a rendering device. Examples of a rendering systems include printing systems, display systems, general purpose computer systems, video systems or audio systems.

[illegible]

REQUESTER MODE:

REVENUE OWNERS:

SERVER MODE:

SHELL DESCRIPTION BLOCK:

TRANSACTIONS:

USAGE FEES:

USAGE RIGHTS:

A language for defining the manner in which a digital work may be used or distributed, as well as any conditions on which use or distribution is premised.

USAGE TRANSACTIONS:

A set of protocols by which repositories communicate in the exercise of a usage rights. Each usage right has it's own transaction steps.

What is claimed is:

1. A rendering system adapted for use in a system for managing use of content, said rendering system being operative to rendering content in accordance with usage rights associated with the content, said rendering system comprising:

a rendering device configured to render the content; and

a repository coupled to said rendering device and operative to enforce usage rights associated with the content and permit the rendering device to render the content in accordance with a manner of use specified by the usage rights.

2. A rendering system as recited in claim 1, wherein said rendering device is configured to render content into a desired form.

3. A rendering system as recited in claim 1, wherein said repository is operative to receive a request to render the content and permit the content to be rendered only if a manner of use specified in the request corresponds to a manner of use specified in the usage rights.

4. A rendering system as recited in claim 3, wherein said repository comprises means for storing the content.

5. A rendering system as recited in claim 1, further comprising means for storing the content.

6. A rendering system as recited in claim 4 wherein said means for storing is means for storing ephemeral copies of the content.

7. A rendering system as recited in claims 4 wherein said means for storing comprises means for storing content after rendering.

10. A rendering system as recited in claim 7 wherein the content comprises video.

12. A rendering system as recited in claim 1 , wherein said rendering device comprises a video system.

14. A rendering system as recited in claim 1 , wherein said rendering device comprises a computer system and said repository comprises software executed on the computer system.

15. A rendering system as recited in claim 1, further comprising an execution device coupled to said repository, said repository being further operative to permit said execution device to execute a computer program only in a manner specified by the usage rights.

16. A rendering system as recited in claim 1, wherein the content is a computer program and the manner of use is a manner of executing the computer program.

17. A rendering system as recited in claim 1, wherein the manner of use is a manner of printing.
18. A rendering system as recited in claim 1, wherein the manner of use is a manner of displaying.
19. A rendering system as recited in claim 1, wherein the manner of use is a manner of playing.
20. A rendering system as recited in claim 1, wherein the rendering device and the repository are integrated into a secure system having a secure boundary.
21. A rendering system as recited in claim 1, wherein the rendering device and the repository are separate devices.
22. A rendering system as recited in claim 1, wherein the usage rights include at least one condition that must be satisfied to exercise the manner of use, and wherein the system further comprises means for communicating with an authorization repository for authorizing a condition.
23. A rendering system as recited in claim 1, further comprising means for communicating with a master repository for obtaining an identification certificate for the repository.
24. A rendering system as recited in claim 1, further comprising a boundary containing said repository and said rendering device in a secure environment.
25. A rendering system as recited in claim 22, wherein the condition is possession of a digital ticket.

28. A rendering system as recited in claim 5, wherein said means for storing comprises removable media.

SECRET

Chemical structure of 1,2-dichloroethane (DCE), showing two carbon atoms bonded together, with each carbon atom also bonded to a hydrogen atom and a chlorine atom.

Figure 2

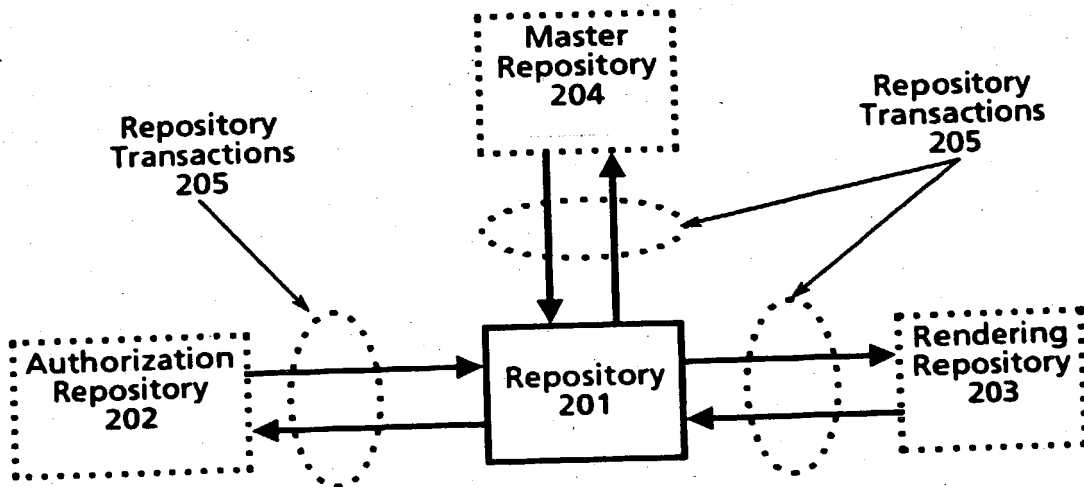


Figure 3

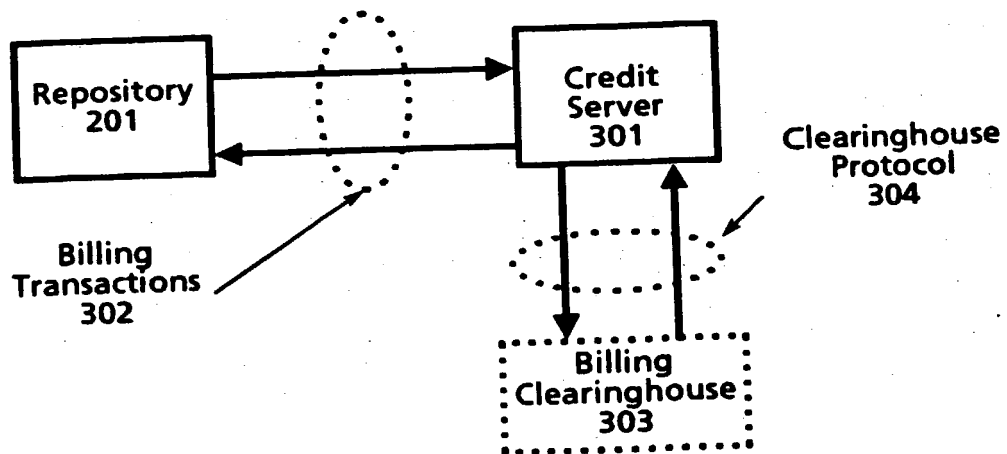
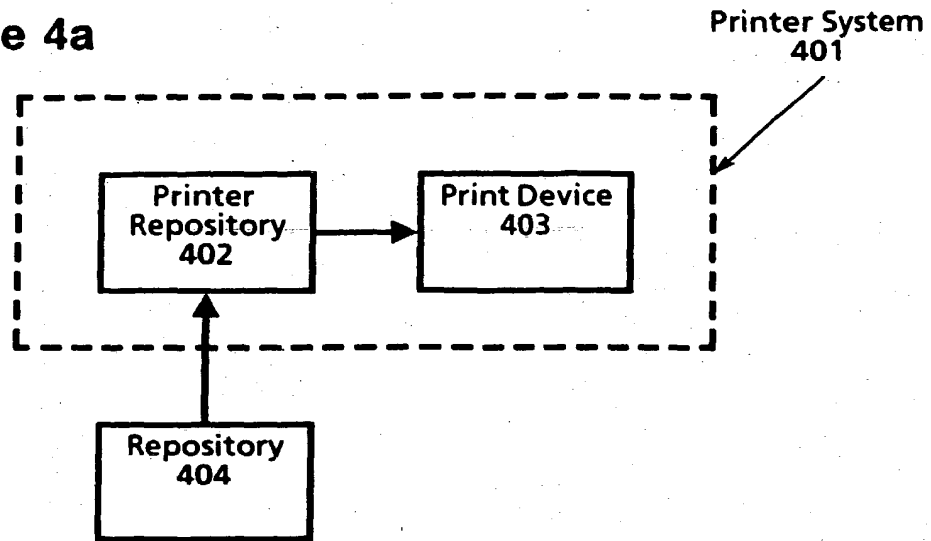
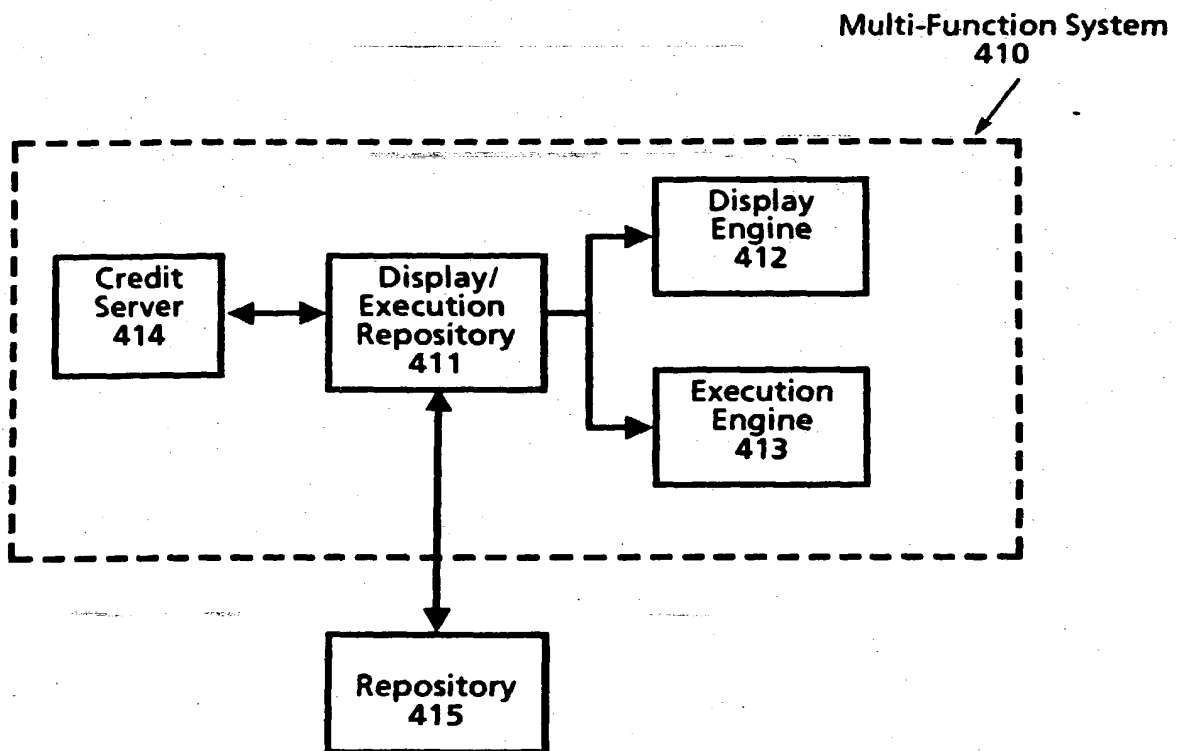


Figure 4a**Figure 4b**

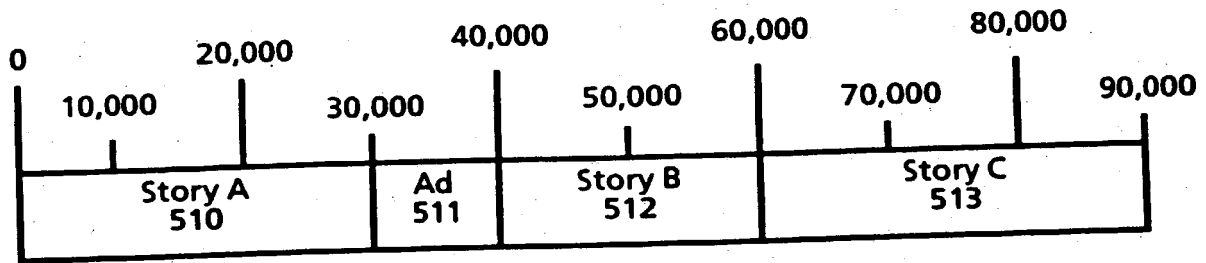


Figure 5

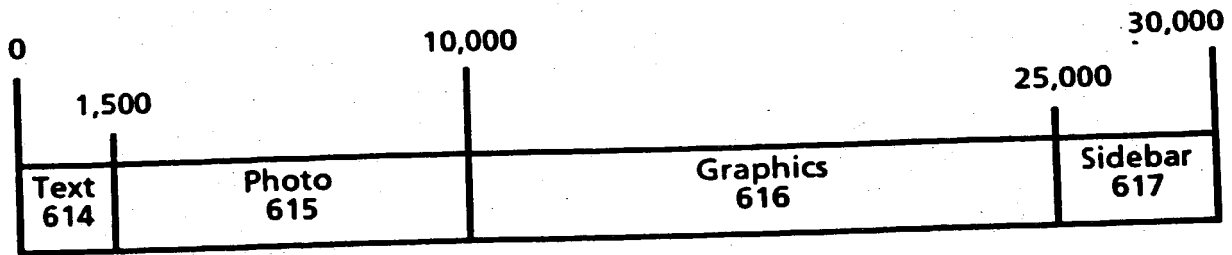


Figure 6

Figure 7

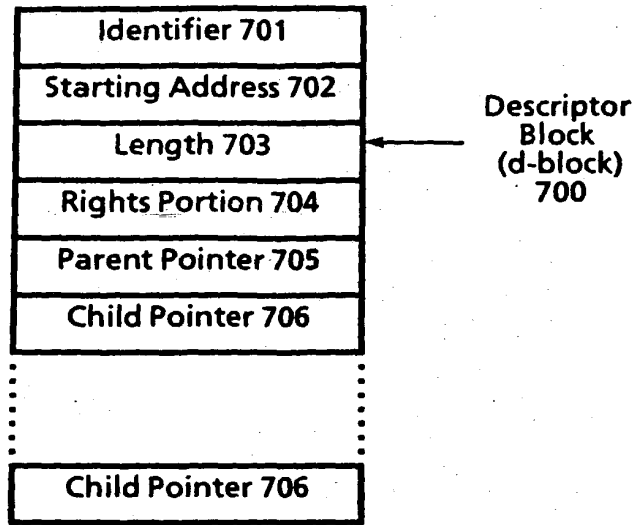


Figure 8

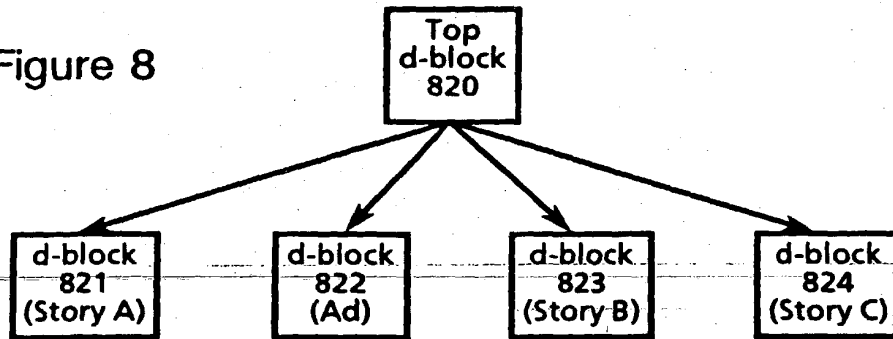


Figure 9

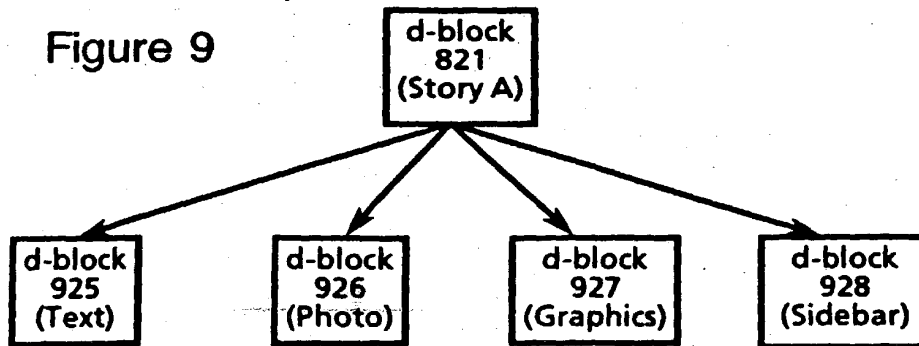


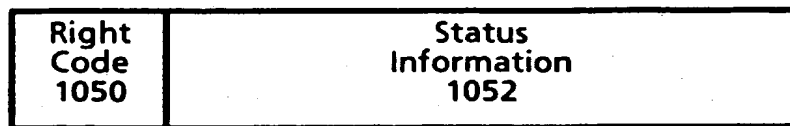
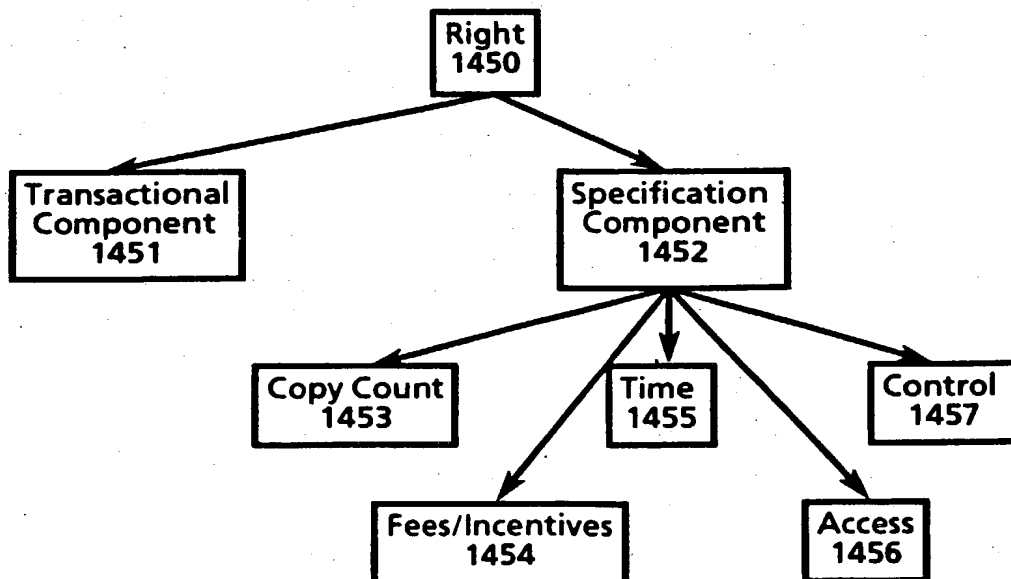
Figure 10**Figure 14**

Figure 11

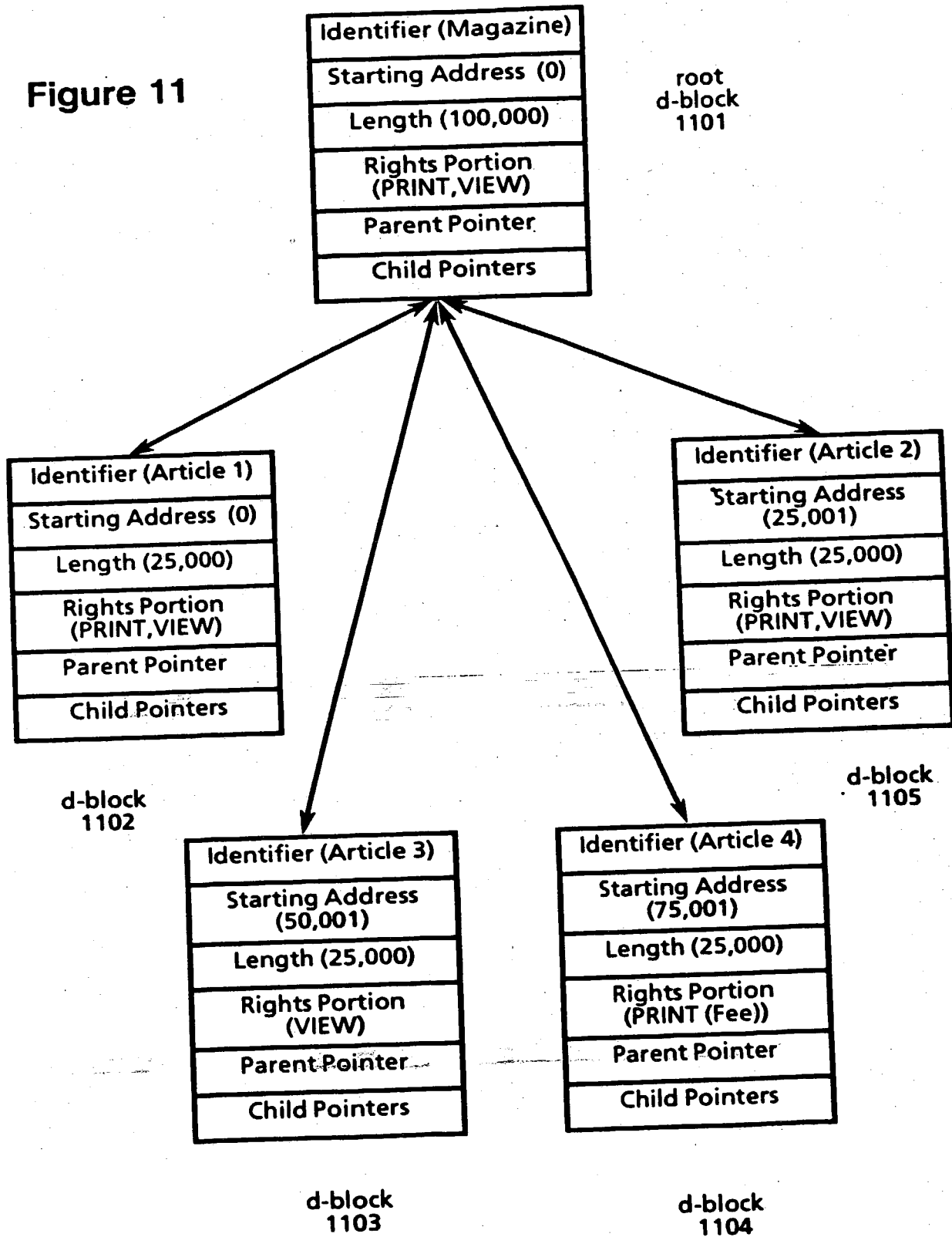


Figure 12

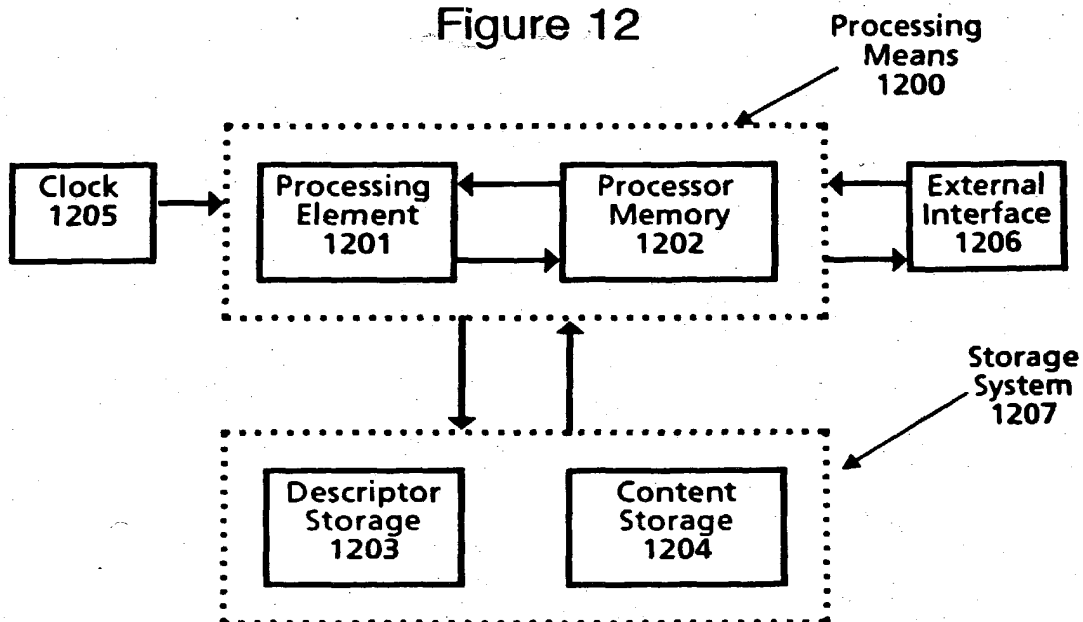
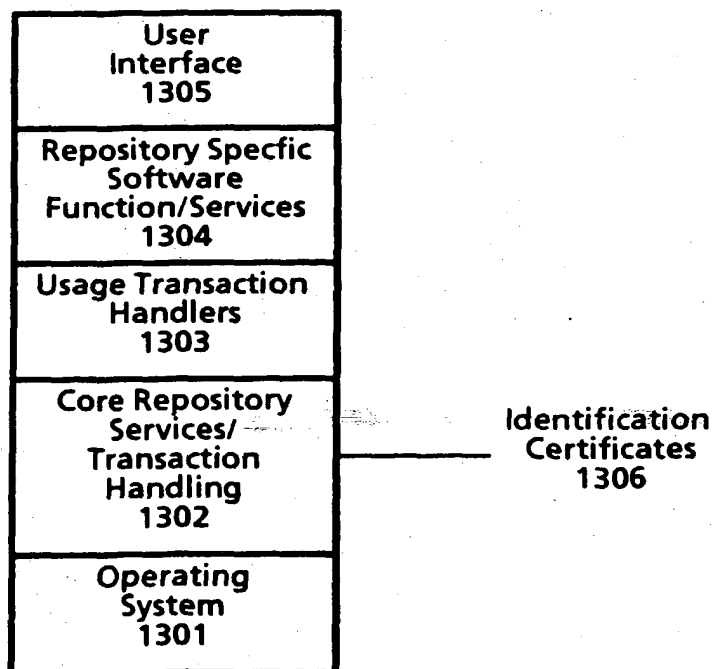


Figure 13



1501 ~ Digital Work Rights := (Rights*)
 1502 ~ Right := (Right-Code {Copy-Count} {Control-Spec} {Time-Spec} {Access-Spec} {Fee-Spec})
 1503 ~ Right-Code := Render-Code | Transport-Code | File-Management-Code | Derivative-Works-Code | Configuration-Code
 1504 ~ Render-Code := [Play : {Player: Player-ID} | Print: {Printer: Printer-ID}]
 1505 ~ Transport-Code := [Copy | Transfer | Loan {Remaining-Rights: Next-Set-of-Rights}] { (Next-Copy-Rights: Next-Set-of-Rights) }
 1506 ~ File-Management-Code := Backup {Back-Up-Copy-Rights: Next-Set-of-Rights} | Restore | Delete | Folder | Directory {Name: Hide-Local | Hide-Remote} {Parts: Hide-Local | Hide-Remote}
 1507 ~ Derivative-Works-Code := [Extract | Embed | Edit {Process: Process-ID}] { (Next-Copy-Rights: Next-Set-of-Rights) }
 1508 ~ Configuration-Code := Install | Uninstall
 1509 ~ Next-Set-of-Rights := { (Add: Set-Of-Rights) } { (Delete: Set-Of-Rights) } { (Replace: Set-Of-Rights) } { (Keep: Set-Of-Rights) }
 1510 ~ Copy-Count := (Copies: positive-integer | 0 | Unlimited)
 1511 ~ Control-Spec := (Control: {Restrictable | Unrestrictable} {Unchargeable | Chargeable})
 1512 ~ Time-Spec := ({Fixed-Interval | Sliding-Interval | Meter-Time} Until: Expiration-Date)
 1513 ~ Fixed-Interval := From: Start-Time
 1514 ~ Sliding-Interval := Interval: Use-Duration
 1515 ~ Meter-Time := Time-Remaining: Remaining-Use
 1516 ~ Access-Spec := ({SC: Security-Class} {Authorization: Authorization-ID*} {Other-Authorization: Authorization-ID*} {Ticket: Ticket-ID})
 1517 ~ Fee-Spec := {Scheduled-Discount} Regular-Fee-Spec | Scheduled-Fee-Spec | Markup-Spec
 1518 ~ Scheduled-Discount := Scheduled-Discount: (Scheduled-Discount: (Time-Spec Percentage)*)
 1519 ~ Regular-Fee-Spec := ({Fee: | Incentive: } [Per-Use-Spec | Metered-Rate-Spec | Best-Price-Spec | Call-For-Price-Spec] {Min: Money-Unit Per: Time-Spec} {Max: Money-Unit Per: Time-Spec} To: Account-ID)
 1520 ~ Per-Use-Spec := Per-Use: Money-unit
 1521 ~ Metered-Rate-Spec := Metered: Money-Unit Per: Time-Spec
 1522 ~ Best-Price-Spec := Best-Price: Money-unit Max: Money-unit
 1523 ~ Call-For-Price-Spec := Call-For-Price
 1524 ~ Scheduled-Fee-Spec := (Schedule: (Time-Spec Regular-Fee-Spec)*)
 1525 ~ Markup-Spec := Markup: percentage To: Account-ID

Figure 10

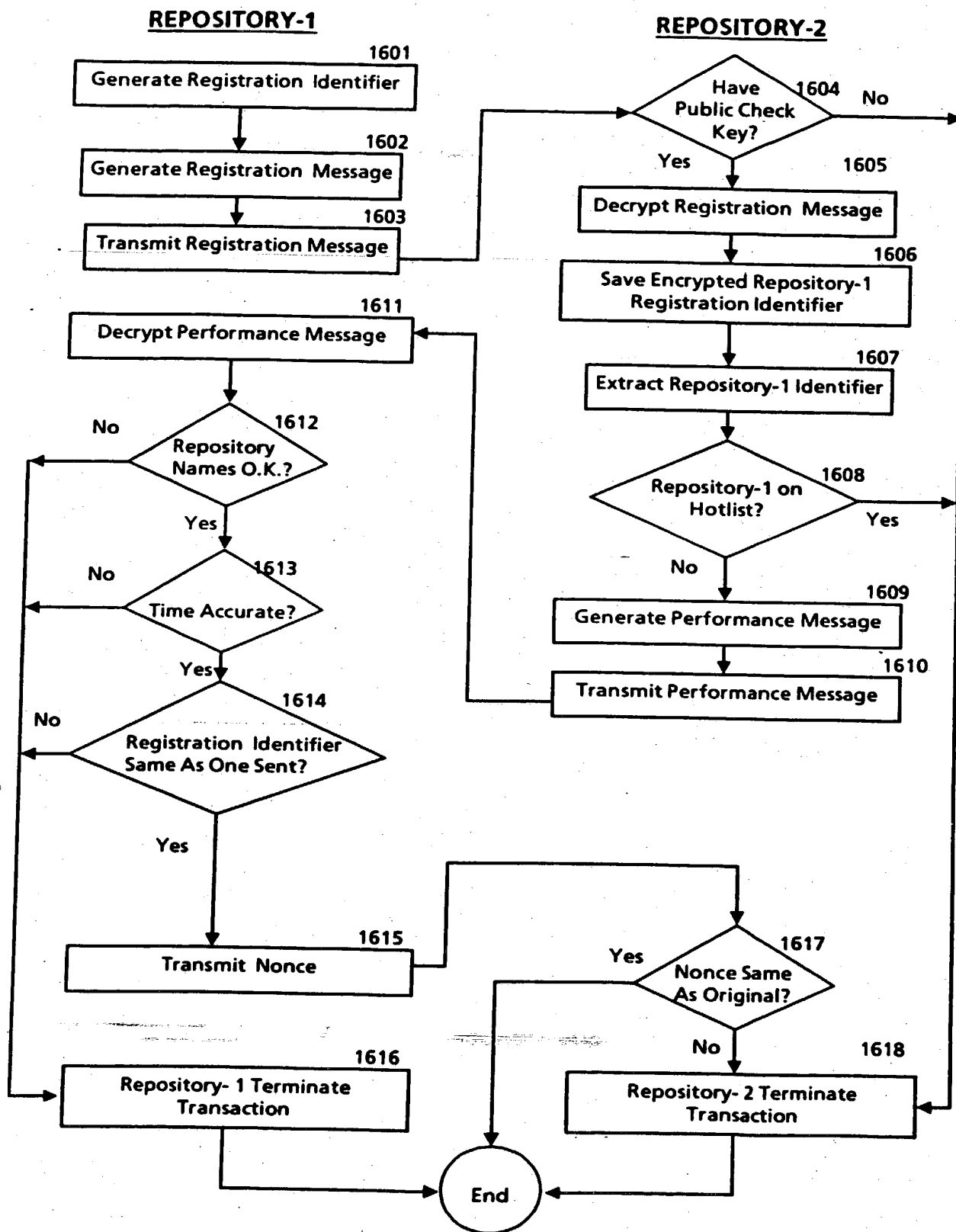


Figure 17

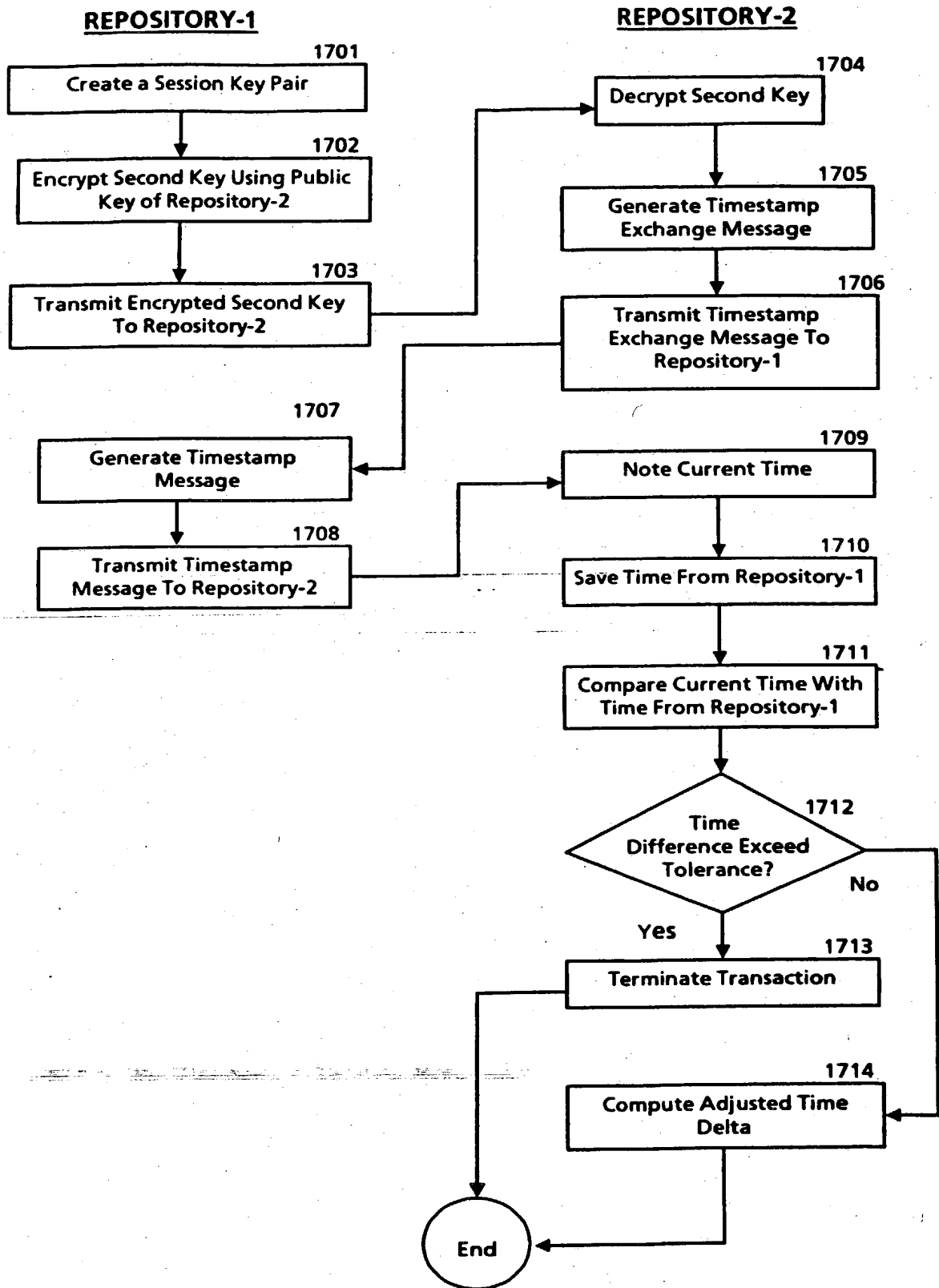


Figure 18

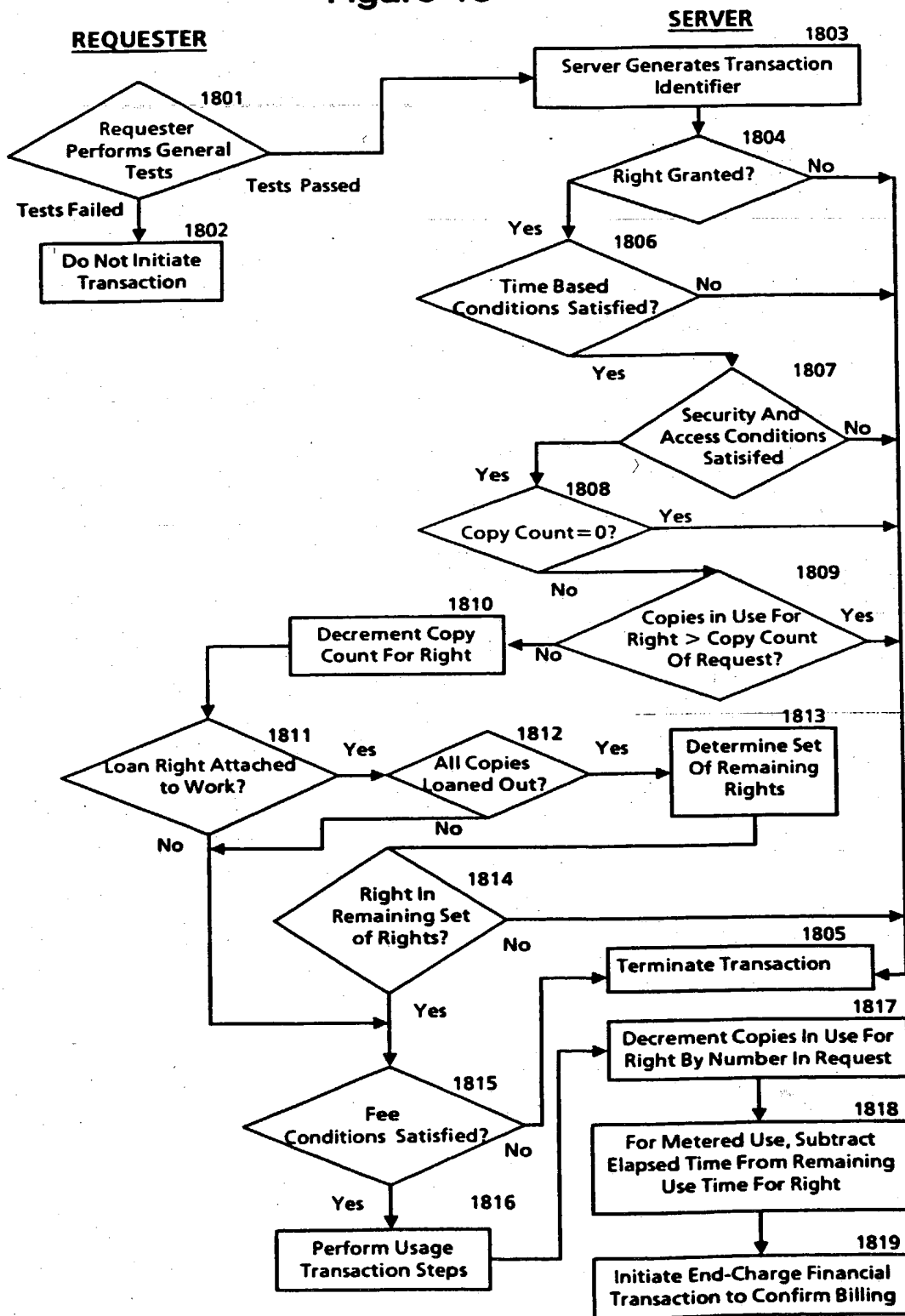
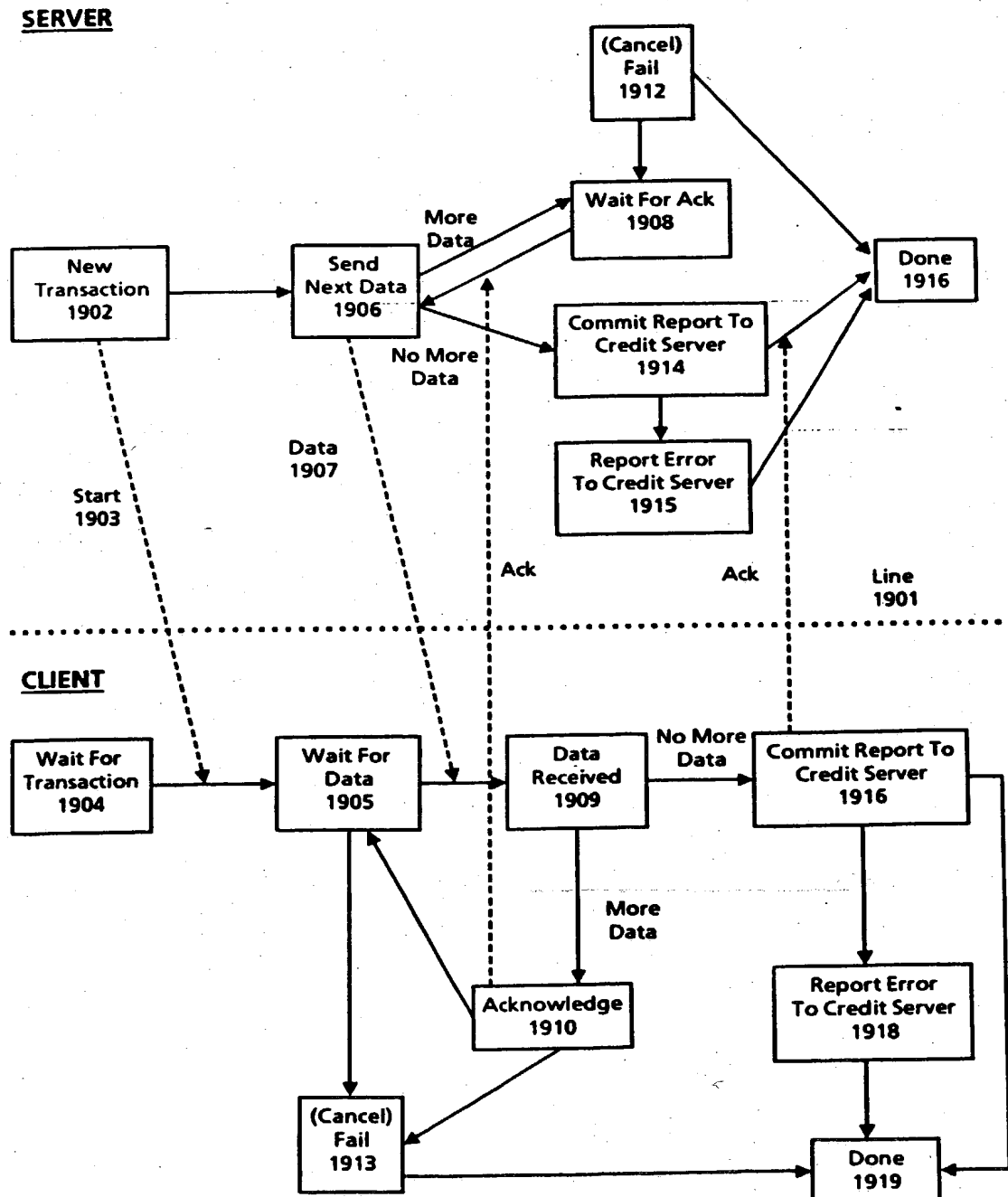


Figure 19



PATENT APPLICATION FEE DETERMINATION RECORD

Effective January 1, 2003

Application or Docket Number

CLAIMS AS FILED - PART I

	(Column 1)	(Column 2)
TOTAL CLAIMS	28	
FOR	NUMBER FILED	NUMBER EXTRA
TOTAL CHARGEABLE CLAIMS	28 minus 20 = *	8
INDEPENDENT CLAIMS	1 minus 3 = *	
MULTIPLE DEPENDENT CLAIM PRESENT ☐		

* If the difference in column 1 is less than zero, enter "0" in column 2

CLAIMS AS AMENDED - PART II

	(Column 1)	(Column 2)	(Column 3)
AMENDMENT A	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA
Total	*	Minus **	=
Independent	*	Minus ***	=
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM ☐			

	(Column 1)	(Column 2)	(Column 3)
AMENDMENT B	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA
Total	*	Minus **	=
Independent	*	Minus ***	=
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM ☐			

	(Column 1)	(Column 2)	(Column 3)
AMENDMENT C	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA
Total	*	Minus **	=
Independent	*	Minus ***	=
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM ☐			

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.

** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20."

*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3."

The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

SMALL ENTITY TYPE ☐

OR OTHER THAN SMALL ENTITY

RATE	FEE
BASIC FEE	\$375
X\$ 9=	
X42=	
+140=	
TOTAL	

RATE	FEE
BASIC FEE	\$750
X\$18=	144
X84=	
+280=	
TOTAL	894

SMALL ENTITY TYPE ☐

OR OTHER THAN SMALL ENTITY

RATE	ADDITIONAL FEE
X\$ 9=	
X42=	
+140=	
TOTAL ADDIT. FEE	

RATE	ADDITIONAL FEE
X\$18=	
X84=	
+280=	
TOTAL ADDIT. FEE	

RATE	ADDITIONAL FEE
X\$ 9=	
X42=	
+140=	
TOTAL ADDIT. FEE	

RATE	ADDITIONAL FEE
X\$18=	
X84=	
+280=	
TOTAL ADDIT. FEE	

RATE	ADDITIONAL FEE
X\$ 9=	
X42=	
+140=	
TOTAL ADDIT. FEE	

RATE	ADDITIONAL FEE
X\$18=	
X84=	
+280=	
TOTAL ADDIT. FEE	



Commissioner for Patents
Washington, DC 20231
www.uspto.gov

APPLICATION NUMBER	FILING/RECEIPT DATE	FIRST NAMED APPLICANT	ATTORNEY DOCKET NUMBER
10/345,390	01/16/2003	Mark J. Stefik	111325-151

CONFIRMATION NO. 2180

FORMALITIES LETTER



OC000000009546343

22204
NIXON PEABODY, LLP
8180 GREENSBORO DRIVE
SUITE 800
MCLEAN, VA 22102

Date Mailed: 02/21/2003

NOTICE TO FILE MISSING PARTS OF NONPROVISIONAL APPLICATION

FILED UNDER 37 CFR 1.53(b)

Filing Date Granted

Items Required To Avoid Abandonment:

An application number and filing date have been accorded to this application. The item(s) indicated below, however, are missing. Applicant is given **TWO MONTHS** from the date of this Notice within which to file all required items and pay any fees required below to avoid abandonment. Extensions of time may be obtained by filing a petition accompanied by the extension fee under the provisions of 37 CFR 1.136(a).

- The statutory basic filing fee is missing.
Applicant must submit \$ 750 to complete the basic filing fee for a non-small entity. If appropriate, applicant may make a written assertion of entitlement to small entity status and pay the small entity filing fee (37 CFR 1.27).
- The oath or declaration is missing.
A properly signed oath or declaration in compliance with 37 CFR 1.63, identifying the application by the above Application Number and Filing Date, is required.
- To avoid abandonment, a late filing fee or oath or declaration surcharge as set forth in 37 CFR 1.16(e) of \$130 for a non-small entity, must be submitted with the missing items identified in this letter.

The application is informal since it does not comply with the regulations for the reason(s) indicated below.

The required item(s) identified below must be timely submitted to avoid abandonment:

- Replacement drawings in compliance with 37 CFR 1.84 and 37 CFR 1.121 are required. The drawings submitted are not acceptable because:
 - The drawings submitted to the Office are not electronically reproducible. Drawing sheets must be submitted on paper, which is flexible, strong, white, smooth, non-shiny, and durable (see 37 CFR 1.84(e)). See Figure(s) 15-17.

Items Required To Avoid Processing Delays:

The item(s) indicated below are also required and should be submitted with any reply to this notice to avoid further processing delays.

- Additional claim fees of **\$144** as a non-small entity, including any required multiple dependent claim fee, are required. Applicant must submit the additional claim fees or cancel the additional claims for which fees are due.

SUMMARY OF FEES DUE:

Total additional fee(s) required for this application is **\$1024** for a Large Entity

- **\$750** Statutory basic filing fee.
- **\$130** Late oath or declaration Surcharge.
- Total additional claim fee(s) for this application is **\$144**
 - **\$144** for **8** total claims over 20 .

A copy of this notice MUST be returned with the reply.



Customer Service Center

Initial Patent Examination Division (703) 308-1202

PART 3 - OFFICE COPY



APPLICATION DATA SHEET

Electronic Version 0.0.11

Stylesheet Version: 1.0

Attorney Docket Number: 111325-151

Publication Filing Type: new-utility

Application Type: utility

Title of Invention: CONTENT RENDERING REPOSITORY

Legal Representative:

Attorney or Agent: Marc S Kaufman

Registration Number: 35212

Attorney or Agent: Carlos R Villamar

Registration Number: 43224

Customer Number Correspondence Address: 22204

22204

Continuity Data:

This application is a continuation of 09/778,006 2001-02-07 US Pending
which is a division of 08/967,084 1997-11-10 US 6,236,971 2001-05-
22 US

which is a continuation of 08/344,760 1994-11-23 US Abandoned

Assignee (Publish): CONTENTGUARD HOLDINGS, INC.

103 Foulk Road, Suite 200-M

Wilmington 19803 DE US

file://C:\Program%20Files\USPTO\ePAVE\TmpXML.xml

6/20/2003

INVENTOR(s):

Primary
Citizenship: US
Given Name: Mark
Middle Name: J
Family Name: Stefik
Residence City: Portola Valley
Residence State: CA
Residence
Country: US
Address: 10 Portola Green Circle
Portola Valley CA, 94028 US

Primary
Citizenship: Canadian
Given Name: Peter
Middle Name: L.T.
Family Name: Pirolli
Residence City: San Francisco
Residence State: CA
Residence
Country: US
Address: 2958 Sloat Blvd.
San Francisco CA, 94116 US



PETITION FOR EXTENSION OF TIME UNDER 37 CFR 1.136(a)		Docket Number (Optional) 111325-151										
CERTIFICATE OF MAILING OR TRANSMISSION [37 CFR 1.8(a)] I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to Mail Stop _____, Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450, or being facsimile transmitted to the USPTO at _____, on _____. Signature: _____ Name: _____	In re Application of: Mark J. Stefik et al.											
	Application Number: 10/345,390 Filed: January 16, 2003											
	For: <i>CONTENT RENDERING REPOSITORY</i>											
	Group Art Unit: 3621	Examiner: Not yet assigned										
This is a request under the provisions of 37 CFR 1.136(a) to extend the period for filing a reply in the above identified application. The requested extension and appropriate entity fee are as follows (check time period desired): <table><tr><td>☐ One month (37 CFR 1.17(a)(1)) - (\$55/\$110)</td><td>\$ _____</td></tr><tr><td>☒ Two months (37 CFR 1.17(a)(2)) - (\$205/\$410)</td><td>\$410.00</td></tr><tr><td>☐ Three months (37 CFR 1.17(a)(3)) - (\$465/\$930)</td><td>\$ _____</td></tr><tr><td>☐ Four months (37 CFR 1.17(a)(4)) - (\$725/\$1450)</td><td>\$ _____</td></tr><tr><td>☐ Five months (37 CFR 1.17(a)(5)) - (\$985/\$1970)</td><td>\$ _____</td></tr></table> ☐ Applicant claims small entity status. ☒ A check to cover the fee is enclosed. ☐ Payment by credit card. Form PTO-2038 is attached. ☐ The Commissioner has already been authorized to charge fees in this application to a Deposit Account. ☒ The Commissioner is hereby authorized to charge any fees which may be required, or credit any overpayment, to Deposit Account Number <u>19-2380 (111325-151)</u>. I have enclosed a duplicate copy of this sheet. I am the ☐ applicant/inventor ☐ assignee of record of the entire interest. See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed. (Form PTO/SB/96). ☒ attorney or agent of record. ☐ attorney or agent under 37 CFR 1.34(a). Registration number if acting under 37 CFR 1.34(a) _____. WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038. <u>June 20, 2003</u> Date <u></u> Signature <u>Carlos R. Villamar</u> Typed or printed name NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below. ☐ Total of _____ forms are submitted.			☐ One month (37 CFR 1.17(a)(1)) - (\$55/\$110)	\$ _____	☒ Two months (37 CFR 1.17(a)(2)) - (\$205/\$410)	\$410.00	☐ Three months (37 CFR 1.17(a)(3)) - (\$465/\$930)	\$ _____	☐ Four months (37 CFR 1.17(a)(4)) - (\$725/\$1450)	\$ _____	☐ Five months (37 CFR 1.17(a)(5)) - (\$985/\$1970)	\$ _____
☐ One month (37 CFR 1.17(a)(1)) - (\$55/\$110)	\$ _____											
☒ Two months (37 CFR 1.17(a)(2)) - (\$205/\$410)	\$410.00											
☐ Three months (37 CFR 1.17(a)(3)) - (\$465/\$930)	\$ _____											
☐ Four months (37 CFR 1.17(a)(4)) - (\$725/\$1450)	\$ _____											
☐ Five months (37 CFR 1.17(a)(5)) - (\$985/\$1970)	\$ _____											

06/20/2003 53EKB031 00000061 10345390
04 70:1232 410.00 09

SEND TO: Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

NVA268595.1



9/13

- 1501 ~ Digital Work Rights := (Rights*)
- 1502 ~ Right := (Right-Code {Copy-Count} {Control-Spec} {Time-Spec}
{Access-Spec} {Fee-Spec})
- 1503 ~ Right-Code := Render-Code | Transport-Code | File-Management-
Code | Derivative-Works-Code | Configuration-Code
- 1504 ~ Render-Code := [Play : {Player: Player-ID} | Print: {Printer: Printer-ID}]
- 1505 ~ Transport-Code := [Copy | Transfer | Loan {Remaining-Rights:
Next-Set-of-Rights}] { (Next-Copy-Rights: Next-Set-of-Rights) }
- 1506 ~ File-Management-Code := Backup {Back-Up-Copy-Rights:
Next-Set-of-Rights} | Restore | Delete | Folder
| Directory {Name: Hide-Local | Hide-Remote}
{Parts: Hide-Local | Hide-Remote}
- 1507 ~ Derivative-Works-Code := [Extract | Embed | Edit {Process:
Process-ID}] { (Next-Copy-Rights:
Next-Set-of-Rights) }
- 1508 ~ Configuration-Code := Install | Uninstall
- 1509 ~ Next-Set-of-Rights := { (Add: Set-Of-Rights) } { (Delete:
Set-Of-Rights) } { (Replace: Set-Of-Rights) } { (Keep: Set-Of-Rights) }
- 1510 ~ Copy-Count := (Copies: positive-integer | 0 | Unlimited)
- 1511 ~ Control-Spec := (Control: {Restrictable | Unrestrictable}
{Unchargeable | Chargeable})
- 1512 ~ Time-Spec := ({Fixed-Interval | Sliding-Interval | Meter-Time}
Until: Expiration-Date)
- 1513 ~ Fixed-Interval := From: Start-Time
- 1514 ~ Sliding-Interval := Interval: Use-Duration
- 1515 ~ Meter-Time := Time-Remaining: Remaining-Use
- 1516 ~ Access-Spec := ({SC: Security-Class} {Authorization: Authorization-ID*}
{Other-Authorization: Authorization-ID*} {Ticket: Ticket-ID})
- 1517 ~ Fee-Spec := {Scheduled-Discount} Regular-Fee-Spec | Scheduled-Fee-Spec |
Markup-Spec
- 1518 ~ Scheduled-Discount := Scheduled-Discount: (Scheduled-Discount:
(Time-Spec Percentage)*)
- 1519 ~ Regular-Fee-Spec := ({Fee: | Incentive: } [Per-Use-Spec | Metered-Rate-
Spec | Best-Price-Spec | Call-For-Price-Spec]
{Min: Money-Unit Per: Time-Spec} {Max:
Money-Unit Per: Time-Spec} To: Account-ID)
- 1520 ~ Per-Use-Spec := Per-Use: Money-unit
- 1521 ~ Metered-Rate-Spec := Metered: Money-Unit Per: Time-Spec
- 1522 ~ Best-Price-Spec := Best-Price: Money-unit Max: Money-unit
- 1523 ~ Call-For-Price-Spec := Call-For-Price
- 1524 ~ Scheduled-Fee-Spec := (Schedule: (Time-Spec Regular-Fee-Spec))
- 1525 ~ Markup-Spec := Markup: percentage To: Account-ID

Fig.15

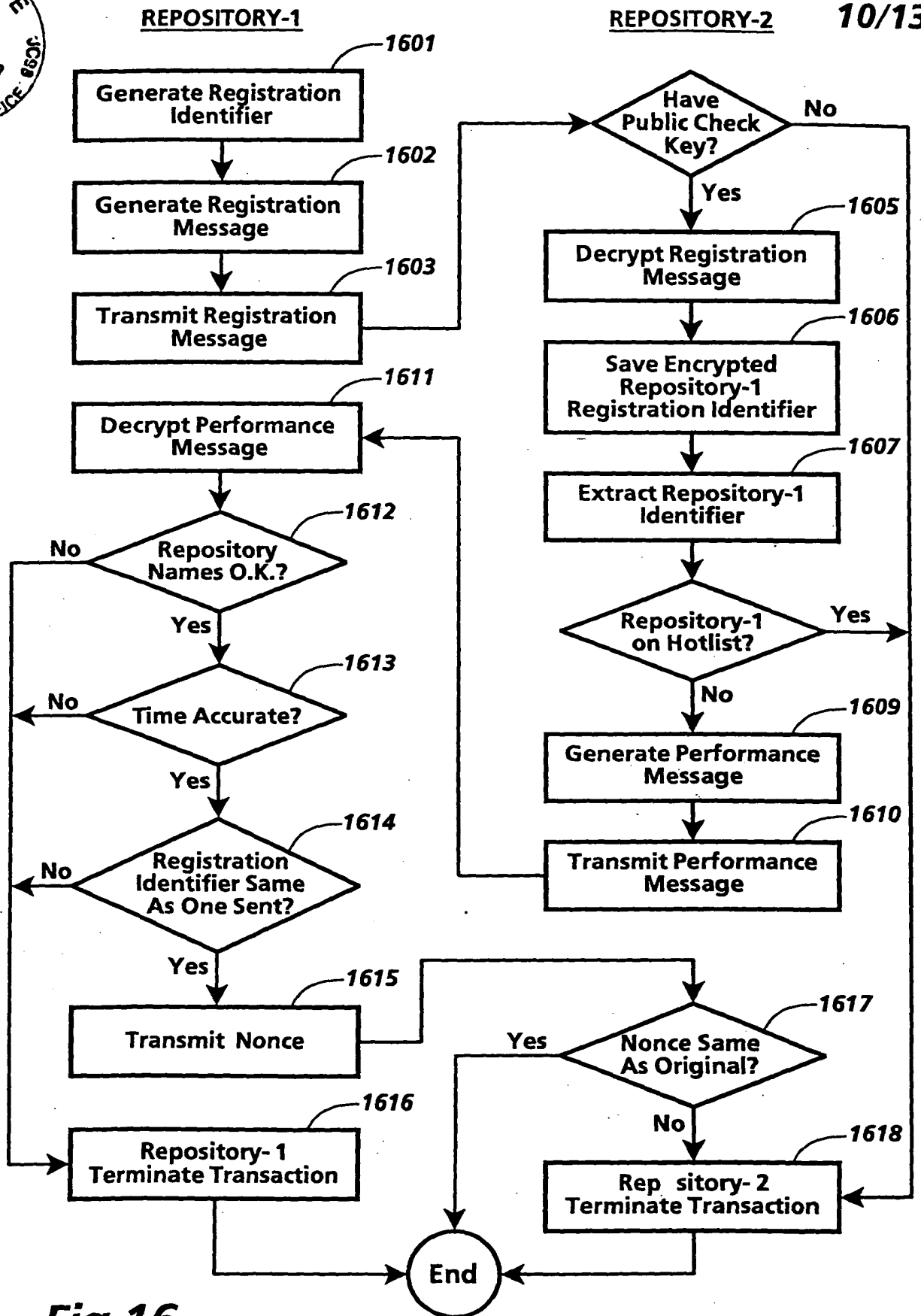


Fig.16



11/13

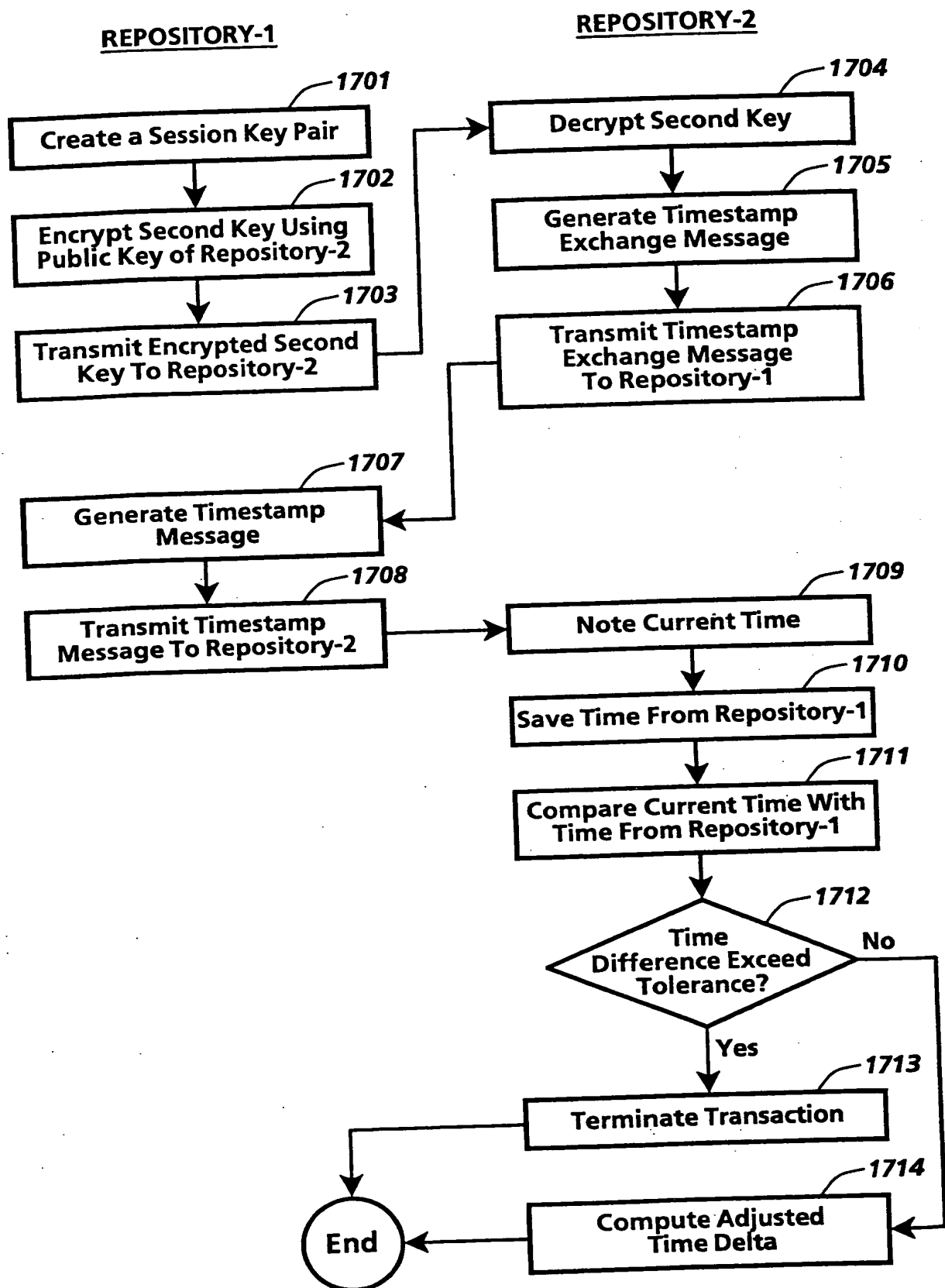


Fig.17

**DECLARATION (37 CFR 1.63) FOR UTILITY OR DESIGN APPLICATION USING AN
APPLICATION DATA SHEET (37 CFR 1.76)**

Title of Invention **CONTENT RENDERING REPOSITORY**

As the below named inventor(s), I/we declare that:

This declaration is directed to:

- ☐ The attached application, or
- ☒ Application No. 10/345,390 (Docket No. 111325-151), filed on January 16, 2003,
- ☐ as amended on _____ (if applicable);

I/We believe that I/we am/are the original and first inventor(s) of the subject matter which is claimed and for which a patent is sought;

I/We have reviewed and understand the contents of the above-identified application, including the claims, as amended by any amendment specifically referred to above;

I/We acknowledge the duty to disclose to the United States Patent and Trademark Office all information known to me/us to be material to patentability as defined in 37 CFR 1.56, including for continuation-in-part applications, material information which became available between the filing date of the prior application and the national or PCT International filing date of the continuation-in-part application.

All statements made herein of my/own knowledge are true, all statements made herein on information and belief are believed to be true, and further that these statements were made with the knowledge that willful false statements and the like are punishable by fine or imprisonment, or both, under 18 U.S.C. 1001, and may jeopardize the validity of the application or any patent issuing thereon.

FULL NAME OF INVENTOR(S)

Inventor one: Mark J. Stefik

Signature: Mark J. Stefik

Citizen of: USA

Inventor two: Peter L. Pirolli

Signature: Peter Pirolli

Citizen of: USA & Canada

Inventor three: _____

Signature: _____

Citizen of: _____

Inventor four: _____

Signature: _____

Citizen of: _____

☐ Additional inventors are being named on _____ additional form(s) attached hereto.

PLUS Search Results for S/N 10345390, Searched August 23, 2004

The Patent Linguistics Utility System (PLUS) is a USPTO automated search system for U.S. Patents from 1971 to the present. PLUS is a query-by-example search system which produces a list of patents that are most closely related linguistically to the application searched. This search was prepared by the staff of the Scientific and Technical Information Center, SIRA.

6236971	4931932
6708157	5181786
6714921	5237224
4408291	5297193
4333049	5354097
5661789	5365575
5760775	5404579
5790119	5420797
5872569	5432705
6487659	5444794
4269025	5455408
4470109	5479507
4803993	5483050
5254813	5488664
5280567	5500681
5404322	5535276
5706011	5542710
5748568	5577105
5907641	5594806
5233658	5598477
6073234	5602750
6240401	5619649
6516413	5668592
6473560	5671280
4345820	5671284
5297189	5681065
5452143	5694139
6205553	5710874
6275936	5718520
6490355	5719387
6530021	5719939
6748471	5726763
5633660	5737419
5750069	5748735
3614397	5751703
3653587	5761281
3637999	5769269
4277064	5787156
4326123	5835576
4351004	5841842
4393455	5872844
4471442	5877969
4532642	5878138
4573954	5886746
4600198	5923019
4603390	5930363
4624578	5949823
4774571	5948040
4852101	5965859
4916294	5978013

10345390_LIST

10345390

PLUS Search Results for S/N 10345390, Searched August 23, 2004

The Patent Linguistics Utility System (PLUS) is a USPTO automated search system for U.S. Patents from 1971 to the present. PLUS is a query-by-example search system which produces a list of patents that are most closely related linguistically to the application searched. This search was prepared by the staff of the Scientific and Technical Information Center, SIRA.

6236971	4931932
6708157	5181786
6714921	5237224
4408291	5297193
4333049	5354097
5661789	5365575
5760775	5404579
5790119	5420797
5872569	5432705
6487659	5444794
4269025	5455408
4470109	5479507
4803993	5483050
5254813	5488664
5280567	5500681
5404322	5535276
5706011	5542710
5748568	5577105
5907641	5594806
5233658	5598477
6073234	5602750
6240401	5619649
6516413	5668592
6473560	5671280
4345820	5671284

10345390_LIST

5297189	5681065
5452143	5694139
6205553	5710874
6275936	5718520
6490355	5719387
6530021	5719939
6748471	5726763
5633660	5737419
5750069	5748735
3614397	5751703
3653587	5761281
3637999	5769269
4277064	5787156
4326123	5835576
4351004	5841842
4393455	5872844
4471442	5877969
4532642	5878138
4573954	5886746
4600198	5923019
4603390	5930363
4624578	5949823
4774571	5948040
4852101	5965859
4916294	5978013

10345390_EAST

(6236971
6708157
6714921
4408291
4333049
5661789
5760775
5790119
5872569
6487659
4269025
4470109
4803993
5254813
5280567
5404322
5706011
5748568
5907641
5233658
6073234
6240401
6516413
6473560
4345820
5297189
5452143
6205553
6275936
6490355
6530021
6748471
5633660
5750069
3614397
3653587
3637999
4277064
4326123
4351004
4393455

10345390_EAST

4471442
4532642
4573954
4600198
4603390
4624578
4774571
4852101
4916294) .pn.
(4931932
5181786
5237224
5297193
5354097
5365575
5404579
5420797
5432705
5444794
5455408
5479507
5483050
5488664
5500681
5535276
5542710
5577105
5594806
5598477
5602750
5619649
5668592
5671280
5671284
5681065
5694139
5710874
5718520
5719387
5719939
5726763

10345390_EAST

5737419
5748735
5751703
5761281
5769269
5787156
5835576
5841842
5872844
5877969
5878138
5886746
5923019
5930363
5949823
5948040
5965859
5978013) .pn.

10345390_CLS

Most Frequently Occurring Classifications of Patents Returned

From A Search of 10345390 on August 23, 2004

Original Classifications

3 235/449
3 379/93.13
2 345/839
2 400/61
2 705/69

Cross-Reference Classifications

4 380/30
3 705/54
3 713/168
2 235/382
2 235/384
2 235/437
2 235/449
2 235/454
2 235/493
2 283/107
2 283/73
2 283/903
2 283/94
2 345/772
2 345/965
2 379/114.19
2 379/93.02
2 380/201
2 380/54
2 382/209
2 396/429
2 399/82
2 400/708
2 705/1
2 705/39
2 705/41
2 705/44
2 705/51

10345390_CLS

2 713/156
2 713/161
2 713/176

Combined Classifications

5 235/449
4 379/93.13
4 380/30
4 713/168
3 235/384
3 283/94
3 380/54
3 705/1
3 705/54
3 713/161
3 713/176
2 235/380
2 235/382
2 235/432
2 235/437
2 235/454
2 235/493
2 283/107
2 283/72
2 283/73
2 283/903
2 340/933
2 345/772
2 345/839
2 345/965
2 358/1.15
2 360/2
2 379/114.19
2 379/93.02
2 380/201
2 380/51
2 382/209
2 396/429
2 399/82
2 400/61
2 400/708

10345390_CLS

2 705/39
2 705/40
2 705/41
2 705/418
2 705/44
2 705/5
2 705/51
2 705/67
2 705/69
2 713/155
2 713/156
2 713/165
2 713/170
2 713/179
2 713/182
2 725/23

10345390_QUAL

6236971	74
6708157	74
6714921	74
4408291	72
4333049	72
5661789	72
5760775	72
5790119	72
5872569	72
6487659	72
4269025	69
4470109	68
4803993	68
5254813	68
5280567	68
5404322	68
5706011	68
5748568	68
5907641	68
5233658	68
6073234	53
6240401	53
6516413	53
6473560	52
4345820	52
5297189	52
5452143	52
6205553	52
6275936	52
6490355	52
6530021	52
6748471	52
5633660	51
5750069	51
3614397	51
3653587	51
3637999	51
4277064	51
4326123	51
4351004	51
4393455	51

10345390_QUAL

4471442 51
4532642 51
4573954 51
4600198 51
4603390 51
4624578 51
4774571 51
4852101 51
4916294 51
4931932 51
5181786 51
5237224 51
5297193 51
5354097 51
5365575 51
5404579 51
5420797 51
5432705 51
5444794 51
5455408 51
5479507 51
5483050 51
5488664 51
5500681 51
5535276 51
5542710 51
5577105 51
5594806 51
5598477 51
5602750 51
5619649 51
5668592 51
5671280 51
5671284 51
5681065 51
5694139 51
5710874 51
5718520 51
5719387 51
5719939 51
5726763 51

10345390_QUAL

5737419 51
5748735 51
5751703 51
5761281 51
5769269 51
5787156 51
5835576 51
5841842 51
5872844 51
5877969 51
5878138 51
5886746 51
5923019 51
5930363 51
5949823 51
5948040 51
5965859 51
5978013 51

File 344:Chinese Patents Abs Aug 1985-2004/May
 (c) 2004 European Patent Office
 File 347:JAPIO Nov 1976-2004/Apr(Updated 040802)
 (c) 2004 JPO & JAPIO
 File 350:Derwent WPIX 1963-2004/UD,UM &UP=200455
 (c) 2004 Thomson Derwent
 File 348:EUROPEAN PATENTS 1978-2004/Aug W03
 (c) 2004 European Patent Office
 File 349:PCT FULLTEXT 1979-2002/UB=20040826,UT=20040819
 (c) 2004 WIPO/Univentio
 File 256:TecInfoSource 82-2004/Jul
 (c)2004 Info.Sources Inc
 File 2:INSPEC 1969-2004/Aug W4
 (c) 2004 Institution of Electrical Engineers
 File 35:Disertation Abs Online 1861-2004/Jul
 (c) 2004 ProQuest Info&Learning
 File 65:Inside Conferences 1993-2004/Aug W4
 (c) 2004 BLDSC all rts. reserv.
 File 99:Wilson Appl. Sci & Tech Abs 1983-2004/Jul
 (c) 2004 The HW Wilson Co.
 File 233:Internet & Personal Comp. Abs. 1981-2003/Sep
 (c) 2003 EBSCO Pub.
 File 583:Gale Group Globalbase(TM) 1986-2002/Dec 13
 (c) 2002 The Gale Group
 File 474:New York Times Abs 1969-2004/Aug 30
 (c) 2004 The New York Times
 File 475:Wall Street Journal Abs 1973-2004/Aug 30
 (c) 2004 The New York Times
 File 16:Gale Group PROMT(R) 1990-2004/Aug 31
 (c) 2004 The Gale Group
 File 148:Gale Group Trade & Industry DB 1976-2004/Aug 31
 (c)2004 The Gale Group
 File 160:Gale Group PROMT(R) 1972-1989
 (c) 1999 The Gale Group
 File 275:Gale Group Computer DB(TM) 1983-2004/Aug 31
 (c) 2004 The Gale Group
 File 621:Gale Group New Prod.Annou.(R) 1985-2004/Aug 31
 (c) 2004 The Gale Group
 File 636:Gale Group Newsletter DB(TM) 1987-2004/Aug 31
 (c) 2004 The Gale Group
 File 9:Business & Industry(R) Jul/1994-2004/Aug 30
 (c) 2004 The Gale Group
 File 15:ABI/Inform(R) 1971-2004/Aug 30
 (c) 2004 ProQuest Info&Learning
 File 20:Dialog Global Reporter 1997-2004/Aug 31
 (c) 2004 The Dialog Corp.
 File 95:TEME-Technology & Management 1989-2004/Jun W1
 (c) 2004 FIZ TECHNIK
 File 476:Financial Times Fulltext 1982-2004/Aug 31
 (c) 2004 Financial Times Ltd
 File 610:Business Wire 1999-2004/Aug 31
 (c) 2004 Business Wire.
 File 613:PR Newswire 1999-2004/Aug 31
 (c) 2004 PR Newswire Association Inc
 File 624:McGraw-Hill Publications 1985-2004/Aug 30
 (c) 2004 McGraw-Hill Co. Inc
 File 634:San Jose Mercury Jun 1985-2004/Aug 30
 (c) 2004 San Jose Mercury News
 File 810:Business Wire 1986-1999/Feb 28
 (c) 1999 Business Wire
 File 813:PR Newswire 1987-1999/Apr 30

Search Performed by Sylvia Keys 31-Aug-04

(c) 1999 PR Newswire Association Inc
File 8:EI Compendex(R) 1970-2004/Aug W4
(c) 2004 Elsevier Eng. Info. Inc.
File 94:JICST-EPlus 1985-2004/Aug W1
(c)2004 Japan Science and Tech Corp(JST)
File 6:NTIS 1964-2004/Aug W4
(c) 2004 NTIS, Intl Cpyrght All Rights Res
File 434:SciSearch(R) Cited Ref Sci 1974-1989/Dec
(c) 1998 Inst for Sci Info
File 34:SciSearch(R) Cited Ref Sci 1990-2004/Aug W4
(c) 2004 Inst for Sci Info
File 88:Gale Group Business A.R.T.S. 1976-2004/Aug 30
(c) 2004 The Gale Group
File 647:CMP Computer Fulltext 1988-2004/Aug W4
(c) 2004 CMP Media, LLC
File 696:DIALOG Telecom. Newsletters 1995-2004/Aug 30
(c) 2004 The Dialog Corp.
File 369:New Scientist 1994-2004/Aug W4
(c) 2004 Reed Business Information Ltd.
File 484:Periodical Abs Plustext 1986-2004/Aug W3
(c) 2004 ProQuest
File 370:Science 1996-1999/Jul W3
(c) 1999 AAAS
File 553:Wilson Bus. Abs. FullText 1982-2004/Jul
(c) 2004 The HW Wilson Co

Set	Items	Description
S1	104528	(DIGITAL OR DIGITI? OR ELECTRONIC? OR ENCOD?) () (WORK OR WO- RKS OR CONTENT OR CONTENTS)
S2	39542	(USAGE OR ACCESS? OR COPY OR COPYING OR REPRODUC?) () (RIGHT OR RIGHTS)
S3	228943	REPOSITOR?
S4	1072902	(COPY OR COPYING OR REPRODUC? OR TRANSFER? OR TRANSMIT? OR REPRODUC? OR DISTRIBUT? OR RENDER? OR MOBILE) (3N) (DEVICE? OR - APPARATUS? OR EQUIPMENT? OR MEDIUM?)
S5	5861415	CONFIG? OR ADAPT?
S6	193	S1(3N)S2
S7	56	S6(3N)S3
S8	8	S6(3N)S4
S9	3	S8 NOT S7
S10	1	S6(3N)S5
S11	54	S1(8N)S2(8N)S3(8N)S4
S12	7	S11 NOT (S7 OR S9 OR S10)

Search Performed by Sylvia Keys 31-Aug-04

File 348:EUROPEAN PATENTS 1978-2004/Aug W03
(c) 2004 European Patent Office
File 349:PCT FULLTEXT 1979-2002/UB=20040826,UT=20040819
(c) 2004 WIPO/Univentio
File 371:French Patents 1961-2002/BOPI 200209
(c) 2002 INPI. All rts. reserv.
File 331:Derwent WPI First View UD=200453
(c) 2004 Thomson Derwent

Set	Items	Description
S1	3039	(DIGITAL OR DIGITI? OR ELECTRONIC? OR ENCOD?) () (WORK OR WORKS OR CONTENT OR CONTENTS)
S2	29625	(DIGITAL OR DIGITI? OR ELECTRONIC?) () (AUDIO OR VIDEO OR VIDEOS OR RECORDING? OR SOFTWARE OR BOOK OR BOOKS OR MULTIMEDIA OR MULTI()MEDIA)
S3	3887	(USAGE OR USE OR ACCESS? OR COPY OR COPYING) () (RIGHT OR RIGHTS)
S4	197534	REPOSITOR? OR DATABASE? OR DATA() (BASE? OR FILE?) OR DATABASE? OR DATA() BANK? OR KNOWLEDGEBASE? OR KNOWLEDGE() BASE? OR - DB
S5	153547	(COPY OR COPYING OR REPRODUC? OR TRANSFER? OR TRANSMIT? OR REPRODUC? OR DISTRIBUT? OR RENDER?) (3N) (DEVICE? OR APPARATUS? OR EQUIPMENT? OR MEDIUM?)
S6	5897	S5(5N) (CONFIG? OR ADAPT?)
S7	117	CONTENTGUARD() HOLDINGS?
S8	59	AU=(STEFIK, M? OR STEFIK M? OR PIROLI, P? OR PIROLI P?)
S9	31611	S1 OR S2
S10	192	S9(S) S3
S11	102	S10(S) S4
S12	3	S11(S) S6
S13	23	S11(S) S5
S14	20	S13 NOT S12
S15	17	S14 AND IC=G06F
S16	1	S7(S) S9
S17	1	S7(S) S9
S18	0	S8(S) S9
S19	1	S7(S) S9

Search Performed by Sylvia Keys 30-Aug-04

File 344:Chinese Patents Abs Aug 1985-2004/May
(c) 2004 European Patent Office
File 347:JAPIO Nov 1976-2004/Apr(Updated 040802)
(c) 2004 JPO & JAPIO
File 350:Derwent WPIX 1963-2004/UD,UM &UP=200455
(c) 2004 Thomson Derwent

Set	Items	Description
S1	2666	(DIGITAL OR DIGITI? OR ELECTRONIC? OR ENCOD?) () (WORK OR WORKS OR CONTENT OR CONTENTS)
S2	37716	(DIGITAL OR DIGITI? OR ELECTRONIC?) () (AUDIO OR VIDEO OR VIDEOS OR RECORDING? OR SOFTWARE OR BOOK OR BOOKS OR MULTIMEDIA OR MULTI()MEDIA)
S3	2964	(USAGE OR USE OR ACCESS? OR COPY OR COPYING) () (RIGHT OR RIGHTS)
S4	178936	REPOSITOR? OR DATABASE? OR DATA() (BASE? OR FILE?) OR DATABASE? OR DATA()BANK? OR KNOWLEDGEBASE? OR KNOWLEDGE()BASE? OR - DB
S5	342105	(COPY OR COPYING OR REPRODUC? OR TRANSFER? OR TRANSMIT? OR REPRODUC? OR DISTRIBUT? OR RENDER?) (3N) (DEVICE? OR APPARATUS? OR EQUIPMENT? OR MEDIUM?)
S6	1640	S5(5N) (CONFIG? OR ADAPT?)
S7	0	CONTENTGUARD()HOLDINGS?
S8	102	AU=(STEFIK, M? OR STEFIK M? OR PIROLI, P? OR PIROLI P?)
S9	40150	S1 OR S2
S10	128	S9 AND S3
S11	45	S10 AND S4
S12	3	S11 AND S5
S13	0	S11 AND S6
S14	6	S8 AND S2

Search Performed by Sylvia Keys 30-Aug-04

File 16:Gale Group PROMT(R) 1990-2004/Aug 30
(c) 2004 The Gale Group
File 148:Gale Group Trade & Industry DB 1976-2004/Aug 30
(c)2004 The Gale Group
File 160:Gale Group PROMT(R) 1972-1989
(c) 1999 The Gale Group
File 275:Gale Group Computer DB(TM) 1983-2004/Aug 30
(c) 2004 The Gale Group
File 621:Gale Group New Prod.Annou.(R) 1985-2004/Aug 30
(c) 2004 The Gale Group
File 636:Gale Group Newsletter DB(TM) 1987-2004/Aug 30
(c) 2004 The Gale Group
File 9:Business & Industry(R) Jul/1994-2004/Aug 27
(c) 2004 The Gale Group
File 15:ABI/Inform(R) 1971-2004/Aug 30
(c) 2004 ProQuest Info&Learning
File 20:Dialog Global Reporter 1997-2004/Aug 30
(c) 2004 The Dialog Corp.
File 95:TEME-Technology & Management 1989-2004/Jun W1
(c) 2004 FIZ TECHNIK
File 476:Financial Times Fulltext 1982-2004/Aug 30
(c) 2004 Financial Times Ltd
File 610:Business Wire 1999-2004/Aug 30
(c) 2004 Business Wire.
File 613:PR Newswire 1999-2004/Aug 30
(c) 2004 PR Newswire Association Inc
File 624:McGraw-Hill Publications 1985-2004/Aug 27
(c) 2004 McGraw-Hill Co. Inc
File 634:San Jose Mercury Jun 1985-2004/Aug 28
(c) 2004 San Jose Mercury News
File 810:Business Wire 1986-1999/Feb 28
(c) 1999 Business Wire
File 813:PR Newswire 1987-1999/Apr 30
(c) 1999 PR Newswire Association Inc
File 88:Gale Group Business A.R.T.S. 1976-2004/Aug 27
(c) 2004 The Gale Group
File 647:CMP Computer Fulltext 1988-2004/Aug W4
(c) 2004 CMP Media, LLC
File 674:Computer News Fulltext 1989-2004/Aug W3
(c) 2004 IDG Communications
File 696:DIALOG Telecom. Newsletters 1995-2004/Aug 28
(c) 2004 The Dialog Corp.
File 369:New Scientist 1994-2004/Aug W3
(c) 2004 Reed Business Information Ltd.
File 484:Periodical Abs Plustext 1986-2004/Aug W3
(c) 2004 ProQuest
File 370:Science 1996-1999/Jul W3
(c) 1999 AAAS
File 553:Wilson Bus. Abs. FullText 1982-2004/Jul
(c) 2004 The HW Wilson Co

Set	Items	Description
S1	95998	(DIGITAL OR DIGITI? OR ELECTRONIC? OR ENCOD?) () (WORK OR WORKS OR CONTENT OR CONTENTS)
S2	407698	(DIGITAL OR DIGITI? OR ELECTRONIC?) () (AUDIO OR VIDEO OR VIDEOS OR RECORDING? OR SOFTWARE OR BOOK OR BOOKS OR MULTIMEDIA OR MULTI()MEDIA)
S3	34870	(USAGE OR USE OR ACCESS? OR COPY OR COPYING) () (RIGHT OR RIGHTS)
S4	3145972	REPOSITOR? OR DATABASE? OR DATA() (BASE? OR FILE?) OR DATABASE? OR DATA()BANK? OR KNOWLEDGE? OR KNOWLEDGE()BASE? OR -

Search Performed by Sylvia Keys 30-Aug-04

		DB
S5	216972	(COPY OR COPYING OR REPRODUC? OR TRANSFER? OR TRANSMIT? OR REPRODUC? OR DISTRIBUT? OR RENDER?) (3N) (DEVICE? OR APPARATUS? OR EQUIPMENT? OR MEDIUM?)
S6	1633	S5(5N) (CONFIG? OR ADAPT?)
S7	101	CONTENTGUARD() HOLDINGS?
S8	19	AU=(STEFIK, M? OR STEFIK M? OR PIROLI, P? OR PIROLI P?)
S9	489832	S1 OR S2
S10	363	S9(S)S3
S11	19	S10(S) (S4 OR S5)
S12	17	RD (unique items)
S13	14	S10(S)S4
S14	1	S13 NOT S12
S15	0	S7 NOT PY>1994
S16	5	S7(S)S9
S17	5	RD (unique items)
S18	0	S8(S)S9

Search Performed by Sylvia Keys 30-Aug-04

File 256:TecInfoSource 82-2004/Jul
(c) 2004 Info.Sources Inc
File 2:INSPEC 1969-2004/Aug W4
(c) 2004 Institution of Electrical Engineers
File 35:Dissertation Abs Online 1861-2004/Jul
(c) 2004 ProQuest Info&Learning
File 65:Inside Conferences 1993-2004/Aug W4
(c) 2004 BLDSC all rts. reserv.
File 99:Wilson Appl. Sci & Tech Abs 1983-2004/Jul
(c) 2004 The HW Wilson Co.
File 233:Internet & Personal Comp. Abs. 1981-2003/Sep
(c) 2003 EBSCO Pub.
File 583:Gale Group Globalbase(TM) 1986-2002/Dec 13
(c) 2002 The Gale Group
File 474:New York Times Abs 1969-2004/Aug 29
(c) 2004 The New York Times
File 475:Wall Street Journal Abs 1973-2004/Aug 27
(c) 2004 The New York Times
File 94:JICST-EPlus 1985-2004/Aug W1
(c) 2004 Japan Science and Tech Corp(JST)
File 6:NTIS 1964-2004/Aug W4
(c) 2004 NTIS, Intl Cpyrght All Rights Res
File 434:SciSearch(R) Cited Ref Sci 1974-1989/Dec
(c) 1998 Inst for Sci Info
File 34:SciSearch(R) Cited Ref Sci 1990-2004/Aug W4
(c) 2004 Inst for Sci Info

Set	Items	Description
S1	2595	(DIGITAL OR DIGITI? OR ELECTRONIC? OR ENCOD?) () (WORK OR WORKS OR CONTENT OR CONTENTS)
S2	33670	(DIGITAL OR DIGITI? OR ELECTRONIC?) () (AUDIO OR VIDEO OR VIDEOS OR RECORDING? OR SOFTWARE OR BOOK OR BOOKS OR MULTIMEDIA OR MULTI()MEDIA)
S3	1748	(USAGE OR USE OR ACCESS? OR COPY OR COPYING) () (RIGHT OR RIGHTS)
S4	754883	REPOSITOR? OR DATABASE? OR DATA() (BASE? OR FILE?) OR DATABASE? OR DATA()BANK? OR KNOWLEDGEBASE? OR KNOWLEDGE()BASE? OR -DB
S5	50438	(COPY OR COPYING OR REPRODUC? OR TRANSFER? OR TRANSMIT? OR REPRODUC? OR DISTRIBUT? OR RENDER?) (3N) (DEVICE? OR APPARATUS? OR EQUIPMENT? OR MEDIUM?)
S6	246	S5(5N) (CONFIG? OR ADAPT?)
S7	2	CONTENTGUARD()HOLDINGS?
S8	135	AU=(STEFIK, M? OR STEFIK M? OR PIROLI, P? OR PIROLI P?)
S9	36083	S1 OR S2
S10	26	S9 AND S3
S11	3	S10 AND (S4 OR S5)
S12	2	RD (unique items)
S13	0	S10 AND S6
S14	0	S7 NOT PY>1994
S15	3	S8 AND S9
S16	0	S15 NOT PY>1994

Search Performed by Sylvia Keys 30-Aug-04

Communications Manager 776 services requests relating to
communications between **electronic** appliance 600 and the outside world.

Object Switch 734

Object switch 734 handles, controls and...

15/3,K/2 (Item 2 from file: 348)

DIALOG(R)File 348:EUROPEAN PATENTS

(c) 2004 European Patent Office. All rts. reserv.

01649110

System and method for digital rights management using a standard rendering engine

System und Verfahren zur Verwaltung digitaler Berechtigungen unter Verwendung einer standardisierten Wiedergabevorrichtung

Systeme et procede de gestion des droits numeriques a l'aide d'un moteur de rendu standard

PATENT ASSIGNEE:

ContentGuard Holdings, Inc., (3202250), 103 Foulk Road, Suite 205-M,
Wilmington, Delaware 19803, (US), (Applicant designated States: all)

INVENTOR:

Raley, Michael, 12834 Verdura Avenue, Downey, CA 90242, (US)

Chen, Daniel, 21832 Barbara Street, Torrance, CA 90503, (US)

Wu, Hsi-Cheng, 1001 S. 2nd Street, Alhambra, CA 91801, (US)

Ta, Thanh, 18694 Stratton Lane, Huntington Beach, CA 92648, (US)

LEGAL REPRESENTATIVE:

Grunecker, Kinkeldey, Stockmair & Schwanhausser Anwaltssozietat (100721)
, Maximilianstrasse 58, 80538 Munchen, (DE)

PATENT (CC, No, Kind, Date): EP 1357457 A2 031029 (Basic)

APPLICATION (CC, No, Date): EP 2003012069 020116;

PRIORITY (CC, No, Date): US 261803 P 010117

DESIGNATED STATES: AT; BE; CH; CY; DE; DK; ES; FI; FR; GB; GR; IE; IT; LI;
LU; MC; NL; PT; SE; TR

EXTENDED DESIGNATED STATES: AL; LT; LV; MK

RELATED PARENT NUMBER(S) - PN (AN):

(EP 2002707466)

INTERNATIONAL PATENT CLASS: **G06F-001/00**

ABSTRACT WORD COUNT: 107

NOTE:

Figure number on first page: 2

LANGUAGE (Publication,Procedural,Application): English; English; English

FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS A	(English)	200344	738
SPEC A	(English)	200344	14655
Total word count - document A			15393
Total word count - document B			0
Total word count - documents A + B			15393

INTERNATIONAL PATENT CLASS: **G06F-001/00**

...SPECIFICATION incorporated herein by reference, discloses a system for
controlling the distribution of digital documents. Each **rendering**
device has a **repository** associated therewith. **Usage rights** labels
are associated with **digital content**. The labels include **usage**
rights that specify a manner of use of the content and any conditions
precedent for exercising...

12/3,K/4 (Item 1 from file: 349)

DIALOG(R)File 349:PCT FULLTEXT

(c) 2004 WIPO/Univentio. All rts. reserv.

01006377 **Image available**

METHOD AND SYSTEM FOR DIGITAL RIGHTS MANAGEMENT IN CONTENT DISTRIBUTION APPLICATIONS

PROCEDE ET SYSTEME POUR LOGICIEL DE DROITS D'AUTEUR ELECTRONIQUE DANS DES APPLICATIONS DE DISTRIBUTION DU CONTENU

Patent Applicant/Assignee:

INTERNATIONAL BUSINESS MACHINES CORPORATION, New Orchard Road, Armonk, NY 10504, US, US (Residence), US (Nationality)

IBM DEUTSCHLAND GMBH, Pascalstrasse 100, 70569 Stuttgart, DE, DE (Residence), DE (Nationality), (Designated only for: LU)

Inventor(s):

BREITER Gerd, Am Gaensberg 31, 72218 Wildberg, DE,
EDERER Werner, Schmale Str. 13, 71101 Schoenaich, DE,
HELAL Abdel salam, 10504 SW 51st Lane, Gainesville, FL 32608, US,
MUNSON Jonathan P, 24 Kramers Pond RD, Putnam Valley, NY 10579, US,
PETRIK Oliver, Rotebuehlstr. 111, Stuttgart 70178, DE,
PACIFICI Giovanni, 101 W 81st Street, Apt. 214, New York, NY 10023, US,
YOUSSEF Alaa S, 48 Wall Street, Valhalla, NY 10595, US,

Legal Representative:

TEUFEL Fritz (agent), IBM Deutschland GmbH, Intellectual Property, 70548 Stuttgart, DE,

Patent and Priority Information (Country, Number, Date):

Patent: WO 200336441 A2-A3 20030501 (WO 0336441)

Application: WO 2002EP11289 20021009 (PCT/WO EP02011289)

Priority Application: US 2001982203 20011018

Designated States:

(Protection type is "patent" unless otherwise stated - for applications prior to 2004)

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 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 UZ VC VN YU ZA ZM ZW

(EP) AT BE BG CH CY CZ DE DK EE ES FI FR GB GR IE IT LU MC NL PT SE SK TR

(OA) BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG

(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZM ZW

(EA) AM AZ BY KG KZ MD RU TJ TM

Publication Language: English

Filing Language: English

Fulltext Word Count: 12412

Fulltext Availability:

Detailed Description

Detailed Description

... news or other services. In short, it holds all information regarding users, associated rights wallets, **rendering devices** and **digital content**.

The rights wallet is formed by a secure digital **repository** for storing tables holding lists of **access rights** associated with **digital content** and respective decryption and/or encryption keys. It further allows tamperproof storage and transmission of...

STN Search

=> d hist

(FILE 'HOME' ENTERED AT 10:01:48 ON 31 AUG 2004)

FILE 'CONFSCI' ENTERED AT 10:01:54 ON 31 AUG 2004

L1 4 S (DIGITAL OR DIGITI? OR ELECTRONIC? OR ENCOD?) () (WORK OR WORKS

Sylvia Keys EIC 3600

STN Search

> display ll

ENTER ANSWER NUMBER OR RANGE (1):1-4

ENTER DISPLAY FORMAT (BIB):bib

L1 ANSWER 1 OF 4 CONFSCI COPYRIGHT 2004 CSA on STN
AN 1998:75191 CONFSCI
DN 99-006048
TI Promoting regular exercise in an **electronic work** site
intervention
AU Ranieri, A.M.
CS Stanford Univ., CA, USA
SO American Psychological Association, 750 First St., N.E., Washington, DC
20002-4242, USA; phone: (202) 336-5500; email: convention.office@apa.org;
URL: <http://www.apa.org>, Contact APA for availability. Final Program \$5..
Meeting Info.: 983 0117: 106th American Psychological Association (APA)
Annual Meeting (9830117). San Francisco, CA (USA). 14-18 Aug 1998.
American Psychological Association.
DT Conference
FS DCCP
LA English

L1 ANSWER 2 OF 4 CONFSCI COPYRIGHT 2004 CSA on STN
AN 87:41994 CONFSCI
DN 88013328
TI Effects of display resolution and size on primary diagnosis of chest
images using a high-resolution **electronic work** station
AU Fuhrman, C.R.; Cooperstein, L.A.; Herron, J.; Good, W.F.; Good, B.; Gur,
D.
SO Radiological Society of North America, Oak Brook Regency Towers, Tower B,
1415 West 22nd Street, Oak Brook, IL 60521 (USA), Poster Paper No. 27.
Meeting Info.: 874 5018: Radiological Society of North America 73rd
Scientific Assembly and Annual Meeting (8745018). Chicago, IL (USA). 29
Nov-4 Dec 1987. Radiological Society of North America (RSNA).
DT Conference
FS DCCP
LA UNAVAILABLE

L1 ANSWER 3 OF 4 CONFSCI COPYRIGHT 2004 CSA on STN
AN 87:41743 CONFSCI
DN 88013077
TI Analysis of data flow and activities at radiology reporting stations for
design and evaluation of **digital work** stations
AU Mun, S.K.; Benson, H.; Welsh, C.; Elliott, L.P.; Zeman, R.
SO Radiological Society of North America, Oak Brook Regency Towers, Tower B,
1415 West 22nd Street, Oak Brook, IL 60521 (USA), Paper No. 955.
Meeting Info.: 874 5018: Radiological Society of North America 73rd
Scientific Assembly and Annual Meeting (8745018). Chicago, IL (USA). 29
Nov-4 Dec 1987. Radiological Society of North America (RSNA).
DT Conference
FS DCCP
LA UNAVAILABLE

L1 ANSWER 4 OF 4 CONFSCI COPYRIGHT 2004 CSA on STN
AN 82:9828 CONFSCI
DN 82012079
TI Cybex II Isokinetic Dynamometer and **Digital Work**
Integrator Evaluation of Muscular Endurance in Perspective Professional
Football Players
AU Davies, G.J.; Gould, J.A.; Ross, D.

Sylvia Keys EIC 3600

STN Search

CS La Crosse Exercise Program. Univ. of WI-La Crosse, La Crosse, WI, 54601
SO Abstracts in "Medicine and Science in Sports and Exercise", 1982, American
College of Sports Medicine, 1440 Monroe St., Madison, WI 53706, ISSN:
0195-9131.
Meeting Info.: 822 0509: 1982 American College of Sports Medicine Annual
Meeting (8220509). Minneapolis, MN. 26-29 May 82. American College of
Sports Medicine.
DT Conference
FS DCCP
LA UNAVAILABLE

=>

Sylvia Keys EIC 3600

L Number	Hits	Search Text	DB	Time stamp
-	946	"digital rights management" or DRM	USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/08/27 14:00
-	409	("digital rights management" or DRM) and (play or copy or save or transfer or crop or extract or embed or delete or render)	USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/08/27 14:13
-	207	((("digital rights management" or DRM) and (play or copy or save or transfer or crop or extract or embed or delete or render)) and distribut\$	USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/08/27 14:02
-	172	((("digital rights management" or DRM) and (play or copy or save or transfer or crop or extract or embed or delete or render)) and distribut\$) and (NOT ginter)	USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/08/27 15:47
-	33	wyman WITH robert	USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/08/27 14:34
-	5225	grammar	USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/08/27 14:07
-	162	grammar and permission	USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/08/27 14:06
-	203	grammar and (permission or privilege)	USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/08/27 14:06
-	1763	grammar and rights	USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/08/27 14:06
-	127	(grammar and rights) and permission	USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/08/27 14:06
-	1197	grammar and rule and (permission or privilege or rights)	USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/08/27 14:08
-	109	grammar and rule and (permission or privilege) and rights	USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/08/27 14:10
-	1034	(grammar or language) and rule and (permission or privilege) and rights	USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/08/27 14:10
-	107	(grammar and language) and rule and (permission or privilege) and rights	USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/08/27 14:11
-	106	((grammar and language) and rule and (permission or privilege) and rights) and (play or copy or save or transfer or crop or extract or embed or delete or render)	USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/08/27 14:13
-	73	embed\$ WITH extract\$ WITH digital and rights	USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/08/27 14:22

-	295	embed\$ WITH extract\$ WITH digital	USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/08/27 14:30
-	438	embed\$ WITH extract\$ SAME digital	USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/08/27 14:30
-	4	wyman WITH robert and fee	USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/08/27 14:34
-	4	wyman WITH robert and fee and distribut\$	USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/08/27 15:39
-	4	((("5335346") or ("5295266"))).PN.	USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/08/27 15:28
-	4	wyman WITH robert and fee and distribut\$ AND PRINT	USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/08/27 15:39
-	6	((("digital rights management" or DRM) and (play or copy or save or transfer or crop or extract or embed or delete or render)) and distribut\$) and (NOT ginter) and print and repository	USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/08/27 15:48
-	28	((("digital rights management" or DRM) and (play or copy or save or transfer or crop or extract or embed or delete or render)) and distribut\$) and (NOT ginter) and print	USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/08/27 15:49
-	3250	repository and print\$	USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/08/27 15:55
-	1750	repository and print\$ and "rights"	USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/08/27 15:50
-	566	repository and print\$ and "rights" and copyright	USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/08/27 15:53
-	26	repository and print\$ and "copy rights"	USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/08/27 15:54
-	498	repository SAME print\$	USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/08/27 15:56



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/345,390	01/16/2003	Mark J. Stefik	111325-151	2180

22204 7590 09/08/2004

NIXON PEABODY, LLP
401 9TH STREET, NW
SUITE 900
WASHINGTON, DC 20004-2128

EXAMINER

REAGAN, JAMES A

ART UNIT	PAPER NUMBER

3621

DATE MAILED: 09/08/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/345,390	Applicant(s) STEFIK ET AL.	
	Examiner James A. Reagan	Art Unit 3621	<i>NW</i>

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 January 2003.
 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) ☐ Claim(s) _____ is/are allowed.
 6) ☒ Claim(s) 1-28 is/are rejected.
 7) ☐ Claim(s) _____ is/are objected to.
 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)	4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)	5) ☐ Notice of Informal Patent Application (PTO-152)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____	6) ☐ Other: _____

DETAILED ACTION

Status of Claims

1. This action is in response to the application filed on 16 January 2003.
2. Claims 1-28 have been examined.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wyman (US 5,260,999 A) in view of Risberg et al. (US 5,339,392 A), and further in view of Kishi et al. (JP H03-282733).

Examiner's Note: The Examiner has pointed out particular references contained in the prior art of record within the body of this action for the convenience of the Applicant. Although the specified citations are representative of the teachings in the art and are applied to the specific limitations within the individual claim, other passages and figures may apply. Applicant, in preparing the response, should consider fully the entire reference as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the Examiner.

Claim 1:

Wyman discloses the distribution of digitized works, associated distribution and licensing fees, authors and creators of digital works, and rules for the distribution of digital works. Wyman does not specifically disclose printing a document or file from a repository or storing a file or document in a repository, or a rendering system and rendering steps. Risberg, however, in at least column 21, lines 1-19 discloses rendering and rendering devices, repositories and printing a file accessed through the repository. It would have been obvious to one of ordinary skill in that art at the time of the invention to combine Wyman and Risberg because storing a document or a file in a large scale repository for later retrieval and printing is an efficient and user friendly way to manage important documents.

Neither Wyman nor Risberg specifically disclose "manner of use" language. Kishi, however, in at least page 7 discloses using formal language to devise a restricting script for assigning rules to the use of a software component. It would have been obvious to one of ordinary skill in that art at the time of the invention to combine Wyman/Risberg and Kishi because using formal language provides an efficient and user-friendly method for determine usage rights and rules for software and other digitized files.

Claims 2-28:

Claims 2-28 refer to various distribution methods, security considerations, manners of use, file types, infrastructure and storage techniques that Wyman either specifically or inherently discloses as essential to enable a system that responsibly and securely meets the demands of acquiring, storing, and transferring digitized works from authors to users while ensuring that the associated usage rights are adhered to as well as ensuring that all fees are properly remunerated.

Application/Control Number:
10/345,390
Art Unit: 3621

Page 4

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **James A. Reagan** whose telephone number is **(703) 306-9131**. The examiner can normally be reached on Monday-Friday, 9:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **James Trammell** can be reached at (703) 305-9768.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the **Receptionist** whose telephone number is **(703) 305-3900**.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 305-7687 [Official communications; including

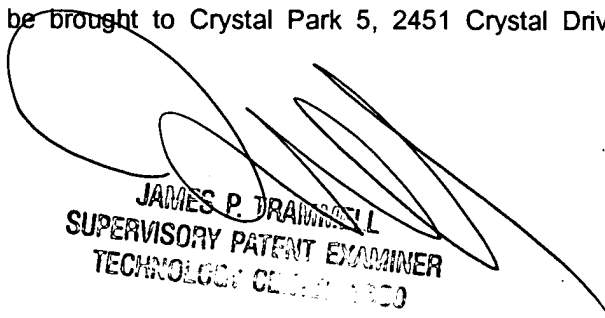
After Final communications labeled "Box AF"]

(703) 308-1396 [Informal/Draft communications, labeled "PROPOSED"

or "DRAFT"]

Hand delivered responses should be brought to Crystal Park 5, 2451 Crystal Drive, Arlington, VA, 7th floor receptionist.

JAR
01 September 2004


JAMES P. TRAMMELL
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1800

Notice of References Cited	Application/Control No. 1	Applicant(s)/Patent Under Reexamination STEFIK ET AL.	
	Examiner James A. Reagan	Art Unit 3621	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
	A	US-5,339,392 A	08-1994	Risberg et al.	345/762
	B	US-5,260,999 A	11-1993	Wyman, Robert M.	705/59
	C	US-			
	D	US-			
	E	US-			
	F	US-			
	G	US-			
	H	US-			
	I	US-			
	J	US-			
	K	US-			
	L	US-			
	M	US-			

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N	H03-282733	12-1991	Japan	Kishi et al.	G)6F 9/06
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

PTO 04-3950

Japanese Patent

Document No. H03-282733

RULE GENERATION DEVICE FOR UTILIZING A SOFTWARE COMPONENT

[Sofutowea Buhin Riyo Ruru Seisei Sochi]

Mihoko Kishi and Koichi Kachi

UNITED STATES PATENT AND TRADEMARK OFFICE

Washington, D.C.

June 2004

Translated by: Schreiber Translations, Inc.

Best Available Copy

Petitioner Apple Inc. - Exhibit 1002, p. 189

Country : Japan

Document No. : H03-282733

Document Type : Kokai

Language : Japanese

Inventor : Mihoko Kishi and Koichi Kachi

Applicant : Toshiba Corp.

IPC : G 06 F 9/06

Application Date : December 12, 1991

Publication Date : March 30, 1990

Foreign Language Title : Sofutowea Buhin Riyo Ruru Seisei
Sochi

English Title : RULE GENERATION DEVICE FOR
UTILIZING A SOFTWARE COMPONENT

Specification

1. Title of the invention

Rule generation device for utilizing a software component

2. Patent Claim

A rule generation device for utilizing a software component characterized by the possession of

A component packaging mechanism designed to collect & package software components provided, in relation to the respective targets handled in a given field, for operating said targets,

An inter-component utility restriction scripting mechanism designed to script restrictions on the joint utilities of multiple software components within each component package generated by said component packaging mechanism,

An inter-package relationship definition mechanism designed to define the relationships among the respective component packages generated by the aforementioned component packaging mechanism, and

An inter-component utility restriction fusion mechanism designed to extract, from the script texts of the restrictions on the joint utilities of multiple software components within each component package scripted by the aforementioned inter-component utility restriction scripting mechanism, script portions on the software components actually utilized for program formulation and

¹ Numbers in the margin indicate pagination in the foreign text.

to generate, by fusing these script portions based on the relationships among the respective component packages defined by the aforementioned inter-package relationship definition mechanism, a restriction script text on the joint utilities of multiple software components actually utilized for the aforementioned program formulation.

3. Detailed explanation of the invention

(Objective of the invention)

(Industrial application fields)

The present invention concerns a rule generation device for utilizing a software component, which is used for verifying a program formulated by coupling software components.

(Prior art)

A program formulated in the prior art by coupling software components is verified based on any of the following methods:

<1>: After a program has been formulated by synthesizing components, it is verified in compliance with test specifications according to procedures comparable to those for verifying a program formulated by an ordinary method without recourse to component synthesis;

<2>: After a program has been formulated by synthesizing components, whether or not restrictive conditions on component utility are being satisfied is checked; /2

<3>: Restrictive conditions among the respective components are preliminarily defined, and whether or not such restrictive conditions are being satisfied by a given component is checked on an occasion for utilizing said component.

The respective methods listed above, however, are plagued with the following problems.

Despite the fact that a program has been formulated by means of component synthesis according to the method of <1>, the advantage of this history cannot be inherited by the test. In other words, despite the guaranteed reliability of each component, it is necessary to formulate, in a redundant manner, test specifications comparable to those of a program formulated without recourse to component synthesis.

The method of <2> is a test method that exploits the advantage of the component synthesis, for only the combination of components with guaranteed qualities needs to be checked, although it is difficult to automate the test in that it is cumbersome to formally script the entire relationships among large numbers of components.

The method of <3> is advantageous in the sense that a program with a high reliability can be formulated since the component synthesis is perpetually checked, although it is difficult to automate the test, as in the method of <2>.

(Problems to be solved by the invention)

Thus, it has been difficult to automate operations of the prior art for verifying programs formulated by means of component synthesis due to the cumbersomeness of formally scripting restrictions on the utilities among the entire components.

The objective of the present invention, which has been conceived for solving these problems, is to provide a rule generation device for utilizing a software component capable of automating program verifying operations.

(Constitution of the invention)

(Mechanism for solving the problems)

The rule generation device of the present invention for utilizing a software component possesses, for the purpose of achieving the aforementioned objective, a component packaging mechanism designed to collect & package software components provided, in relation to the respective targets handled in a given field, for operating said targets, an inter-component utility restriction scripting mechanism designed to script restrictions on the joint utilities of multiple software components within each component package generated by said component packaging mechanism, an inter-package relationship definition mechanism designed to define the relationships among the respective component packages generated by the aforementioned component packaging mechanism, and

an inter-component utility restriction fusion mechanism designed to extract, from the script texts of the restrictions on the joint utilities of multiple software components within each component package scripted by the aforementioned inter-component utility restriction scripting mechanism, script portions on the software components actually utilized for program formulation and to generate, by fusing these script portions based on the relationships among the respective component packages defined by the aforementioned inter-package relationship definition mechanism, a restriction script text on the joint utilities of multiple software components actually utilized for the aforementioned program formulation.

(Functions).

As far as the rule generation device of the present invention for utilizing a software component is concerned, software components for operating targets handled in a given field are collected & packaged by the component packaging mechanism in relation to the respective targets, whereas the relationships among the respective component packages are defined by the inter-package relationship definition mechanism, whereas restrictions on the joint utilities of multiple software components within each component package are scripted by the inter-component utility restriction scripting mechanism. The inter-component utility restriction fusion mechanism, furthermore, extracts, from the script texts of the restrictions on the joint utilities of

multiple software components within each component package scripted by the inter-component utility restriction scripting mechanism, script portions on the software components actually utilized for program formulation and generates, by fusing these script portions based on the relationships among the respective component packages defined by the inter-package relationship definition mechanism, a restriction script text on the joint utilities of multiple software components actually utilized for the aforementioned program formulation.

According to the present invention, therefore, it becomes possible to automatically formulate, by using a formal language, the restriction script texts on the joint utilities of multiple software components utilized for the aforementioned program formulation and, as a result, to automate the program verifying operation.

(Application examples)

In the following, an application example of the present invention will be explained with reference to figures.

Figure 1 is a block diagram provided for explaining the constitution of an application example of the rule generation device of the present invention for utilizing a software component.

/3

In the same figure, (1) is a component packaging unit which collects & packages software components (hereafter referred to simply as "components") used for operating data that define

targets handled in a given field (i.e., application program) in relation to the respective targets.

(2) is an inter-component utility restriction scripting unit which scripts, by using a formal language, restrictions on the joint utilities of multiple components within each component package generated by the component packaging unit (1).

(3) is an inter-package relationship definition unit which defines the relationships among the respective component packages generated by the component packaging unit (1) [e.g., parent-offspring (is-a) relationship, etc.]. It should be noted that the relationships among targets hereby serve as the relationships among targets as they are.

(4) is an inter-component utility restriction fusion unit which extracts, from the script texts of the restrictions on the joint utilities of multiple software components within each component package scripted by the inter-component utility restriction scripting unit (2), script portions on the software components actually utilized for program formulation and generates, by fusing these script portions based on the relationships among the respective component packages defined by the inter-package relationship definition unit (3), a restriction script text on the joint utilities of multiple software components actually utilized for the aforementioned program formulation.

Next, the actions of the rule generation device for utilizing a software component characterized by the foregoing constitution:

will be explained with reference mainly to Figure 2 as well as to Figures 3 through 7.

First, the component packaging unit (1) extracts targets handled in a given field, whereas the relationships among the respective component packages are defined by the inter-package relationship definition unit (3) (step a). Figure 3 shows examples of such relationships among the respective packages (relationships of targets handled by a window system).

Subsequently, the component packaging unit (1) formulates a component package by collecting components for operating each target (step b). Figure 4 shows a component package for operating an "I/O sub-window," which represents one of such targets.

Next, the inter-component utility restriction scripting unit (2) scripts, by using a formal language, restrictions on the joint utilities of multiple components within each package (step c) and then stores them within a database (step d).

The corresponding example is shown in Figures 5 and 6.

Figure 5 shows a restriction script text on the joint utilities of multiple components within the "main window" package. The following are expressed by this text:

"In order to utilize a component within this package, it is necessary to use 'window-create,' namely a component for securing a main window, in the first place";

"In a case where a component within this package is used, it is necessary to use 'window-destroy,' namely a component for releasing the main window region, at the end."

Figure 6, furthermore, shows a restriction script text on the joint utilities of multiple components within the "I/O sub-window" package.

The following are expressed by this text:

"In order to utilize a component within this package, it is necessary to use 'io-open,' namely a component for opening the I/O sub-window, in the first place";

"In a case where a component within this package is used, it is necessary to use 'io-close,' namely a component for closing the I/O sub-window, at the end."

Subsequently, the inter-component utility restriction fusion unit (4) proceeds, upon the reception of a list of utilized components from the program formulator, to extract, from the script texts of the restrictions on the joint utilities of multiple software components within each component package scripted by the inter-component utility restriction scripting unit (2), script portions on the utilized components mentioned in the list (step e), to judge the relationships among the component packages inclusive of said utilized components (step f), to fuse the extracted restriction script texts based on the ascertained relationships among the component packages (step g), and to formulate a restriction script text on the joint uses of the utilized components (component utility rules) (step g).

Figure 7 shows an example of restriction script text formulated by this inter-component utility restriction fusion unit (4) (component utility rules).

The following is expressed by this text:

"The components must be used in the prescribed order, although another component(s) may intervene in-between." /4

Thus, the rule generation device of this application example for utilizing a software component is capable of automatically formulating restriction script texts on multiple components utilized jointly for the formulation of a program, and in a case where such texts are used as test specifications, it becomes possible to automate the program verifying operation.

In a case where the present device is integrated with a component synthesizing system, furthermore, the component synthesis can be executed in a concomitantly verified state, and it becomes possible to formulate a program with a high-reliability in a highly efficient manner.

(Effects of the invention)

As the foregoing explanations have demonstrated, the rule generation device of the present invention for utilizing a software component is capable of automatically formulating, by using a formal language, restriction script texts on the joint utilities of multiple software components utilized for the aforementioned program formulation, as a result of which it becomes possible to automate the program verifying operation.

4. Brief explanation of the figures

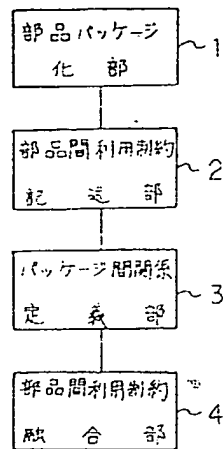
Figure 1 is a block diagram provided for explaining the constitution of an application example of the rule generation device of the present invention for utilizing a software component. Figure 2 is a flow chart provided for explaining the actions of the rule generation device for utilizing a software component shown in Figure 1, whereas Figure 3 is a diagram which shows the relationships among the respective packages, whereas Figure 4 is a diagram which shows an example of package, whereas Figures 5 and 6 are each diagrams which show examples of restriction script texts on joint utilities of multiple components within a package, whereas Figure 7 is a diagram which shows an example of component utility rules generated by the rule generation device for utilizing a software component shown in Figure 1.

(1): Component packaging unit; (2): Inter-component utility restriction scripting unit; (3): Inter-package relationship definition unit; (4): Inter-component utility restriction fusion unit.

Applicant: Toshiba Corp.

Agent: Saichi Suyama, patent attorney

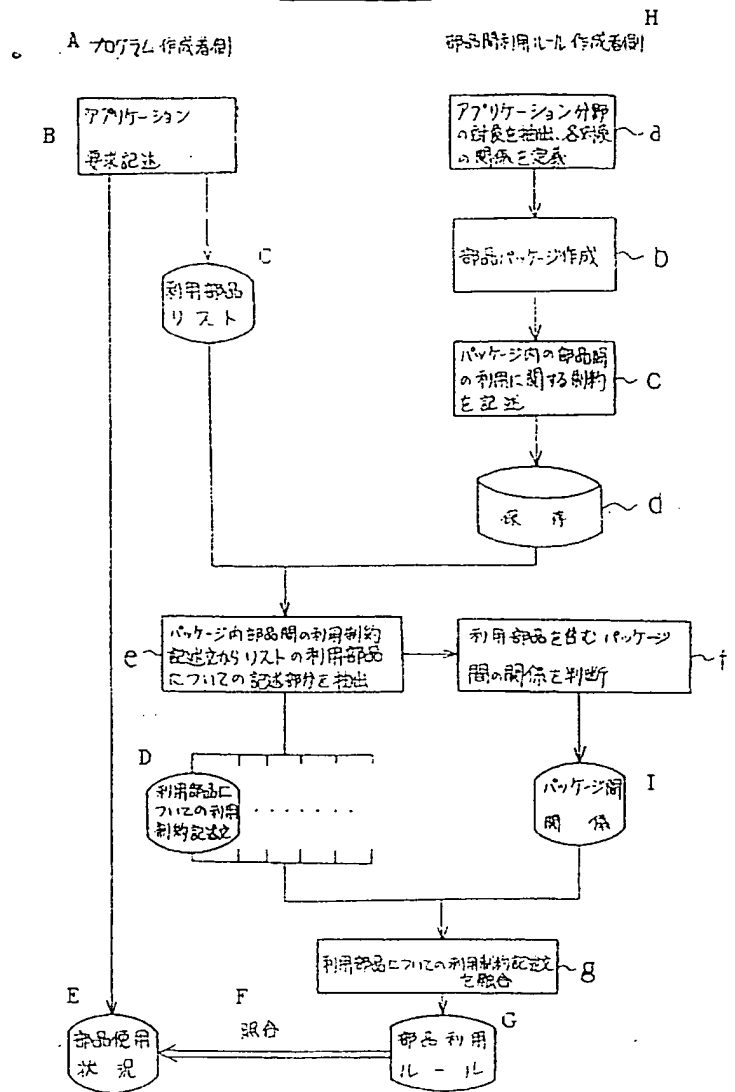
Figure 1



[(1): Component packaging unit; (2): Inter-component utility restriction scripting unit; (3): Inter-package relationship definition unit; (4): Inter-component utility restriction fusion unit]

Figure 2

/5

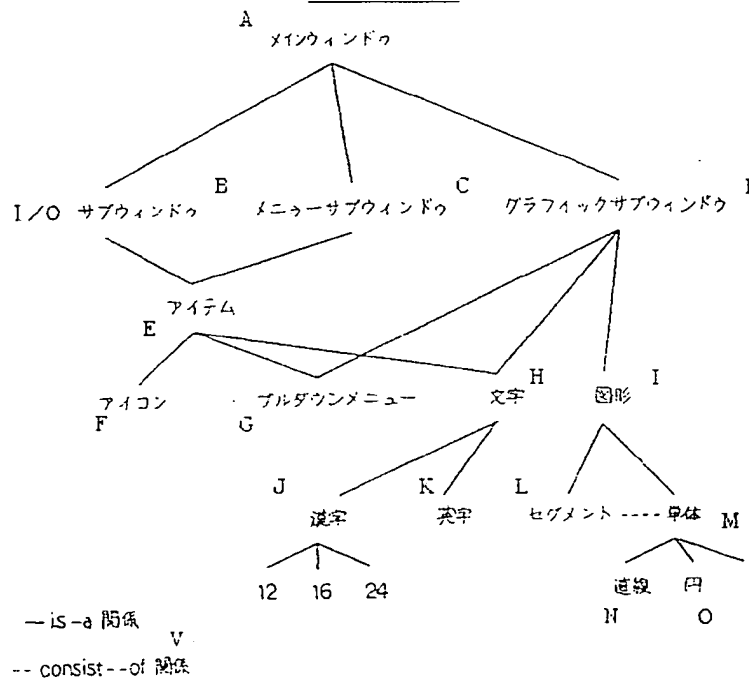


第 2 図

[(A): Program formulator side; (B): Application request script; (C): Utilized component list; (D): Utility restriction script text on utilized components; (E): Component utility state; (F): Matching; (G): Component utility rule; (a): Extraction of targets within an application field & definition of relationships among

the respective targets; (b): Component package formulation; (c): Script on restrictions on joint utilities of multiple components within a package; (d): Storage; (e): Extraction, from the script texts of the restrictions on the joint utilities of multiple software components within each component package, script portions on the utilized components mentioned in the list; (f): Judgment of relationships among packages inclusive of utilized components; (g): Fusion of utility restriction script texts on the utilized components]

Figure 3



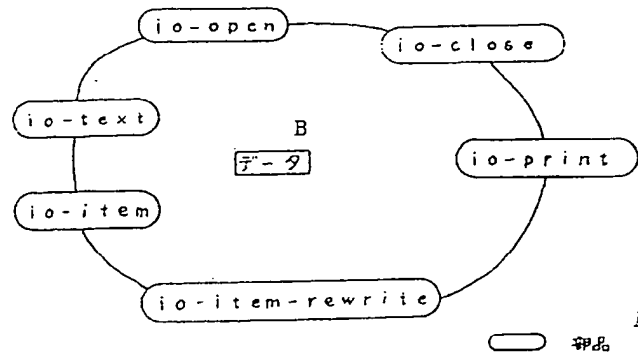
第 3 図

[(A): Main window; (B): I/O sub-window; (C): Menu sub-window; (D): Graphic sub-window; (E): Item; (F): Icon; (G): Pull-down menu;

(H): Characters; (I): Patterns; (J): Kanji characters; (K): European characters; (L): Segment; (M): Singular entity; (N): Line; (O): Circle; (V): Relationship]

Figure 4

/4



第 4 図

[(A): Component; (B): Data]

Figure 5

INIT: window-create
END: window-destroy

第 5 図

Figure 6

INIT: io-open
END: io-close

第 6 図

Figure 7

order:window_create,io_open,io_close,window_destroy

第 7 図

**This Page is Inserted by IFW Indexing and Scanning
Operations and is not part of the Official Record**

BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images include but are not limited to the items checked:

- ☐ BLACK BORDERS
- ☐ IMAGE CUT OFF AT TOP, BOTTOM OR SIDES
- ☐ FADED TEXT OR DRAWING
- ☐ BLURRED OR ILLEGIBLE TEXT OR DRAWING
- ☐ SKEWED/SLANTED IMAGES
- ☐ COLOR OR BLACK AND WHITE PHOTOGRAPHS
- ☐ GRAY SCALE DOCUMENTS
- ☐ LINES OR MARKS ON ORIGINAL DOCUMENT
- ☒ REFERENCE(S) OR EXHIBIT(S) SUBMITTED ARE POOR QUALITY
- ☐ OTHER: _____

IMAGES ARE BEST AVAILABLE COPY.

As rescanning these documents will not correct the image problems checked, please do not report these problems to the IFW Image Problem Mailbox.

Search Notes

Application No.

10/345,390

Examiner

James A. Reagan

Applicant(s)

STEFIK ET AL.

Art Unit

3621

SEARCHED

Class	Subclass	Date	Examiner
705	51	9/1/2004	JAR
235	449	9/1/2004	JAR
379	93	9/1/2004	JAR
380	30	9/1/2004	JAR
705	54	9/1/2004	JAR
713	156+	9/1/2004	JAR

INTERFERENCE SEARCHED

Class	Subclass	Date	Examiner

**SEARCH NOTES
(INCLUDING SEARCH STRATEGY)**

	DATE	EXMR
EAST	8/27/2004	JAR
STIC	8/30/2004	JAR
PLUS	8/23/2004	JAR



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

BIBDATASHEET

Bib Data Sheet

CONFIRMATION NO. 21

SERIAL NUMBER 10/345,390	FILING DATE 01/16/2003 RULE	CLASS 705	GROUP ART UNIT 3621	ATTORNEY DCKE NO. 111325-151

APPLICANTS

Mark J. Stefik, Portola Valley, CA;

Peter L. Pirolli, San Francisco, CA; ✓

** CONTINUING DATA *****

This application is a CON of 09/778,006 02/07/2001 PAT 6,714,921 ✓
which is a DIV of 08/967,084 11/10/1997 PAT 6,236,971
which is a CON of 08/344,760 11/23/1994 ABN

** FOREIGN APPLICATIONS *****

IF REQUIRED, FOREIGN FILING LICENSE GRANTED

** 02/21/2003

Foreign Priority claimed ☐ yes ☒ no	STATE OR COUNTRY CA	SHEETS DRAWING 13	TOTAL CLAIMS 28	INDEPENDENT CLAIMS 1
35 USC 119 (a-d) conditions met ☐ yes ☒ no Met after Allowance	Verified and Acknowledged Examiner's Signature	Initials		

ADDRESS

22204
NIXON PEABODY, LLP
401 9TH STREET, NW
SUITE 900
WASHINGTON, DC
20004-2128

TITLE

Content rendering repository

FILING FEE RECEIVED 1024	FEES: Authority has been given in Paper No. _____ to charge/credit DEPOSIT ACCOUNT No. _____ for following:	☐ All Fees ☐ 1.16 Fees (Filing) ☐ 1.17 Fees (Processing Ext. of time) ☐ 1.18 Fees (Issue) ☐ Other _____

L Number	Hits	Search Text	DB	Time stamp
1	350	705/51.CCLS.	USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/10/18 14:10
2	158	705/52.CCLS.	USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/10/18 14:10
3	74	705/53.CCLS.	USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/10/18 14:10
4	81	705/54.CCLS.	USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/10/18 14:10
5	78	705/55.CCLS.	USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/10/18 14:10
6	78	705/56.CCLS.	USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/10/18 14:10
7	281	705/57.CCLS.	USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/10/18 14:10
8	105	705/58.CCLS.	USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/10/18 14:10
9	156	705/59.CCLS.	USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/10/18 14:11
10	71	705/50.CCLS.	USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/10/18 14:12
11	246	380/201.CCLS.	USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/10/18 14:15
12	723	707/9.CCLS.	USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/10/18 14:18
13	0	707/9.CCLS. AND DRM	USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/10/18 14:16
15	2281	707/104.1.ccls.	USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/10/18 14:16
16	2	707/104.1.ccls. and "digital rights management"	USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/10/18 14:17
17	220	713/182.CCLS.	USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/10/18 14:18

Scanned Titles
and Abstracts
Read Some

18	189	713/183.CCLS.	Scanned Titles and Abstracts; Read Some	USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/10/18 14:18
19	109	713/184.CCLS.		USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/10/18 14:18
20	241	713/185.CCLS.		USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/10/18 14:19
21	166	713/186.CCLS.		USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/10/18 14:19
-	946	"digital rights management" or DRM		USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/10/18 12:06
-	409	("digital rights management" or DRM) and (play or copy or save or transfer or crop or extract or embed or delete or render)		USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/08/27 14:13
-	207	((("digital rights management" or DRM) and (play or copy or save or transfer or crop or extract or embed or delete or render)) and distribut\$		USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/08/27 14:02
-	172	((("digital rights management" or DRM) and (play or copy or save or transfer or crop or extract or embed or delete or render)) and distribut\$) and (NOT ginter)		USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/08/27 15:47
-	33	wyman WITH robert	Scanned. Read Some, KWIC	USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/08/27 14:34
-	5225	grammar		USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/08/27 14:07
-	162	grammar and permission		USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/08/27 14:06
-	203	grammar and (permission or privilege)		USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/08/27 14:06
-	1763	grammar and rights		USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/08/27 14:06
-	127	(grammar and rights) and permission	KWIC Read	USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/08/27 14:06
-	1197	grammar and rule and (permission or privilege or rights)		USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/08/27 14:08
-	109	grammar and rule and (permission or privilege) and rights		USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/08/27 14:10

-	1034	(grammar or language) and rule and (permission or privilege) and rights	USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/08/27 14:10
-	107	(grammar and language) and rule and (permission or privilege) and rights	USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/08/27 14:11
-	106	((grammar and language) and rule and (permission or privilege) and rights) and (play or copy or save or transfer or crop or extract or embed or delete or render)	USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/08/27 14:13
-	73	embed\$ WITH extract\$ WITH digital and rights	USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/08/27 14:22
-		Scanned titles, KWIC Read		
-	295	embed\$ WITH extract\$ WITH digital	USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/08/27 14:30
-	438	embed\$ WITH extract\$ SAME digital	USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/08/27 14:30
-	4	wyman WITH robert and fee	USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/08/27 14:34
-	4	wyman WITH robert and fee and distribut\$	USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/08/27 15:39
-	4	((("5335346") or ("5295266"))).PN.	USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/08/27 15:28
-	4	wyman WITH robert and fee and distribut\$ AND PRINT	USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/08/27 15:39
-		Read, Scanned KWIC		
-	6	((("digital rights management" or DRM) and (play or copy or save or transfer or crop or extract or embed or delete or render)) and distribut\$) and (NOT ginter) and print and repository	USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/08/27 15:48
-	28	((("digital rights management" or DRM) and (play or copy or save or transfer or crop or extract or embed or delete or render)) and distribut\$) and (NOT ginter) and print	USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/08/27 15:49
-	3250	repository and print\$	USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/08/27 15:55
-	1750	repository and print\$ and "rights"	USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/08/27 15:50
-	566	repository and print\$ and "rights" and copyright	USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/08/27 15:53
-	26	repository and print\$ and "copy rights"	USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/08/27 15:54
-		Scanned some		

-	498	repository SAME print\$	USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/08/27 15:56
-	4	((("5295266") or ("5335346"))).PN.	USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/10/18 12:15
-	2	("5138712").PN. <i>Read</i>	USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/10/18 14:09

Interview Summary	Application No. 10/345,390	Applicant(s) STEFIK ET AL	
	Examiner James A. Reagan	Art Unit 3621	

All participants (applicant, applicant's representative, PTO personnel):

(1) James A. Reagan.

(3) Carlos Villamar.

(2) Bijan Tadayan.

(4) _____.

Date of Interview: 23 February 2005.

Type: a) ☐ Telephonic b) ☐ Video Conference
c) ☒ Personal [copy given to: 1) ☐ applicant 2) ☐ applicant's representative]

Exhibit shown or demonstration conducted: d) ☐ Yes e) ☒ No.
If Yes, brief description: _____.

Claim(s) discussed: 1 and 3.

Identification of prior art discussed: Wyman.

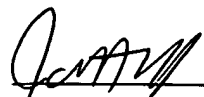
Agreement with respect to the claims f) ☒ was reached. g) ☐ was not reached. h) ☐ N/A.

Substance of Interview including description of the general nature of what was agreed to if an agreement was reached, or any other comments: Discussed adding "manner of use" language as previously agreed upon, as well as dual role of invention as server/requestor. With these changes, claims appear allowable.

(A fuller description, if necessary, and a copy of the amendments which the examiner agreed would render the claims allowable, if available, must be attached. Also, where no copy of the amendments that would render the claims allowable is available, a summary thereof must be attached.)

THE FORMAL WRITTEN REPLY TO THE LAST OFFICE ACTION MUST INCLUDE THE SUBSTANCE OF THE INTERVIEW. (See MPEP Section 713.04). If a reply to the last Office action has already been filed, APPLICANT IS GIVEN ONE MONTH FROM THIS INTERVIEW DATE, OR THE MAILING DATE OF THIS INTERVIEW SUMMARY FORM, WHICHEVER IS LATER, TO FILE A STATEMENT OF THE SUBSTANCE OF THE INTERVIEW. See Summary of Record of Interview requirements on reverse side or on attached sheet.

Examiner Note: You must sign this form unless it is an Attachment to a signed Office action.


Examiner's signature, if required

Summary of Record of Interview Requirements

Manual of Patent Examining Procedure (MPEP), Section 713.04, Substance of Interview Must be Made of Record

A complete written statement as to the substance of any face-to-face, video conference, or telephone interview with regard to an application must be made of record in the application whether or not an agreement with the examiner was reached at the interview.

Title 37 Code of Federal Regulations (CFR) § 1.133 Interviews

Paragraph (b)

In every instance where reconsideration is requested in view of an interview with an examiner, a complete written statement of the reasons presented at the interview as warranting favorable action must be filed by the applicant. An interview does not remove the necessity for reply to Office action as specified in §§ 1.111, 1.135. (35 U.S.C. 132)

37 CFR §1.2 Business to be transacted in writing.

All business with the Patent or Trademark Office should be transacted in writing. The personal attendance of applicants or their attorneys or agents at the Patent and Trademark Office is unnecessary. The action of the Patent and Trademark Office will be based exclusively on the written record in the Office. No attention will be paid to any alleged oral promise, stipulation, or understanding in relation to which there is disagreement or doubt.

The action of the Patent and Trademark Office cannot be based exclusively on the written record in the Office if that record is itself incomplete through the failure to record the substance of interviews.

It is the responsibility of the applicant or the attorney or agent to make the substance of an interview of record in the application file, unless the examiner indicates he or she will do so. It is the examiner's responsibility to see that such a record is made and to correct material inaccuracies which bear directly on the question of patentability.

Examiners must complete an Interview Summary Form for each interview held where a matter of substance has been discussed during the interview by checking the appropriate boxes and filling in the blanks. Discussions regarding only procedural matters, directed solely to restriction requirements for which interview recordation is otherwise provided for in Section 812.01 of the Manual of Patent Examining Procedure, or pointing out typographical errors or unreadable script in Office actions or the like, are excluded from the interview recordation procedures below. Where the substance of an interview is completely recorded in an Examiners Amendment, no separate Interview Summary Record is required.

The Interview Summary Form shall be given an appropriate Paper No., placed in the right hand portion of the file, and listed on the "Contents" section of the file wrapper. In a personal interview, a duplicate of the Form is given to the applicant (or attorney or agent) at the conclusion of the interview. In the case of a telephone or video-conference interview, the copy is mailed to the applicant's correspondence address either with or prior to the next official communication. If additional correspondence from the examiner is not likely before an allowance or if other circumstances dictate, the Form should be mailed promptly after the interview rather than with the next official communication.

The Form provides for recordation of the following information:

- Application Number (Series Code and Serial Number)
- Name of applicant
- Name of examiner
- Date of interview
- Type of interview (telephonic, video-conference, or personal)
- Name of participant(s) (applicant, attorney or agent, examiner, other PTO personnel, etc.)
- An indication whether or not an exhibit was shown or a demonstration conducted
- An identification of the specific prior art discussed
- An indication whether an agreement was reached and if so, a description of the general nature of the agreement (may be by attachment of a copy of amendments or claims agreed as being allowable). Note: Agreement as to allowability is tentative and does not restrict further action by the examiner to the contrary.
- The signature of the examiner who conducted the interview (if Form is not an attachment to a signed Office action)

It is desirable that the examiner orally remind the applicant of his or her obligation to record the substance of the interview of each case. It should be noted, however, that the Interview Summary Form will not normally be considered a complete and proper recordation of the interview unless it includes, or is supplemented by the applicant or the examiner to include, all of the applicable items required below concerning the substance of the interview.

A complete and proper recordation of the substance of any interview should include at least the following applicable items:

- 1) A brief description of the nature of any exhibit shown or any demonstration conducted,
- 2) an identification of the claims discussed,
- 3) an identification of the specific prior art discussed,
- 4) an identification of the principal proposed amendments of a substantive nature discussed, unless these are already described on the Interview Summary Form completed by the Examiner,
- 5) a brief identification of the general thrust of the principal arguments presented to the examiner,
(The identification of arguments need not be lengthy or elaborate. A verbatim or highly detailed description of the arguments is not required. The identification of the arguments is sufficient if the general nature or thrust of the principal arguments made to the examiner can be understood in the context of the application file. Of course, the applicant may desire to emphasize and fully describe those arguments which he or she feels were or might be persuasive to the examiner.)
- 6) a general indication of any other pertinent matters discussed, and
- 7) if appropriate, the general results or outcome of the interview unless already described in the Interview Summary Form completed by the examiner.

Examiners are expected to carefully review the applicant's record of the substance of an interview. If the record is not complete and accurate, the examiner will give the applicant an extendable one month time period to correct the record.

Examiner to Check for Accuracy

If the claims are allowable for other reasons of record, the examiner should send a letter setting forth the examiner's version of the statement attributed to him or her. If the record is complete and accurate, the examiner should place the indication, "Interview Record OK" on the paper recording the substance of the interview along with the date and the examiner's initials.



- 1 -

Docket No. 111325-151 (021500)
Serial No. 10/345,390

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:) Confirmation No. 2180
Mark J. Stefik et al.) Group Art Unit: 3621
Serial No. 10/345,390) Examiner: Reagan, James A.
Filed: January 16, 2003)
For: **CONTENT RENDERING REPOSITORY**)
)
)

U.S. Patent and Trademark Office
Customer Window, Mail Stop Non-Fee Amendment
Randolph Building
401 Dulany Street
Alexandria, VA 22314

RESPONSE

Sir:

In response to the non-final Office Action mailed **September 8, 2004**, and further to the personal interview with Examiner Reagan conducted on February 23, 2005, the following amendments and remarks are submitted in connection with the above-identified application.

03/10/2005 MBEYENE1 00000135 192380 10345390

02 FC:1202 2850.00 DA

Amendments to the Claims:

1. (Currently amended) A rendering system adapted for use in a distributed system for managing use of content, said rendering system being operative to rendering content in accordance with usage rights associated with the content, said rendering system comprising:

a rendering device configured to render the content; and

a distributed repository coupled to said rendering device and including a requester mode of operation and server mode of operation,

wherein the server mode of operation is operative to enforce usage rights associated with the content and permit the rendering device to render the content in accordance with a manner of use specified by the usage rights,

the requester mode of operation is operative to request access to content from another distributed repository, and

said distributed repository is operative to receive a request to render the content and permit the content to be rendered only if a manner of use specified in the request corresponds to a manner of use specified in the usage rights.

2. (Original) A rendering system as recited in claim 1, wherein said rendering device is configured to render content into a desired form.

3. (Cancelled)

4. (Currently amended) A rendering system as recited in ~~claim 3~~ claim 1, wherein said repository comprises means for storing the content.

5. (Currently amended) A ~~rendering~~ rendering system as recited in claim 1, further comprising means for storing the content.

6. (Original) A rendering system as recited in claim 4 wherein said means for storing is means for storing ephemeral copies of the content.

7. (Original) A rendering system as recited in claims 4 wherein said means for storing comprises means for storing content after rendering.

8. (Original) A rendering system as recited in claim 7 wherein the content comprises fonts.

9. (Original) A rendering system as recited in claim 7 wherein the content comprises music.

10. (Original) A rendering system as recited in claim 7 wherein the content comprises video.

11. (Original) A rendering system as recited in claim 1 wherein said rendering device comprises a printer.

12. (Original) A rendering system as recited in claim 1, wherein said rendering device comprises a video system.

13. (Original) A rendering system as recited in claim 1, wherein said rendering device comprises an audio system.

14. (Original) A rendering system as recited in claim 1 wherein said rendering device comprises a computer system and said repository comprises software executed on the computer system.

15. (Original) A rendering system as recited in claim 1, further comprising an execution device coupled to said repository, said repository being further operative to permit said execution device to execute a computer program only in a manner specified by the usage rights.

16. (Original) A rendering system as recited in claim 1, wherein the content is a computer program and the manner of use is a manner of executing the computer program.

17. (Original) A rendering system as recited in claim 1, wherein the manner of use is a manner of printing.

18. (Original) A rendering system as recited in claim 1, wherein the manner of use is a manner of displaying.

19. (Original) A rendering system as recited in claim 1, wherein the manner of use is a manner of playing.

20. (Original) A rendering system as recited in claim 1, wherein the rendering device and the repository are integrated into a secure system having a secure boundary.

21. (Original) A rendering system as recited in claim 1, wherein the rendering device and the repository are separate devices.

22. (Original) A rendering system as recited in claim 1, wherein the usage rights include at least one condition that must be satisfied to exercise the manner of use, and wherein the system further comprises means for communicating with an authorization repository for authorizing a condition.

23. (Original) A rendering system as recited in claim 1, further comprising means for communicating with a master repository for obtaining an identification certificate for the repository.

24. (Original) A rendering system as recited in claim 1, further comprising a boundary containing said repository and said rendering device in a secure environment.

25. (Original) A rendering system as recited in claim 22, wherein the condition is possession of a digital ticket.

26. (Currently amended) A ~~rendering~~ rendering as recited in claim 1, wherein the content has plural components having usage rights associated therewith and wherein said repository enforces the usage rights for each component.

27. (Original) A rendering system as recited in claim 4, wherein said repository comprises removable media.

28. (Original) A rendering system as recited in claim 5, wherein said means for storing comprises removable media.

29. (New) A rendering system as recited in claim 1, wherein said system is implemented using one or more hardware and/or software devices.

30. (New) A rendering method adapted for use in a distributed system for managing use of content, and operative to render content in accordance with usage rights associated with the content, said method comprising:

configuring a rendering device to render the content;

configuring a distributed repository coupled to said rendering device to include a requester mode of operation and server mode of operation;

enforcing usage rights associated with the content and permitting the rendering device to render the content in accordance with a manner of use specified by the usage rights, when in the server mode of operation;

requesting access to content from another distributed repository, when in the requester mode of operation; and

receiving by said distributed repository a request to render the content and permitting the content to be rendered only if a manner of use specified in the request corresponds to a manner of use specified in the usage rights.

31. (New) A rendering method as recited in claim 30, wherein said rendering device is configured to render content into a desired form.

32. (New) A rendering method as recited in claim 30, wherein said repository comprises means for storing the content.

33. (New) A rendering method as recited in claim 30, further comprising storing the content.

34. (New) A rendering method as recited in claim 32, further comprising storing ephemeral copies of the content.

35. (New) A rendering method as recited in claims 32, wherein said means for storing comprises means for storing content after rendering.

36. (New) A rendering method as recited in claim 35, wherein the content comprises fonts.

37. (New) A rendering method as recited in claim 35, wherein the content comprises music.

38. (New) A rendering method as recited in claim 35, wherein the content comprises video.

39. (New) A rendering method as recited in claim 30, wherein said rendering device comprises a printer.

40. (New) A rendering method as recited in claim 30, wherein said rendering device comprises a video system.

41. (New) A rendering method as recited in claim 30, wherein said rendering device comprises an audio system.

42. (New) A rendering method as recited in claim 30, wherein said rendering device comprises a computer system and said repository comprises software executed on the computer system.

43. (New) A rendering method as recited in claim 30, further comprising:
coupling an execution device to said repository; and
permitting by said repository said execution device to execute a computer program only in a manner specified by the usage rights.

44. (New) A rendering method as recited in claim 30, wherein the content is a computer program and the manner of use is a manner of executing the computer program.

45. (New) A rendering method as recited in claim 30, wherein the manner of use is a manner of printing.

46. (New) A rendering method as recited in claim 30, wherein the manner of use is a manner of displaying.

47. (New) A rendering method as recited in claim 30, wherein the manner of use is a manner of playing.

48. (New) A rendering method as recited in claim 30, wherein the rendering device and the repository are integrated into a secure system having a secure boundary.

49. (New) A rendering method as recited in claim 30, wherein the rendering device and the repository are separate devices.

50. (New) A rendering method as recited in claim 30, wherein the usage rights include at least one condition that must be satisfied to exercise the manner of use, and the method further comprises communicating with an authorization repository for authorizing a condition.

51. (New) A rendering method as recited in claim 30, further comprising communicating with a master repository for obtaining an identification certificate for the repository.

52. (New) A rendering method as recited in claim 30, further comprising configuring a boundary containing said repository and said rendering device in a secure environment.

53. (New) A rendering method as recited in claim 50, wherein the condition is possession of a digital ticket.

54. (New) A rendering method as recited in claim 30, wherein the content has plural components having usage rights associated therewith and the method further comprises enforcing by said repository the usage rights for each component.

55. (New) A rendering method as recited in claim 32, wherein said repository comprises removable media.

56. (New) A rendering method as recited in claim 33, wherein said means for storing comprises removable media.

57. (New) A rendering method as recited in claim 30, wherein said method is implemented using one or more hardware and/or software devices.

58. (New) A rendering method as recited in claim 30, wherein said method is implemented using a computer readable medium including one or more computer readable instructions embedded therein and configured to cause one or more computer processors to perform said method.

59. (New) A computer readable medium including one or more computer readable instructions embedded therein for use in a distributed system for managing use of content, and operative to render content in accordance with usage rights associated with the

content, said computer readable instructions configured to cause one or more computer processors to perform the steps of:

- configuring a rendering device to render the content;
- configuring a distributed repository coupled to said rendering device to include a requester mode of operation and server mode of operation;
- enforcing usage rights associated with the content and permitting the rendering device to render the content in accordance with a manner of use specified by the usage rights, when in the server mode of operation;
- requesting access to content from another distributed repository, when in the requester mode of operation; and
- receiving by said distributed repository a request to render the content and permitting the content to be rendered only if a manner of use specified in the request corresponds to a manner of use specified in the usage rights.

60. (New) A computer readable medium as recited in claim 59, wherein said rendering device is configured to render content into a desired form.

61. (New) A computer readable medium as recited in claim 59, wherein said repository comprises means for storing the content.

62. (New) A computer readable medium as recited in claim 59, wherein said computer readable instructions are configured to cause the one or more computer processors to perform the step of storing the content.

63. (New) A computer readable medium as recited in claim 61, wherein said computer readable instructions are configured to cause the one or more computer processors to perform the step of storing ephemeral copies of the content.

64. (New) A computer readable medium as recited in claims 61, wherein said means for storing comprises means for storing content after rendering.

65. (New) A computer readable medium as recited in claim 64, wherein the content comprises fonts.

66. (New) A computer readable medium as recited in claim 64, wherein the content comprises music.

67. (New) A computer readable medium as recited in claim 64, wherein the content comprises video.

68. (New) A computer readable medium as recited in claim 59, wherein said rendering device comprises a printer.

69. (New) A computer readable medium as recited in claim 59, wherein said rendering device comprises a video system.

70. (New) A computer readable medium as recited in claim 59, wherein said rendering device comprises an audio system.

71. (New) A computer readable medium as recited in claim 59, wherein said rendering device comprises a computer system and said repository comprises software executed on the computer system.

72. (New) A computer readable medium as recited in claim 59, wherein said computer readable instructions are configured to cause the one or more computer processors to perform the steps of:

coupling an execution device coupled to said repository; and
permitting by said repository said execution device to execute a computer program only in a manner specified by the usage rights.

73. (New) A computer readable medium as recited in claim 59, wherein the content is a computer program and the manner of use is a manner of executing the computer program.

74. (New) A computer readable medium as recited in claim 59, wherein the manner of use is a manner of printing.

75. (New) A computer readable medium as recited in claim 59, wherein the manner of use is a manner of displaying.

76. (New) A computer readable medium as recited in claim 59, wherein the manner of use is a manner of playing.

77. (New) A computer readable medium as recited in claim 59, wherein the rendering device and the repository are integrated into a secure system having a secure boundary.

78. (New) A computer readable medium as recited in claim 59, wherein the rendering device and the repository are separate devices.

79. (New) A computer readable medium as recited in claim 59, wherein the usage rights include at least one condition that must be satisfied to exercise the manner of use, and said computer readable instructions are configured to cause the one or more computer processors to perform the step of communicating with an authorization repository for authorizing a condition.

80. (New) A computer readable medium as recited in claim 59, wherein said computer readable instructions are configured to cause the one or more computer processors to perform the step of communicating with a master repository for obtaining an identification certificate for the repository.

81. (New) A computer readable medium as recited in claim 59, wherein said computer readable instructions are configured to cause the one or more computer processors to perform the step of configuring a boundary containing said repository and said rendering device in a secure environment.

82. (New) A computer readable medium as recited in claim 79, wherein the condition is possession of a digital ticket.

83. (New) A computer readable medium as recited in claim 59, wherein the content has plural components having usage rights associated therewith and said computer readable instructions are configured to cause the one or more computer processors to perform the step of enforcing by said repository the usage rights for each component.

84. (New) A computer readable medium as recited in claim 61, wherein said repository comprises removable media.

85. (New) A computer readable medium as recited in claim 62, wherein said means for storing comprises removable media.

REMARKS

Claims 1-2, 4-85 are pending in the present application, with claim 3 cancelled, with claims 1, 4, 5, and 26 amended, and with claims 29-85 added, without the introduction of new matter (see, e.g., Specification, as published, ¶¶ [0044], [0047], and FIG. 2).

As a preliminary matter, Applicants wish to thank Examiner Reagan for conducting the personal interview with Applicants' representatives on February 23, 2005. During the interview, the claims, as submitted herewith, were substantially discussed for placing the present case in condition for allowance, pending the Examiner's further search and/or consideration. Further, new claims 29-85, based on claims 1-2, and 4-28, as amended, have been added, and which also are in condition for allowance.

In addition, Applicants request consideration of the enclosed Information Disclosure Statement.

Accordingly, the present independent claims are allowable over *Wyman*, U.S. Patent No. 5,260,999, *Risberg et al.*, U.S. Patent No. 5,339,392, and *Kishi et al.*, Japanese Patent No. H03-282733, taken alone or in combination, because these references fail to disclose, teach or suggest all of the features recited in the present independent claims. For example, the independent claims recite the novel concept of usage rights that are enforced by a distributed repository having server and requestor modes of operation, wherein the server mode of operation is operative to enforce usage rights associated with the content and permit the rendering device to render the content in accordance with a manner of use specified by the usage rights, the requester mode of operation is operative to request access to content from another distributed repository, and the distributed repository is operative to receive a request to render the content and permit the content to be rendered only if a manner of use specified in the request corresponds to a manner of use specified in the usage rights (see, e.g., claim 3, as originally filed, and Specification, as published, ¶¶ [0044], [0047], and FIG. 2).

By contrast, *Wyman* discloses a centralized license management system used to account for software product usage, wherein each licensed product upon start-up makes a call to a license server to check on whether usage is permitted (Abstract). However, "the purpose of the license management facility" of *Wyman* "is not that of enforcement, nor that of 'copy protection', but instead is merely that of license management" (col. 14, lines

9-11). Moreover, the license management system of *Wyman* is centralized (see, e.g., *Wyman* Fig. 1). Accordingly, *Wyman* fails to disclose, teach or suggest rights that are enforced by a distributed repository, as recited in the independent claims.

Risberg et al. discloses an apparatus and method for creation of a user definable video displayed document showing changes in real time data, wherein a software program provides a facility for a user to compose a custom active document using tools provided by the program (Abstract). However, *Risberg et al.* fails to cure the noted deficiencies in *Wyman*.

Kishi et al. discloses a rule generation device for utilizing a software component, including a component packaging mechanism designed to collect and package software components, an inter-component utility restriction scripting mechanism, an inter-package relationship definition mechanism, and an inter-component utility restriction fusion mechanism (pp. 5-6). However, *Kishi et al.* also fails to cure the noted deficiencies in *Wyman*.

Accordingly, *Wyman*, *Risberg et al.*, and *Kishi et al.*, alone or in combination, fail to disclose, teach or suggest rights that are enforced by a distributed repository, as recited in the independent claims.

By contrast, employing rights that are enforced by a distributed repository, as recited in the independent claims, advantageously, enables digital works to move from one trusted repository to another, with all uses of copies potentially controlled and billable (see, e.g., Specification, as published, ¶ [0045]).

The dependent claims are allowable over *Wyman*, *Risberg et al.*, and *Kishi et al.*, taken alone or in combination, on their on merits and for at least the reasons as argued above with respect to their independent claims.

In view of the foregoing, it is submitted that the present application is in condition for allowance and a notice to that effect is respectfully requested. If, however, the Examiner deems that any issue remains after considering this response, the Examiner is invited to contact the undersigned attorney to expedite the prosecution and engage in a joint effort to work out a mutually satisfactory solution.

Respectfully submitted,

NIXON PEABODY, LLP



Carlos R. Villamar
Reg. No. 43,224

Date: March 8, 2005

NIXON PEABODY LLP

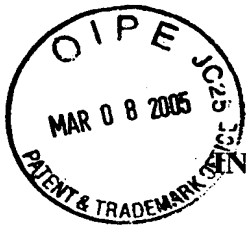
CUSTOMER NO.: 22204

401 9th Street, N.W., Suite 900

Washington, DC 20004

Tel: 202-585-8000

Fax: 202-585-8080



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:

Mark J. STEFIK, *et al.*

Serial No. 10/345,390

Filed: January 16, 2003

For: **CONTENT RENDERING REPOSITORY**

Examiner: James A. Reagan

Group Art: 3621

Confirmation No: 2180

U.S. Patent and Trademark Office
Customer Window, Mail Stop Non-Fee Amendment
Randolph Building
401 Dulany Street
Alexandria, VA 22314

INFORMATION DISCLOSURE STATEMENT

Sir:

In accordance with the duty of disclosure as set forth in 37 C.F.R. §1.56, Applicants hereby submit the following information in conformance with 37 C.F.R. §§ 1.97 and 1.98. The references listed on the attached PTO-1449 forms have been made of record in parent application serial number 09/778,006 Filed on February 7, 2001, therefore no copies of the references cited are submitted herewith.

It is requested that the accompanying PTO-1449 be considered and made of record in the above-identified application. To assist the Examiner, the documents are listed on the attached form PTO-1449. It is respectfully requested that an Examiner initial a copy of this form be returned to the undersigned.

The Commissioner is hereby authorized to charge any fees connected with this filing which may be required now, or credit any overpayment to Deposit Account No. 19-2380 (111325-151/021500).

Respectfully submitted,

NIXON PEABODY, LLP



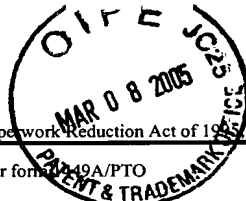
By: _____

Carlos R. Villamar
Registration No. 43,224

Date: March 8, 2005

CUSTOMER NO.: 22204

NIXON PEABODY LLP
401 9th Street, N.W., Suite 900
Washington, DC 20004-2128
Telephone: (202) 585-8000



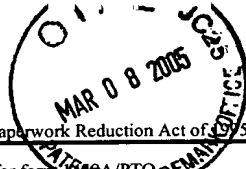
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form PTO 49A/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)				Complete if Known			
				Application Number	10/345,390		
Sheet 1 of 10				Filing Date	January 16, 2003		
				First Named Inventor	Mark J. STEFIK, et al.		
				Art Unit	3621		
				Examiner Name	James A. Reagan		
				Attorney Docket Number	111325-151 (021500)		
U.S. PATENT DOCUMENTS							
Examiner Initials [*]	Cite No. ¹	U.S. Patent Document		Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	
		Number - Kind Code ² (if known)					
		US-3,263,158		07/26/1966	D.W. Bargaen et al.		
		US-3,609,697		09/28/1971	Blevins et al.		
		US-3,790,700		02/05/1974	Callais et al.		
		US-3,798,605		03/19/1974	Feistel		
		US-4,159,468		06/26/1979	Barnes et al.		
		US-4,220,991		09/02/1980	Hamano et al.		
		US-4,278,837		07/14/1981	Best		
		US-4,323,921		04/06/1982	Guillou		
		US-4,442,486		04/10/1984	Mayer		
		US-4,529,870		07/16/1985	Chaum		
		US-4,558,176		12/10/1985	Arnold et al.		
		US-4,593,376		06/03/1986	Volk		
		US-4,614,861		09/30/1986	Pavlov et al.		
		US-4,644,493		02/17/1987	Chandra et al.		
		US-4,658,093		04/14/1987	Hellman		
		US-4,713,753		12/15/1987	Beobert et al.		
		US-4,796,220		01/03/1989	Wolfe		
		US-4,817,140		03/28/1989	Chandra et al.		
		US-4,827,508		05/02/1989	Shear		
		US-4,868,376		09/19/1989	Lessin et al.		
FOREIGN PATENT DOCUMENTS							
Examiner Initials [*]	Cite No. ¹	Foreign Patent Document		Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ⁶
		Country Code ³	Number ⁴ Kind Code ⁵ (if known)				
		0 084 441	EP	07/27/1983	TABS LIMITED		
		0 180 460	EP	05/07/1986	SONY CORPORATION		
		0 332 707	EP	09/20/1989	HONDA GIKEN KOGYO KABUSHIKI KAISHA		
		0 651 554	EP	05/03/1995	EASTMAN KODAK CO.		
		0 668 695	EP	08/23/1995	VICTOR COMPANY OF JAPAN LIMITED		
		0 725 376	EP	08/07/1996	SONY CORP.		
		2 136 175	GB	09/12/1984	ATALLA CORP.		
		2 236 604	GB	04/10/1991	SUN MICROSYSTEMS INC		
		0 715 241	JP	06/05/1996	MITSUBISHI CORP.		
		04-369068	JP	12/21/1992	CHIYUUBU NIHON DENKI SOFUTOUEA KK		Abst
Examiner Signature				Date Considered			

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Applicant's unique citation designation number (optional). ² See Kinds Codes of USPTO Patent Documents at 222.uspto.gov or MPEP 901.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, Washington, DC 20231.



Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)				Complete if Known	
				Application Number	10/345,390
				Filing Date	January 16, 2003
				First Named Inventor	Mark J. STEFIK, et al.
				Art Unit	3621
				Examiner Name	James A. Reagan
Sheet	2	of	10	Attorney Docket Number	111325-151 (021500)

U.S. PATENT DOCUMENTS					
Examiner Initials*	Cite No. ¹	U.S. Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number - Kind Code ² (if known)			
		US-4,891,838	01/02/1990	Faber	
		US-4,924,378	05/08/1990	Hershey et al.	
		US-4,932,054	06/05/1990	Chou et al.	
		US-4,937,863	06/26/1990	Robert et al.	
		US-4,949,187	08/14/1990	Cohen	
		US-4,953,209	08/28/1990	Ryder, Sr. et al.	
		US-4,961,142	10/02/1990	Elliott et al.	
		US-4,975,647	12/04/1990	Downer et al.	
		US-4,977,594	12/11/1990	Shear	
		US-4,999,806	03/12/1991	Chernow et al.	
		US-5,010,571	04/23/1991	Katznelson	
		US-5,014,234	05/07/1991	Edwards, Jr.	
		US-5,023,907	06/11/1991	Johnson et al.	
		US-5,047,928	09/10/1991	Wiedemer	
		US-5,050,213	09/17/1991	Shear	
		US-5,052,040	09/24/1991	Preston et al.	
		US-5,058,164	10/15/1991	Elmer et al.	
		US-5,103,476	04/07/1992	Waite et al.	
		US-5,113,519	05/12/1992	Johnson et al.	
		US-5,136,643	08/04/1992	Fischer	

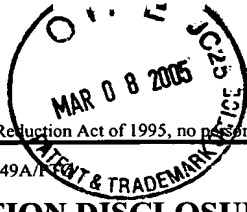
FOREIGN PATENT DOCUMENTS							
Examiner Initials [*]	Cite No. ¹	Foreign Patent Document		Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ⁶
		Country Code ³	Number ⁴ Kind Code ⁵ (if known)				
		05-268415	JP	10/15/1993	RICOH CO LTD		Abst
		06-175794	JP	06/24/1994	FUJI XEROX CO LTD		Abst
		06-215010	JP	08/05/1994	SONY CORP.		Abst
		07-084852	JP	03/31/1995	HITACHI LTD.		Abst
		07-200317	JP	08/04/1995	TOSHIBA CORP.		Abst
		07-244639	JP	09/19/1995	FUJITSU LTD		Abst
		62-241061	JP	10/21/1987	NEC CORP.		Abst
		64-068835	JP	03/14/1989	RYOICHI MORI		Abst
		WO 01/63528	PCT	08/30/2001	IPDN COPR.		
		WO 92/20022	PCT	11/12/1992	DIGITAL EQUIPMENT CORP.		

Examiner Signature	Date Considered

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Applicant's unique citation designation number (optional). ² See Kinds Codes of USPTO Patent Documents at 222.uspto.gov or MPEP 901.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, Washington, DC 20231.



Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449A/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)				Complete if Known			
				Application Number		10/345,390	
				Filing Date		January 16, 2003	
				First Named Inventor		Mark J. STEFIK, <i>et al.</i>	
				Art Unit		3621	
				Examiner Name		James A. Reagan	
Sheet	3	of	10	Attorney Docket Number		111325-151 (021500)	

U.S. PATENT DOCUMENTS					
Examiner Initials*	Cite No. ¹	U.S. Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number - Kind Code ² (if known)			
		US-5,138,712	08/11/1992	Corbin	
		US-5,146,499	09/08/1992	Geffrotin	
		US-5,148,481	09/15/1992	Abraham et al.	
		US-5,159,182	10/27/1992	Eisele	
		US-5,183,404	02/02/1993	Aldous et al.	
		US-5,191,193	03/02/1993	Le Roux	
		US-5,204,897	04/20/1993	Wyman	
		US-5,222,134	06/22/1993	Waite et al.	
		US-5,235,642	08/10/1993	Wobber et al.	
		US-5,247,575	09/21/1993	Sprague et al.	
		US-5,255,106	10/19/1993	Castro	
		US-5,260,999	11/09/1993	Wyman	
		US-5,263,157	11/16/1993	Janis	
		US-5,263,158	11/16/1993	Janis	
		US-5,276,444	01/04/1994	McNair	
		US-5,276,735	01/04/1994	Boebert et al.	
		US-5,291,596	03/01/1994	Mita	
		US-5,301,231	04/05/1994	Abraham et al.	
		US-5,311,591	05/10/1994	Fischer	
		US-5,319,705	06/07/1994	Halter et al.	

FOREIGN PATENT DOCUMENTS							
Examiner Initials*	Cite No. ¹	Foreign Patent Document		Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ⁶
		Country Code ³	Number ⁴ Kind Code ⁵ (if known)				
		WO 93/01550	PCT	01/21/1993	INFOLOGIC SOFTWARE, INC		
		WO 94/01821	PCT	01/20/1994	SECURE COMPUTING CORP.		
		WO 96/24092	PCT	08/08/1996	BENSON, Greg		
		WO 97/48203	PCT	12/18/1997	INTEL CORP.		
		WO 98/11690	PCT	03/19/1998	GLOVER, John J.		
		WO 98/42098	PCT	09/24/1998	CRYPTOWORKS, INC.		
		WO 99/49615	PCT	09/30/1999	MICROTOME		
Examiner Signature					Date Considered		

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Applicant's unique citation designation number (optional). ² See Kinds Codes of USPTO Patent Documents at 222.uspto.gov or MPEP 901.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, Washington, DC 20231.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449-CPTO
**INFORMATION DISCLOSURE
 STATEMENT BY APPLICANT**
(use as many sheets as necessary)

U.S. PATENT DOCUMENTS

FOREIGN PATENT DOCUMENTS

Examiner
Signature

¹ Applicant's unique citation designation number (optional). ² See Kinds Codes of USPTO Patent Documents at 222.uspto.gov or MPEP 901.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

W640764.1

Under the Paperwork Reduction Act of 1996, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

Sheet	5	of	10

U.S. PATENT DOCUMENTS

Examiner Initials*	Cite No. ¹	U.S. Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number - Kind Code ² (if known)			
		US-5,504,818	04/02/1996	Okano	
		US-5,504,837	04/02/1996	Griffeth et al.	
		US-5,509,070	04/16/1996	Schull	
		US-5,530,235	06/25/1996	Stefik et al.	
		US-5,532,920	07/02/1996	Hartrick et al.	
		US-5,534,975	07/09/1996	Stefik et al.	
		US-5,539,735	07/23/1996	Moskowitz	
		US-5,563,946	10/08/1996	Cooper et al.	
		US-5,568,552	10/22/1996	Davis	
		US-5,621,797	04/15/1997	Rosen	
		US-5,629,980	05/13/1997	Stefik et al.	
		US-5,633,932	05/27/1997	Davis et al.	
		US-5,634,012	05/27/1997	Stefik et al.	
		US-5,638,443	06/10/1997	Stefik et al.	
		US-5,649,013	07/15/1997	Stuckey et al.	
		US-5,655,077	08/05/1997	Jones et al.	
		US-5,708,717	01/13/1998	Alasia	
		US-5,734,823	03/31/1998	Saigh et al.	
		US-5,734,891	03/31/1998	Saigh	
		US-5,737,413	04/07/1998	Akivama et al.	

FOREIGN PATENT DOCUMENTS

[illegible]

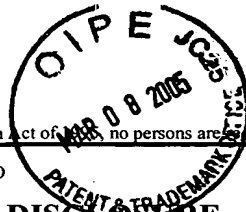
Examiner Signature		Date Considered	

¹ Applicant's unique citation designation number (optional). ² See Kinds Codes of USPTO Patent Documents at 222.uspto.gov or MPEP 901.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. **DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, Washington, DC 20231.**

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.


 Reduction Act of 1995, no pers
 449, 1970
 PATENT & TRADEMARK
 TION DISCLOS



Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449A/PTO

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

(use as many sheets as necessary)

Complete if Known

Application Number	10/345,390
Filing Date	January 16, 2003
First Named Inventor	Mark J. STEFIK, <i>et al.</i>
Group Art Unit	3621
Examiner Name	James A. Reagan
Attorney Docket Number	111325-151- (021500)

Sheet

7

of

10

U.S. PATENT DOCUMENTS

Examiner Initials [*]	Cite No. ¹	U.S. Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number - Kind Code ² (if known)			
		US-6,115,471	09/05/2000	Oki et al.	
		US-6,138,119	10/24/2000	Hall et al.	
		US-6,157,721	12/05/2000	Shear et al.	
		US-6,185,683	02/06/2001	Ginter et al.	
		US-6,226,618	05/01/2001	Downs et al.	
		US-6,233,684	05/15/2001	Stefik et al.	
		US-6,237,786	05/29/2001	Ginter et al.	
		US-6,240,185	05/29/2001	Van Wie et al.	
		US-6,253,193	06/26/2001	Ginter et al.	
		US-6,266,618	07/24//2001	Ye et al.	
		US-6,292,569	09/18/2001	Shear et al.	
		US-6,301,660	10/09/2001	Benson	
		US-6,327,652	12/04/2001	England et al.	
		US-6,330,670	12/11/2001	England et al.	
		US-6,345,256	02/05/2002	Milsted et al.	
		US-6,363,488	03/26/2002	Ginter et al.	
		US-6,389,402	05/14/2002	Ginter et al.	

FOREIGN PATENT DOCUMENTS

Examiner Initials [*]	Cite No. ¹	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ⁶
		Country Code ³ Number ⁴ Kind Code ⁵ (if known)				

Examiner
Signature

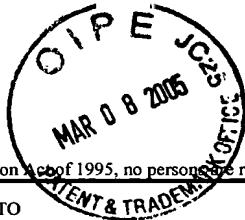
Date

Considered

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Applicant's unique citation designation number (optional). ² See Kinds Codes of USPTO Patent Documents at 222.uspto.gov or MPEP 901.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, Washington, DC 20231.



Under the Paperwork Reduction Act of 1995, no person is required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449A/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(use as many sheets as necessary)</i>				Complete if Known	
				Application Number	10/345,390
				Filing Date	January 16, 2003
				First Named Inventor	Mark J. STEFIK, <i>et al.</i>
				Art Unit	3621
				Examiner Name	James A. Reagan
				Attorney Docket Number	111325-151 (021500)
Sheet	8	of	10		

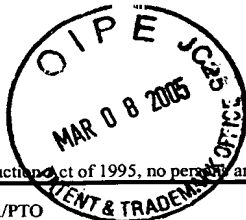
OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No.¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T²
		"National Semiconductor and EPR Partner for Information Metering/Data Security Cards" March 4, 1994, Press Release from Electronic Publishing Resources, Inc.	
		Weber, R., "Digital Rights Management Technology" October 1995	
		Flasche, U. et al., "Decentralized Processing of Documents", pp. 119-131, 1986, Comput. & Graphics, Vol. 10, No. 2	
		Mori, R. et al., "Superdistribution: The Concept and the Architecture", pp. 1133-1146, 1990. The Transactions of the IEICE, Vo. E 73, No. 7, Tokyo, JP	
		Weber, R., "Metering Technologies for Digital Intellectual Property", pp. 1-29, Oct. 1994, A Report to the International Federation of Reproduction Rights Organizations	
		Clark, P.C. et al., "Bits: A Smartcard protected Operating System", pp. 66-70 and 94, November 1994, Communications of the ACM, Vol. 37, No. 11	
		Ross, P.E., "Data Guard", pp. 101, June 6, 1994, Forbes	
		Saigh, W.K., "Knowledge is Sacred", 1992, Video Pocket/Page Reader Systems, Ltd.	
		Kahn, R.E., "Deposit, Registration and Recordation in an Electronic Copyright Management System", pp. 1-19, August 1992, Corporation for National Research Initiatives, Virginia	
		Hilts, P. et al., "Books While U Wait", pp. 48-50, January 3, 1994, Publishers Weekly	
		Strattner, A., "Cash Register on a Chip may Revolutionize Software Pricing and Distribution; Wave Systems Corp.", pp. 1-3, April 1994, Computer Shopper, Vol. 14, No. 4, ISSN 0886-0556	

Examiner Signature		Date Considered	

* EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Applicant's unique citation designation number (optional). ² Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, Washington, DC 20231.



PTO/SB/08B (10-01)

Approved for use through 10/31/2002. OMB 0651-0031

U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no person is required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449A/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(use as many sheets as necessary)</i>				Complete if Known	
				Application Number	10/345,390
				Filing Date	January 16, 2003
				First Named Inventor	Mark J. STEFIK, <i>et al.</i>
				Art Unit	3621
				Examiner Name	James A. Reagan
Sheet	9	of	10	Attorney Docket Number	111325-151 (021500)

OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No.¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T²
		O'Connor, M., "New Distribution Option for Electronic Publishers; iOpener Data Encryption and Metering System for CD-ROM use; Column", pp. 1-6, March 1994, CD-ROM Professional, Vol. 7, No. 2, ISSN: 1409-0833	
		Willett, S., "Metered PCs: Is Your System Watching You? Wave System beta tests new technology", pp. 84, May 2, 1994, InfoWorld	
		Linn, R., "Copyright and Information Services in the Context of the National Research and Education Network", pp. 9-20, January 1994, IMA Intellectual Property Project Proceedings, Vol. 1, Issue 1	
		Perrit, Jr., H., "Permission Headers and Contract Law", pp. 27-48, January 1994, IMA Intellectual Property Project Proceedings, Vol. 1, Issue 1	
		Upthegrove, L., "Intellectual Property Header Descriptors: A Dynamic Approach", pp. 63-66, January 1994, IMA Intellectual Property Project Proceedings, Vol. 1, Issue 1	
		Sirbu, M., "Internet Billing Service Design and prototype Implementation", pp. 67-80, January 1994, IMA Intellectual Property Project Proceedings, Vol. 1, Issue 1	
		Simmell, S. et al., "Metering and Licensing of Resources: Kala's General Purpose Approach", pp. 81-110, January 1994, IMA Intellectual Property Project Proceedings, Vol. 1, Issue 1	
		Kahn, R., "Deposit, Registration and Recordation in an Electronic Copyright Management System", pp. 111-120, January 1994, IMA Intellectual Property Project Proceedings, Vol. 1, Issue 1	
		Tygar, J. et al., "Dyad: A System for Using Physically Secure Coprocessors", pp. 121-152, January 1994, IMA Intellectual Property Project Proceedings, Vol. 1, Issue 1	
		Griswold, G., "A Method for Protecting Copyright on Networks", pp. 169-178, January 1994, IMA Intellectual Property Project Proceedings, Vol. 1, Issue 1	

Examiner Signature		Date Considered	

* EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Applicant's unique citation designation number (optional). ² Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, Washington, DC 20231.



Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449A/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)				Complete if Known	
				Application Number	10/345,390
				Filing Date	January 16, 2003
				First Named Inventor	Mark J. STEFIK, <i>et al.</i>
				Art Unit	3621
				Examiner Name	James A. Reagan
Sheet	10	of	10	Attorney Docket Number	111325-151 (021500)

OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No.¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T²
		Nelson, T., "A Publishing and Royalty Model for Networked Documents", pp. 257-259, January 1994, IMA Intellectual Property Project Proceedings, Vol. 1, Issue 1	
		Robinson, E., "Redefining Mobile Computing", pp. 238-240, 247-248 and 252, July 1993, PC Computing	
		Abadi, M. et al., "Authentication and Delegation with Smart-cards", PP. 1-24, 1990, Research Report DEC Systems Research Center	
		Mark Stefik, "Letting Loose the Light: Igniting Commerce in Electronic Publication", pp. 219-253, 1996, Internet Dreams: Archetypes, Myths, and Metaphors, IDS N 0-262-19373-6	
		Mark Stefik, "Letting Loose the Light: Igniting Commerce in Electronic Publication", pp. 2-35, February 8, 1995, Internet Dreams: Archetypes, Myths and Metaphors	
		Henry H. Perritt, Jr., "Technological Strategies for Protecting Intellectual Property in the Networked Multimedia Environment", April 2-3, 1993, Knowbots, Permissions Headers & Contract Law	

Examiner Signature		Date Considered	

* EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Applicant's unique citation designation number (optional). ² Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, Washington, DC 20231.



10/345,390

TRANSMITTAL FORM (to be used for all correspondence after initial filing)		Application Number	10/345,390
		Filing Date	January 16, 2003
		First Named Inventor	Mark J. STEFIK, et al.
		Group Art Unit	3621
		Examiner Name	James A. Reagan
Total Number of Pages in This Submission		Attorney Docket Number	111325-151 (021500)
		Confirmation Number	2180

ENCLOSURES (check all that apply)		
☒ Fee Transmittal Form ☐ Fee Attached ☒ Amendment / Reply ☐ After Final ☐ Affidavits/declaration(s) ☒ Extension of Time Request ☐ Express Abandonment Request ☒ Information Disclosure Statement ☐ Certified Copy of Priority Document(s) ☐ Response to Missing Parts/Incomplete Application ☐ Response to Missing Parts under 37 CFR 1.52 or 1.53	☐ Assignment Papers (for an Application) ☐ Drawing(s) ☐ Declaration and Power of Attorney ☐ Licensing-related Papers ☐ Petition ☐ Petition to Convert to a Provisional Application ☐ Power of Attorney, Revocation Change of Correspondence Address ☐ Terminal Disclaimer ☐ Request for Refund ☐ CD, Number of CD(s) _____	☐ After Allowance Communication to Group ☐ Appeal Communication to Board of Appeals and Interferences ☐ Appeal Communication to Group (Appeal Notice, Brief, Reply Brief) ☐ Proprietary Information ☐ Status Letter ☐ Application Data Sheet ☐ Request for Corrected Filing Receipt with Enclosures ☐ A self-addressed prepaid postcard for acknowledging receipt ☐ Other Enclosure(s) (please identify below):
Remarks		☒ The Commissioner is hereby authorized to charge any additional fees required or credit any overpayments to Deposit Account No. 19-2380 for the above identified docket number.

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT	
Firm or Individual name	Carlos R. Villamar Registration No. 43,224 Nixon Peabody, LLP 401 9 th Street, N.W., Suite 900 Washington, D.C. 20004-2128
Signature	
Date	March 8, 2005

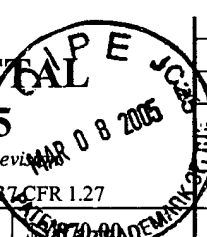
CERTIFICATE OF MAILING OR TRANSMISSION [37 CFR 1.8(a)]	
I hereby certify that this correspondence is being:	
☐ deposited with the United States Postal Service on the date shown below with sufficient postage as first class mail in an envelope addressed to: Mail Stop _____, Commissioner for Patents, P. O. Box 1450, Alexandria, VA 22313-1450	
☐ transmitted by facsimile on the date shown below to the United States Patent and Trademark Office at (703) _____.	
_____ Date	_____ Signature
	_____ Typed or printed name

FEE TRANSMITTAL FOR FY 2005

Patent fees are subject to annual revision.

☐ Applicant claims small entity status. See 37 CFR 1.27

TOTAL AMOUNT OF PAYMENT



Application Number 10/345,390
Filing Date January 16, 2003
First Named Inventor Mark J. STEFIK, et al.
Examiner Name James A. Reagan
Art Unit 3621
Attorney Docket No. 111325-151 (021500)

Complete if Known

METHOD OF PAYMENT (check all that apply)

☐ Check ☐ Credit Card ☐ Money Order ☐ Other ☐ None

☒ Deposit Account:

Deposit Account Number 19-2380

Deposit Account Name Nixon Peabody LLP

The Commissioner is authorized to: (check all that apply)

☒ Charge fee(s) indicated below ☒ Credit any overpayments

☒ Charge any additional fee(s)

☐ Charge fee(s) indicated below, except for the filing fee to the above-identified deposit account.

FEE CALCULATION

1. BASIC FILING FEE

Large Entity Fee Code	Large Entity Fee (\$)	Small Entity Fee Code	Small Entity Fee (\$)	Fee Description	Fee Paid
1001	300	2001	150	Utility filing fee	
1002	200	2002	100	Design filing fee	
1003	200	2003	100	Plant filing fee	
1004	300	2004	150	Reissue filing fee	
1005	200	2005	100	Provisional filing fee	

SUBTOTAL (1) (\$ 0)

2. EXTRA CLAIM FEES FOR UTILITY AND REISSUE

Total Claims	Extra Claims	Fee from below	Fee Paid
85	-28* = 57	50.00	2,850.00
Independent Claims 3	-3** = 0		0
Multiple Dependent			0

Large Entity Fee Code	Large Entity Fee (\$)	Small Entity Fee Code	Small Entity Fee (\$)	Fee Description
1202	50	2202	25	Claims in excess of 20
1201	200	2201	100	Independent claims in excess of 3
1203	360	2203	180	Multiple dependent claim, if not paid
1204	200	2204	100	** Reissue independent claims over original patent
1205	50	2205	25	** Reissue claims in excess of 20 and over original patent

SUBTOTAL (2) \$2,850.00

**or number previously paid, if greater; For Reissues, see above

FEE CALCULATION (continued)

3. ADDITIONAL FEES

Large Entity		Small Entity		Fee Description
Fee Code	Fee (\$)	Fee Code	Fee (\$)	
1051	130	2051	65	Surcharge - late filing fee or oath
1052	50	2052	25	Surcharge - late provisional filing fee or cover sheet
1053	130	1053	130	Non-English specification
1812	2,520	1812	2,520	For filing a request for <i>ex parte</i> reexamination
1804	920*	1804	920*	Requesting publication of SIR prior to Examiner action
1805	1,840*	1805	1,840*	Requesting publication of SIR after Examiner action
1251	120	2251	60	Extension for reply within first month
1252	450	2252	225	Extension for reply within second month
1253	1,020	2253	510	Extension for reply within third month
1254	1,590	2254	795	Extension for reply within fourth month
1255	2,160	2255	1,080	Extension for reply within fifth month
1401	500	2401	250	Notice of Appeal
1402	500	2402	250	Filing a brief in support of an appeal
1403	1,000	2403	500	Request for oral hearing
1451	1,510	1451	1,510	Petition to institute a public use proceeding
1452	500	2452	250	Petition to revive - unavoidable
1453	1,500	2453	750	Petition to revive - unintentional
1501	1,400	2501	700	Utility issue fee (or reissue)
1502	800	2502	400	Design issue fee
1503	1,100	2503	550	Plant issue fee
1460	130	1460	130	Petitions to the Commissioner
1807	50	1807	50	Processing fee under 37 CFR 1.17(q)
1806	180	1806	180	Submission of Information Disclosure Stmt
8021	40	8021	40	Recording each patent assignment per property (times number of properties)
1809	790	2809	395	Filing a submission after final rejection (37 CFR 1.129(a))
1810	790	2810	395	For each additional invention to be examined (37 CFR 1.129(b))
1801	790	2801	395	Request for Continued Examination (RCE)
1802	900	1802	900	Request for expedited examination of a design application

Other fee (specify) _____

*Reduced by Basic Filing Fee Paid

SUBTOTAL (3)

\$1,020.00

CERTIFICATE OF MAILING OR TRANSMISSION [37 CFR 1.8(a)]

I hereby certify that this correspondence is being:

- ☐ deposited with the United States Postal Service on the date shown below with sufficient postage as first class mail in an envelope addressed to: Mail Stop _____, Commissioner for Patents, P. O. Box 1450, Alexandria, VA 22313-1450
- ☐ transmitted by facsimile on the date shown below to the United States Patent and Trademark Office at (703) _____.

Date

Signature

Typed or printed name

SUBMITTED BY

Name (Print/Type) Carlos R. Villamar

Signature

Carlos R. Villamar

Registration No. (Attorney/Agent)

43,224

Complete (if applicable)

Telephone (202) 585-8204

Date

March 8, 2005



PETITION FOR EXTENSION OF TIME UNDER 37 CFR 1.136(a)		Docket Number (Optional) 111325-151 (021500)										
CERTIFICATE OF MAILING OR TRANSMISSION [37 CFR 1.8(a)] I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to Mail Stop _____, Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450, or being facsimile transmitted to the USPTO at _____, on _____. Signature: _____ Name: _____	In re Application of: Mark J. STEFIK, <i>et al.</i>											
	Application Number: 10/345,390 Filed : January 16, 2003											
	For: CONTENT RENDERING REPOSITORY											
	Group Art Unit : 3621	Examiner: James A. Reagan										
This is a request under the provisions of 37 CFR 1.136(a) to extend the period for filing a reply in the above identified application. The requested extension and appropriate entity fee are as follows (check time period desired): <table style="width: 100%;"><tr><td>☐ One month (37 CFR 1.17(a)(1)) - (\$60/\$120)</td><td style="text-align: right;">\$ _____</td></tr><tr><td>☐ Two months (37 CFR 1.17(a)(2)) - (\$225/\$450)</td><td style="text-align: right;">\$ _____</td></tr><tr><td>☒ Three months (37 CFR 1.17(a)(3)) - (\$510/\$1020)</td><td style="text-align: right;">\$ <u>1,020.00</u></td></tr><tr><td>☐ Four months (37 CFR 1.17(a)(4)) - (\$795/\$1590)</td><td style="text-align: right;">\$ _____</td></tr><tr><td>☐ Five months (37 CFR 1.17(a)(5)) - (\$1080/\$2160)</td><td style="text-align: right;">\$ _____</td></tr></table> ☐ Applicant claims small entity status. ☐ A check to cover the fee is enclosed. ☐ Payment by credit card. Form PTO-2038 is attached. ☒ The Commissioner has already been authorized to charge fees in this application to a Deposit Account. ☒ The Commissioner is hereby authorized to charge any fees which may be required, or credit any overpayment, to Deposit Account Number <u>19-2380</u>. I have enclosed a duplicate copy of this sheet. WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038. I am the ☐ applicant/inventor ☐ assignee of record of the entire interest. See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed. (Form PTO/SB/96). ☐ attorney or agent of record. ☒ attorney or agent under 37 CFR 1.34(a). Registration number if acting under 37 CFR 1.34(a) <u>43,224</u>. _____ Signature Carlos R. Villamar _____ Typed or printed name <u>March 8, 2005</u> Date <u>(202) 585-8204</u> Telephone Number NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below. ☐ Total of _____ forms are submitted.			☐ One month (37 CFR 1.17(a)(1)) - (\$60/\$120)	\$ _____	☐ Two months (37 CFR 1.17(a)(2)) - (\$225/\$450)	\$ _____	☒ Three months (37 CFR 1.17(a)(3)) - (\$510/\$1020)	\$ <u>1,020.00</u>	☐ Four months (37 CFR 1.17(a)(4)) - (\$795/\$1590)	\$ _____	☐ Five months (37 CFR 1.17(a)(5)) - (\$1080/\$2160)	\$ _____
☐ One month (37 CFR 1.17(a)(1)) - (\$60/\$120)	\$ _____											
☐ Two months (37 CFR 1.17(a)(2)) - (\$225/\$450)	\$ _____											
☒ Three months (37 CFR 1.17(a)(3)) - (\$510/\$1020)	\$ <u>1,020.00</u>											
☐ Four months (37 CFR 1.17(a)(4)) - (\$795/\$1590)	\$ _____											
☐ Five months (37 CFR 1.17(a)(5)) - (\$1080/\$2160)	\$ _____											

PATENT APPLICATION FEE DETERMINATION RECORD

Effective January 1, 2003

Application or Docket Number

10/345390

CLAIMS AS FILED - PART I

	(Column 1)	(Column 2)
TOTAL CLAIMS	28	
FOR	NUMBER FILED	NUMBER EXTRA
TOTAL CHARGEABLE CLAIMS	28 minus 20 =	8
INDEPENDENT CLAIMS	1 minus 3 =	
MULTIPLE DEPENDENT CLAIM PRESENT ☐		

* If the difference in column 1 is less than zero, enter "0" in column 2

CLAIMS AS AMENDED - PART II

	(Column 1)	(Column 2)	(Column 3)
AMENDMENT A	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA
Total	* 85	Minus ** 28	= 57
Independent	* 3	Minus *** 3	=
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM ☐			

	(Column 1)	(Column 2)	(Column 3)
AMENDMENT B	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA
Total	*	Minus **	=
Independent	*	Minus ***	=
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM ☐			

	(Column 1)	(Column 2)	(Column 3)
AMENDMENT C	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA
Total	*	Minus **	=
Independent	*	Minus ***	=
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM ☐			

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.

** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20."

*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3."

The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

SMALL ENTITY TYPE ☐ OR

OTHER THAN SMALL ENTITY

RATE	FEE
BASIC FEE	\$375
X\$ 9=	
X42=	
+140=	
TOTAL	

RATE	FEE
BASIC FEE	\$750
X\$18=	144
X84=	
+280=	
TOTAL	894

SMALL ENTITY OR

OTHER THAN SMALL ENTITY

RATE	ADDITIONAL FEE
X\$ 9=	
X42=	
+140=	
TOTAL ADDIT. FEE	

RATE	ADDITIONAL FEE
X\$18=	2,580
X84=	
+280=	
TOTAL ADDIT. FEE	

RATE	ADDITIONAL FEE
X\$ 9=	
X42=	
+140=	
TOTAL ADDIT. FEE	

RATE	ADDITIONAL FEE
X\$18=	
X84=	
+280=	
TOTAL ADDIT. FEE	

RATE	ADDITIONAL FEE
X\$ 9=	
X42=	
+140=	
TOTAL ADDIT. FEE	

RATE	ADDITIONAL FEE
X\$18=	
X84=	
+280=	
TOTAL ADDIT. FEE	

Ginger R. DeMille

? show files;ds

File 348:EUROPEAN PATENTS 1978-2005/Mar W03

(c) 2005 European Patent Office

File 349:PCT FULLTEXT 1979-2005/UB=20050324,UT=20050317

(c) 2005 WIPO/Univentio

Set	Items	Description
S1	149292	RENDERING OR RENDER? ?
S2	231630	PAYMENT OR REMIT? OR DISBURS? OR REPAYMENT OR QUITTANCE OR INSTALLMENT OR INSTALMENT OR RENDER??? OR PAY OR PAYING OR PA- YS
S3	346387	CONTENT
S4	988877	TEXT OR ARTICLE OR EDITORIAL OR NEWS OR WORDAGE OR CONTENT OR WRITING OR WRITTEN OR COLUMN OR ESSAY OR COMMENT OR PIECE - OR STORY OR MATTER OR ARTICLE
S5	1916995	CITATION? ? OR CITE? ? OR DOCUMENT? ? OR CONTENT()ITEM OR - TITLE OR ARTICLE OR CASE OR SOURCE OR FILE? ? OR MONOGRAPH? OR PUBLICATION? ? OR JOURNAL? ? OR SERIAL? ?
S6	277764	PERIODICAL? ? OR BOOK? ? OR LEGISLATIVE()HISTOR??? OR PROF- ILE? ?
S7	503965	(SECTION? ? OR SUBJECT? ? OR HEADING? ? OR CATEGOR??? OR C- ATALOG? ?) (LIST??? OR INDEX) OR CONTENT? ? OR TOPIC?? OR KE- YWORD? ? OR INDEX()TERM? ?
S8	752	USAGE() (RIGHT? ? OR RULE? ? OR PERMIT? OR PERMISSION?)
S9	116280	(RIGHT? ? OR PERMIT? OR AUTHORIZ? OR AUTHORIS? OR PERMISSI- ON? OR VALIDAT?) (6N) (USAGE OR USE OR USES OR USING OR UTILI?A- TION OR UTILI?E? ? OR UTILITY OR LOAD??? OR SERVICE OR ACTIVA- T? OR LAUNCH??? OR ACCESS)
S10	525370	REPOSITOR? OR DATABASE? OR DATA()BASE? OR DATA()BANK? ? OR DATABANK? ? OR ARCHIVE? ? OR STORAGE OR STORING OR SERVER? OR RDBMS OR DBMS OR CENTRAL() (HOST OR COMPUTER) OR MAINFRAME?
S11	124	S1(3S)S3(3S)S8(3S)S10
S12	0	S11 NOT PY>1994
S13	136	S1(3S)S3(3S)S8
S14	0	S13 NOT PY>1994
S15	4988	(S1 OR S2) (3S) (S3 OR S4 OR S5 OR S6 OR S7) (3S) (S8 OR S9) (3- S)S10
S16	238	(S1 OR S2) (3S) (S3:S7) (3S)S8(3S)S10
S17	0	S16 NOT PY>1994
?		

? show files;ds
 File 350:Derwent WPIX 1963-2005/UD,UM &UP=200519
 (c) 2005 Thomson Derwent
 File 344:Chinese Patents Abs Aug 1985-2004/May
 (c) 2004 European Patent Office
 File 347:JAPIO Nov 1976-2004/Nov(Updated 050309)
 (c) 2005 JPO & JAPIO
 File 371:French Patents 1961-2002/BOPI 200209
 (c) 2002 INPI. All rts. reserv.
 File 2:INSPEC 1969-2005/Mar W3
 (c) 2005 Institution of Electrical Engineers
 File 35:Dissertation Abs Online 1861-2005/Mar
 (c) 2005 ProQuest Info&Learning
 File 65:Inside Conferences 1993-2005/Mar W3
 (c) 2005 BLDSC all rts. reserv.
 File 99:Wilson Appl. Sci & Tech Abs 1983-2005/Feb
 (c) 2005 The HW Wilson Co.
 File 256:TecInfoSource 82-2005/Feb
 (c) 2005 Info.Sources Inc
 File 474:New York Times Abs 1969-2005/Mar 25
 (c) 2005 The New York Times
 File 475:Wall Street Journal Abs 1973-2005/Mar 25
 (c) 2005 The New York Times
 File 583:Gale Group Globalbase(TM) 1986-2002/Dec 13
 (c) 2002 The Gale Group

Set	Items	Description
S1	74312	RENDERING OR RENDER? ?
S2	382268	PAYMENT OR REMIT? OR DISBURS? OR REPAYMENT OR QUITTANCE OR INSTALLMENT OR INSTALMENT OR RENDER??? OR PAY OR PAYING OR PA- YS
S3	854471	CONTENT
S4	4772756	TEXT OR ARTICLE OR EDITORIAL OR NEWS OR WORDAGE OR CONTENT OR WRITING OR WRITTEN OR COLUMN OR ESSAY OR COMMENT OR PIECE - OR STORY OR MATTER OR ARTICLE
S5	6260926	CITATION? ? OR CITE? ? OR DOCUMENT? ? OR CONTENT()ITEM OR - TITLE OR ARTICLE OR CASE OR SOURCE OR FILE? ? OR MONOGRAPH? OR PUBLICATION? ? OR JOURNAL? ? OR SERIAL? ?
S6	873556	PERIODICAL? ? OR BOOK? ? OR LEGISLATIVE()HISTOR??? OR PROF- ILE? ?
S7	1274958	(SECTION? ? OR SUBJECT? ? OR HEADING? ? OR CATEGOR??? OR C- ATALOG? ?) (LIST??? OR INDEX) OR CONTENT? ? OR TOPIC?? OR KE- YWORD? ? OR INDEX()TERM? ?
S8	741	USAGE()(RIGHT? ? OR RULE? ? OR PERMIT? OR PERMISSION?)
S9	114561	(RIGHT? ? OR PERMIT? OR AUTHORIZ? OR AUTHORIS? OR PERMISSI- ON? OR VALIDAT?) (6N) (USAGE OR USE OR USES OR USING OR UTILI?A- TION OR UTILI?E? ? OR UTILITY OR LOAD??? OR SERVICE OR ACTIVA- T? OR LAUNCH??? OR ACCESS)
S10	2111673	REPOSITOR? OR DATABASE? OR DATA()BASE? OR DATA()BANK? ? OR DATABANK? ? OR ARCHIVE? ? OR STORAGE OR STORING OR SERVER? OR RDBMS OR DBMS OR CENTRAL() (HOST OR COMPUTER) OR MAINFRAME?
S11	6	S1 AND S3 AND S8 AND S10
S12	10	S1 AND S3 AND S8
S13	10	S11 OR S12
S14	10	RD (unique items)
S15	278	(S1 OR S2) AND (S4 OR S5 OR S6 OR S7) AND (S8 OR S9) AND S-
	10	
S16	234	S15 FROM 350,344,347,371
S17	147	S16 NOT PR=19941201:99999999
S18	3	S17 AND IC=G06F-017/30
S19	166	S16 NOT AD=19941201:99999999
S20	5	S19 AND IC=G06F-017/30
S21	2	S20 NOT S18
S22	43	S19 NOT (AY=(1995 OR 1996 OR 1997 OR 1998 OR 1999 OR 2000 - OR 2001 OR 2002 OR 2003 OR 2004 OR 2005)/PR)
S23	62	S16 NOT (AY=(1995 OR 1996 OR 1997 OR 1998 OR 1999 OR 2000 - OR 2001 OR 2002 OR 2003 OR 2004 OR 2005)/PR)

Ginger R. DeMille

S24	44	S23 AND IC=G06F
S25	40	S24 NOT (S13 OR S18 OR S20 OR S21)
S26	54	S16 NOT (AY=(1995 OR 1996 OR 1997 OR 1998 OR 1999 OR 2000 - OR 2001 OR 2002 OR 2003 OR 2004 OR 2005))
S27	37	S26 AND IC=G06F
S28	0	S27 NOT S25
S29	44	S15 NOT S16
S30	10	S29 NOT PY>1994
S31	9	.RD (unique items)
?		

...Title Terms: **PAY** ;
International Patent Class (Main): **G06F-017/60**

25/3,K/5 (Item 5 from file: 350)

DIALOG(R)File 350:Derwent WPIX
(c) 2005 Thomson Derwent. All rts. reserv.

010043180 **Image available**

WPI Acc No: 1994-310891/199439

XRPX Acc No: N94-244721

**Distribution of information or news - uses electronic distribution
centre communicating through keyboard and screen, and payment handler
to permit access to connector**

Patent Assignee: POWIS D T P (POWI-I)

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
BE 1006464	A6	19940906	BE 921047	A	19921130	199439 B

Priority Applications (No Type Date): BE 921047 A 19921130

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
BE 1006464	A6	7	G09F-000/00	

Distribution of information or news - ...

**...uses electronic distribution centre communicating through keyboard and
screen, and payment handler to permit access to connector**

...Abstract (Basic): The distribution of **news** or information is from an
electronic **storage** with interfaces to communicate with external data
storage devices that can be associated with an electronic reader. The
distribution centre has keyboard and...

...The user selects the information they require and provides payment .
The distribution centre then opens a door to allow the user to connect
their data **storage** . The information is then transferred to the user's
data **storage** .

...

...USE/ADVANTAGE - Electronic distribution of news or information.

Reduces paper consumption and allows user to select and **pay** for only
what they want

...Title Terms: **NEWS** ;

International Patent Class (Additional): **G06F-000/00 ...**

25/3,K/6 (Item 6 from file: 350)

DIALOG(R)File 350:Derwent WPIX
(c) 2005 Thomson Derwent. All rts. reserv.

009823480 **Image available**

WPI Acc No: 1994-103336/199413

XRPX Acc No: N94-080693

**Games terminal for access to national gaming system - includes keyboard
and screen, with printer and access control system allowing participation
after payment using card.**

Patent Assignee: INT JEUX (ITJE-N)

Inventor: BERTRAND D; GATTO J

Number of Countries: 021 Number of Patents: 010

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
EP 589755	A1	19940330	EP 93402250	A	19930915	199413 B
FR 2696025	A1	19940325	FR 9211275	A	19920922	199415
AU 9347352	A	19940331	AU 9347352	A	19930915	199418

means into which are **written** from said management center said master public key nA, card secret keys pU and qU...The method involves using an IC card having a card information memory area **storing** a master public key nA, card secret keys pU and qU, a card public key...

...signature SA1 including the card identification number. An IC card terminal has a memory area **storing** a master public key nA, terminal secret keys pT and qT, a terminal public key...

...Eliminates need for communication between management center and IC card terminal each time user requests **service**. **Permits** detection of abuse of forged IC card or intentionally altered IC card terminal...to the terminal. The terminal checks to see if current remaining value is adequate to **pay** for a requested service and, if it is, becomes enabled for providing the service. After...

...International Patent Class (Additional): **G06F-009/06** ...

... **G06F-012/14** ...

... **G06F-015/00** ...

... **G06F-015/30** ...

... **G06F-017/60**

25/3,K/8 (Item 8 from file: 350)

DIALOG(R)File 350:Derwent WPIX

(c) 2005 Thomson Derwent. All rts. reserv.

009730539 **Image available**

WPI Acc No: 1994-010389/199402

XRPX Acc No: N94-008339

Document **information distribution system for public - has movable visualisation screens and counters for payment of reception of relevant documents using tele communication**

Patent Assignee: BENLAFKIH M (BENL-I)

Inventor: BENLAFKIH M

Number of Countries: 017 Number of Patents: 002

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
EP 578570	A1	19940112	EP 93401763	A	19930706	199402 B
FR 2693577	A1	19940114	FR 928475	A	19920708	199407

Priority Applications (No Type Date): FR 928475 A 19920708

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes

EP 578570 A1 F 8 G07F-017/16

Designated States (Regional): AT BE CH DE DK ES FR GB GR IE IT LI LU MC NL PT SE

FR 2693577 A1 G06F-015/40

Document **information distribution system for public...**

...has movable visualisation screens and counters for payment of reception of relevant documents using tele communication

...Abstract (Basic): The **document** information system carries the information and automatic counters or information distribution (21, 23) with portable screens to view the **documents** (7) through the use of microcomputers. Tele-communication is used to relay the information...

...The method of distribution allows large numbers to **access** the system and **permits** the copying of required **document** that have been read by the visualisation methods and by an exchange of **payment** by the user. The central unit has several peripheral devices with a control console to ensure that the system is operating correctly. After the **documents**

25/3,K/10 (Item 10 from file: 350)

DIALOG(R)File 350:Derwent WPIX

(c) 2005 Thomson Derwent. All rts. reserv.

007494030

WPI Acc No: 1988-127963/198819

XRPX Acc No: N88-097201

Electronic device for memory card utilisation - has primary station and sec. installation from which optical signals are read and processed for storage

Patent Assignee: ADVENTURE (ADVE-N); AUDEBERT Y (AUDE-I)

Inventor: AUDEBERT Y; DELAHAYE A; DELAHAYE A J M

Number of Countries: 012 Number of Patents: 005

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
EP 267085	A	19880511	EP 87402279	A	19871013	198819 B
FR 2605430	A	19880422				198823
EP 267085	B	19920408	EP 87402279	A	19871013	199215
DE 3778119	G	19920514	DE 3778119	A	19871013	199221
			EP 87402279	A	19871013	
ES 2031148	T3	19921201	EP 87402279	A	19871013	199301

Priority Applications (No Type Date): FR 8614300 A 19861015

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes

EP 267085	A	F 8		

Designated States (Regional): AT BE CH DE ES FR GB IT LI LU NL SE

EP 267085	B	11		

Designated States (Regional): AT BE CH DE ES FR GB IT LI LU NL SE

DE 3778119	G		G07F-007/10	Based on patent EP 267085

ES 2031148	T3		G07F-007/10	Based on patent EP 267085

... has primary station and sec. installation from which optical signals are read and processed for storage

...Abstract (Equivalent): Electronic device intended to **permit** the use of a memory card (M) with a system (S) for which the card is intended ...

...of the system, the device comprising means (T) for treatment of electric information items to **render** them usable by the memory card (M), these treatment means conversely being adapted to **render** exploitable information coming from the memory card (M), electric means (B) for coupling between the...

...2) and adapted to transform these signals into electric information, also a direct current voltage **source** (16) for the necessary electrical supply. (11pp)

...Title Terms: **STORAGE**

International Patent Class (Additional): **G06F-013/00** ...

25/3,K/11 (Item 11 from file: 350)

DIALOG(R)File 350:Derwent WPIX

(c) 2005 Thomson Derwent. All rts. reserv.

007485679

WPI Acc No: 1988-119613/198817

XRPX Acc No: N88-090875

Database usage metering and protection system - measures decrypted information from database and communicates to remote centralised billing facility which charges user

Patent Assignee: ELECTRONIC PUBLISHING RESOURCES INC (ELPU-N); ELECTRONIC PUBLISH (ELPU-N); PERSONAL LIBRARY SO (PERS-N); SHEAR V H (SHEA-I)

Ginger R. DeMille

APPL. NO.: 02-401356 [JP 90401356]
FILED: December 11, 1990 (19901211)
JOURNAL: Section: P, Section No. 1731, Vol. 18, No. 232, Pg. 67, April
27, 1994 (19940427)

INTL CLASS: G06F-012/00

ABSTRACT

PURPOSE: To execute a semiautomatic common property management in which a manager judges an **access right** only at necessary time...

...CONSTITUTION: An **access right** setting mechanism 13 sets the **access right** for respective requested properties in accordance with an **access right** setting request from the manager. A registration/ **payment** mechanism 12 checks the **access right** of the request property based on the **content** of the **data base** 23 when a property access request from a user is received in a reception mechanism 11. When it is '**permitted**', **access** to the requested property is executed. When the other user is in the middle of **use** by '**permission with condition**', **access** denial notice is given to a request **source**. When 'confirmation is required', confirmation from the manager is requested by an electronic mail and...

... the notice of access to the requested property and gives denial notice to the request **source** based on the judged result.

25/3,K/39 (Item 26 from file: 347)

DIALOG(R) File 347:JAPIO

(c) 2005 JPO & JAPIO. All rts. reserv.

03235067 **Image available**
INPUT/OUTPUT CONTROL SYSTEM

PUB. NO.: 02-210567 [JP 2210567 A]
PUBLISHED: August 21, 1990 (19900821)
INVENTOR(s): KIKUCHI TSUTOMU
APPLICANT(s): TOHOKU NIPPON DENKI SOFTWARE KK [000000] (A Japanese Company
or Corporation), JP (Japan)
APPL. NO.: 01-031523 [JP 8931523]
FILED: February 10, 1989 (19890210)
JOURNAL: Section: P, Section No. 1127, Vol. 14, No. 504, Pg. 154,
November 05, 1990 (19901105)

INTL CLASS: G06F-013/10

ABSTRACT

PURPOSE: To eliminate the need of **paying** attention to the use condition of the input/output device and motion of the other...

...CONSTITUTION: A reception part 4 to receive data, a **storage** part 3 where data is stored, a transmission part 2 which delivers data to each...
... condition recognizing part 5 which accepts the data reception request from each process, and a **use right** discriminating part 6 which takes correspondence between data and processes to discriminate the process to...

... should be transmitted are provided. Plural processes share the input/output device connected to one **serial** line. Thus, it is unnecessary to synchronize processes with one another, and complicated programming is ...

25/3,K/40 (Item 27 from file: 347)

DIALOG(R) File 347:JAPIO

(c) 2005 JPO & JAPIO. All rts. reserv.

01061361 **Image available**

28-Mar-05

31

02:38 PM

? show files;ds

File 15:ABI/Inform(R) 1971-2005/Mar 28
 (c) 2005 ProQuest Info&Learning
 File 16:Gale Group PROMT(R) 1990-2005/Mar 28
 (c) 2005 The Gale Group
 File 148:Gale Group Trade & Industry DB 1976-2005/Mar 28
 (c)2005 The Gale Group
 File 160:Gale Group PROMT(R) 1972-1989
 (c) 1999 The Gale Group
 File 275:Gale Group Computer DB(TM) 1983-2005/Mar 28
 (c) 2005 The Gale Group
 File 621:Gale Group New Prod.Annou.(R) 1985-2005/Mar 28
 (c) 2005 The Gale Group

Set	Items	Description
S1	138889	RENDERING OR RENDER? ?
S2	3164170	PAYMENT OR REMIT? OR DISBURS? OR REPAYMENT OR QUITTANCE OR INSTALLMENT OR INSTALMENT OR RENDER??? OR PAY OR PAYING OR PA- YS
S3	1250741	CONTENT
S4	11311132	TEXT OR ARTICLE OR EDITORIAL OR NEWS OR WORDAGE OR CONTENT OR WRITING OR WRITTEN OR COLUMN OR ESSAY OR COMMENT OR PIECE - OR STORY OR MATTER OR ARTICLE
S5	10902037	CITATION? ? OR CITE? ? OR DOCUMENT? ? OR CONTENT()ITEM OR - TITLE OR ARTICLE OR CASE OR SOURCE OR FILE? ? OR MONOGRAPH? OR PUBLICATION? ? OR JOURNAL? ? OR SERIAL? ?
S6	3256109	PERIODICAL? ? OR BOOK? ? OR LEGISLATIVE()HISTOR??? OR PROF- ILE? ?
S7	1868996	(SECTION? ? OR SUBJECT? ? OR HEADING? ? OR CATEGOR??? OR C- ATALOG? ?) (LIST??? OR INDEX) OR CONTENT? ? OR TOPIC?? OR KE- YWORD? ? OR INDEX()TERM? ?
S8	1591	USAGE() (RIGHT? ? OR RULE? ? OR PERMIT? OR PERMISSION?)
S9	387766	(RIGHT? ? OR PERMIT? OR AUTHORIZ? OR AUTHORIS? OR PERMISSI- ON? OR VALIDAT?) (6N) (USAGE OR USE OR USES OR USING OR UTILI?A- TION OR UTILI?E? ? OR UTILITY OR LOAD??? OR SERVICE OR ACTIVA- T? OR LAUNCH??? OR ACCESS)
S10	3568309	REPOSITOR? OR DATABASE? OR DATA()BASE? OR DATA()BANK? ? OR DATABANK? ? OR ARCHIVE? ? OR STORAGE OR STORING OR SERVER? OR RDBMS OR DBMS OR CENTRAL() (HOST OR COMPUTER) OR MAINFRAME?
S11	6	S1(3S)S3(3S)S8(3S)S10
S12	0	S11 NOT PY>1994
S13	17	S1(3S)S3(3S)S8
S14	0	S13 NOT PY>1994
S15	5083	(S1 OR S2) (3S) (S3 OR S4 OR S5 OR S6 OR S7) (3S) (S8 OR S9) (3- S)S10
S16	61	(S1 OR S2) (3S) (S3:S7) (3S)S8(3S)S10
S17	8	S16 NOT PY>1994
S18	7	RD (unique items)

? t18/3,k/all

18/3,K/1 (Item 1 from file: 15)
 DIALOG(R)File 15:ABI/Inform(R)
 (c) 2005 ProQuest Info&Learning. All rts. reserv.

00900155 95-49547

Standard multimedia license plan sought by developers, trade group

Clancy, Heather; Hwang, Diana
 Computer Reseller News n579 PP: 93, 109 May 23, 1994
 ISSN: 0893-8377 JRNL CODE: CRN
 WORD COUNT: 547

...TEXT: Software Publishers Association, Washington, D.C., is also
 interested in clearing the legal paths to **content** licensing and is
 currently pulling together a guide to licensing still images. Among issues
 covered...

Ginger R. DeMille

? show files;ds

File 15:ABI/Inform(R) 1971-2005/Mar 28
(c) 2005 ProQuest Info&Learning
File 75:TGG Management Contents(R) 86-2005/Mar W3
(c) 2005 The Gale Group
File 95:TEME-Technology & Management 1989-2005/Feb W2
(c) 2005 FIZ TECHNIK

Set	Items	Description
S1	30299	RENDERING OR RENDER? ?
S2	476224	PAYMENT OR REMIT? OR DISBURS? OR REPAYMENT OR QUITTANCE OR INSTALLMENT OR INSTALMENT OR RENDER??? OR PAY OR PAYING OR PA- YS
S3	166837	CONTENT
S4	906198	TEXT OR ARTICLE OR EDITORIAL OR NEWS OR WORDAGE OR CONTENT OR WRITING OR WRITTEN OR COLUMN OR ESSAY OR COMMENT OR PIECE - OR STORY OR MATTER OR ARTICLE
S5	1153763	CITATION? ? OR CITE? ? OR DOCUMENT? ? OR CONTENT()ITEM OR - TITLE OR ARTICLE OR CASE OR SOURCE OR FILE? ? OR MONOGRAPH? OR PUBLICATION? ? OR JOURNAL? ? OR SERIAL? ?
S6	465696	PERIODICAL? ? OR BOOK? ? OR LEGISLATIVE()HISTOR??? OR PROF- ILE? ?
S7	285041	(SECTION? ? OR SUBJECT? ? OR HEADING? ? OR CATEGOR??? OR C- ATALOG? ?) (LIST??? OR INDEX) OR CONTENT? ? OR TOPIC?? OR KE- YWORD? ? OR INDEX()TERM? ?
S8	211	USAGE() (RIGHT? ? OR RULE? ? OR PERMIT? OR PERMISSION?)
S9	65636	(RIGHT? ? OR PERMIT? OR AUTHORIZ? OR AUTHORIS? OR PERMISSI- ON? OR VALIDAT?) (6N) (USAGE OR USE OR USES OR USING OR UTILI?A- TION OR UTILI?E? ? OR UTILITY OR LOAD??? OR SERVICE OR ACTIVA- T? OR LAUNCH??? OR ACCESS)
S10	396025	REPOSITOR? OR DATABASE? OR DATA()BASE? OR DATA()BANK? ? OR DATABANK? ? OR ARCHIVE? ? OR STORAGE OR STORING OR SERVER? OR RDBMS OR DBMS OR CENTRAL() (HOST OR COMPUTER) OR MAINFRAME?
S11	1	S1(3S)S3(3S)S8(3S)S10
S12	0	S11 NOT PY>1994
S13	4	S1(3S)S3(3S)S8
S14	0	S13 NOT PY>1994
S15	1185	(S1 OR S2) (3S) (S3 OR S4 OR S5 OR S6 OR S7) (3S) (S8 OR S9) (3- S)S10
S16	13	(S1 OR S2) (3S) (S3:S7) (3S)S8(3S)S10
S17	2	S16 NOT PY>1994
S18	2	RD (unique items)

? t18/3,k/all

18/3,K/1 (Item 1 from file: 15)

DIALOG(R)File 15:ABI/Inform(R)
(c) 2005 ProQuest Info&Learning. All rts. reserv.

00900155 95-49547

Standard multimedia license plan sought by developers, trade group

Clancy, Heather; Hwang, Diana

Computer Reseller News n579 PP: 93, 109 May 23, 1994

ISSN: 0893-8377 JRNL CODE: CRN

WORD COUNT: 547

...TEXT: Software Publishers Association, Washington, D.C., is also
interested in clearing the legal paths to **content** licensing and is
currently pulling together a guide to licensing still images. Among issues
covered...

...application, how long the image will be in use and how to evaluate what
to **pay** for image **usage rights** .

Finally, members of the motion picture and cable industries are also
getting into the act...

...Moving Picture Experts Group (MPEG) recently met in Paris to discuss

28-Mar-05

1

01:12 PM

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	33	stefik.in. and (more SAME restrict\$)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/04/05 13:53
L2	32	L1 and (render or rendering)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/04/05 13:53
L3	834	repository and print\$ and (render or rendering)	USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/04/05 13:54
S1	946	"digital rights management" or DRM	USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2004/10/18 12:06
S2	409	("digital rights management" or DRM) and (play or copy or save or transfer or crop or extract or embed or delete or render)	USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2004/08/27 14:13
S3	207	((("digital rights management" or DRM) and (play or copy or save or transfer or crop or extract or embed or delete or render)) and distribut\$	USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2004/08/27 14:02
S4	172	((("digital rights management" or DRM) and (play or copy or save or transfer or crop or extract or embed or delete or render)) and distribut\$) and (NOT ginter)	USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2004/08/27 15:47
S5	33	wyman WITH robert	USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2004/08/27 14:34
S6	5225	grammar	USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2004/08/27 14:07
S7	162	grammar and permission	USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2004/08/27 14:06
S8	203	grammar and (permission or privilege)	USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2004/08/27 14:06

S9	1763	grammar and rights	USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2004/08/27 14:06
S10	127	(grammar and rights) and permission	USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2004/08/27 14:06
S11	1197	grammar and rule and (permission or privilege or rights)	USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2004/08/27 14:08
S12	109	grammar and rule and (permission or privilege) and rights	USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2004/08/27 14:10
S13	1034	(grammar or language) and rule and (permission or privilege) and rights	USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2004/08/27 14:10
S14	107	(grammar and language) and rule and (permission or privilege) and rights	USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2004/08/27 14:11
S15	106	((grammar and language) and rule and (permission or privilege) and rights) and (play or copy or save or transfer or crop or extract or embed or delete or render)	USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2004/08/27 14:13
S16	73	embed\$ WITH extract\$ WITH digital and rights	USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2004/08/27 14:22
S17	295	embed\$ WITH extract\$ WITH digital	USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2004/08/27 14:30
S18	438	embed\$ WITH extract\$ SAME digital	USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2004/08/27 14:30
S19	4	wyman WITH robert and fee	USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2004/08/27 14:34
S20	4	wyman WITH robert and fee and distribut\$	USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2004/08/27 15:39

S21	4	((("5335346") or ("5295266")).PN.	USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2004/08/27 15:28
S22	4	wyman WITH robert and fee and distribut\$ AND PRINT	USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2004/08/27 15:39
S23	6	((("digital rights management" or DRM) and (play or copy or save or transfer or crop or extract or embed or delete or render)) and distribut\$) and (NOT ginter) and print and repository	USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2004/08/27 15:48
S24	28	((("digital rights management" or DRM) and (play or copy or save or transfer or crop or extract or embed or delete or render)) and distribut\$) and (NOT ginter) and print	USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2004/08/27 15:49
S25	3250	repository and print\$	USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/04/05 13:53
S26	1750	repository and print\$ and "rights"	USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2004/08/27 15:50
S27	566	repository and print\$ and "rights" and copyright	USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2004/08/27 15:53
S28	26	repository and print\$ and "copy rights"	USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2004/08/27 15:54
S29	498	repository SAME print\$	USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2004/08/27 15:56
S30	4	((("5295266") or ("5335346")).PN.	USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2004/10/18 12:15
S31	2	("5138712").PN.	USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2004/10/18 14:09

S32	350	705/51.CCLS.	USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2004/10/18 14:10
S33	158	705/52.CCLS.	USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2004/10/18 14:10
S34	74	705/53.CCLS.	USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2004/10/18 14:10
S35	81	705/54.CCLS.	USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2004/10/18 14:10
S36	78	705/55.CCLS.	USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2004/10/18 14:10
S37	78	705/56.CCLS.	USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2004/10/18 14:10
S38	281	705/57.CCLS.	USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2004/10/18 14:10
S39	105	705/58.CCLS.	USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2004/10/18 14:10
S40	156	705/59.CCLS.	USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2004/10/18 14:11
S41	71	705/50.CCLS.	USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2004/10/18 14:12
S42	246	380/201.CCLS.	USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2004/10/18 14:15
S43	723	707/9.CCLS.	USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2004/10/18 14:18

S44	0	707/9.CCLS. AND DRM	USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2004/10/18 14:16
S45	2281	707/104.1.ccls.	USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2004/10/18 14:16
S46	2	707/104.1.ccls. and "digital rights management"	USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2004/10/18 14:17
S47	220	713/182.CCLS.	USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2004/10/18 14:18
S48	189	713/183.CCLS.	USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2004/10/18 14:18
S49	109	713/184.CCLS.	USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2004/10/18 14:18
S50	241	713/185.CCLS.	USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2004/10/18 14:19
S51	166	713/186.CCLS.	USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2004/10/18 14:19
S52	132	stefik.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/03/17 15:36
S53	0	stefik.in. and (less SAME restrict\$)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2004/11/05 13:42
S54	30	stefik.in. and (more SAME restrict\$)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2004/11/05 13:43

S55	0	stefik.in. and (least SAME restrict\$)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2004/11/05 13:43
S59	33	stefik.in. and (more SAME restrict\$)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/03/08 13:37
S60	1	S59 and watermark	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/04/05 13:53
S61	7	stefik.in. and watermark	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/03/08 13:37
S62	37	stefik.in. and delete	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/03/20 14:03



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

NOTICE OF ALLOWANCE AND FEE(S) DUE

22204 7590 05/06/2005
NIXON PEABODY, LLP
401 9TH STREET, NW
SUITE 900
WASHINGTON, DC 20004-2128

EXAMINER

REAGAN, JAMES A

ART UNIT

PAPER NUMBER

3621

DATE MAILED: 05/06/2005

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/345,390	01/16/2003	Mark J. Stefik	111325-151	2180

TITLE OF INVENTION: CONTENT RENDERING REPOSITORY

APPLN. TYPE	SMALL ENTITY	ISSUE FEE	PUBLICATION FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1400	\$300	\$1700	08/08/2005

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. **PROSECUTION ON THE MERITS IS CLOSED.** THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN **THREE MONTHS** FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. **THIS STATUTORY PERIOD CANNOT BE EXTENDED.** SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE REFLECTS A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE APPLIED IN THIS APPLICATION. THE PTOL-85B (OR AN EQUIVALENT) MUST BE RETURNED WITHIN THIS PERIOD EVEN IF NO FEE IS DUE OR THE APPLICATION WILL BE REGARDED AS ABANDONED.

HOW TO REPLY TO THIS NOTICE:

Review the SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

A. If the status is the same, pay the TOTAL FEE(S) DUE shown above.

B. If the status above is to be removed, check box 5b on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above, or

If the SMALL ENTITY is shown as NO:

A. Pay TOTAL FEE(S) DUE shown above, or

B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check box 5a on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and 1/2 the ISSUE FEE shown above.

II. PART B - FEE(S) TRANSMITTAL should be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). Even if the fee(s) have already been paid, Part B - Fee(s) Transmittal should be completed and returned. If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), to: **Mail**

**Mail Stop ISSUE FEE
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450
or Fax (703) 746-4000**

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

22204 7590 05/06/2005

**NIXON PEABODY, LLP
401 9TH STREET, NW
SUITE 900
WASHINGTON, DC 20004-2128**

Certificate of Mailing or Transmission

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (703) 746-4000, on the date indicated below.

	(Depositor's name)
	(Signature)
	(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/345,390	01/16/2003	Mark J. Stefik	111325-151	2180

TITLE OF INVENTION: CONTENT RENDERING REPOSITORY

APPLN. TYPE	SMALL ENTITY	ISSUE FEE	PUBLICATION FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1400	\$300	\$1700	08/08/2005

EXAMINER	ART UNIT	CLASS-SUBCLASS
REAGAN, JAMES A	3621	705-051000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

- ☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.
- ☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. Use of a Customer Number is required.

2. For printing on the patent front page, list

- (1) the names of up to 3 registered patent attorneys or agents OR, alternatively,
- (2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.

1 _____

2 _____

3 _____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE

(B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent): ☐ Individual ☐ Corporation or other private group entity ☐ Government

4a. The following fee(s) are enclosed:

- ☐ Issue Fee
- ☐ Publication Fee (No small entity discount permitted)
- ☐ Advance Order - # of Copies _____

4b. Payment of Fee(s):

- ☐ A check in the amount of the fee(s) is enclosed.
- ☐ Payment by credit card. Form PTO-2038 is attached.
- ☐ The Director is hereby authorized by charge the required fee(s), or credit any overpayment, to Deposit Account Number _____ (enclose an extra copy of this form).

Change in Entity Status (from status indicated above)

- ☐ a. Applicant claims SMALL ENTITY status. See 37 CFR 1.27. ☐ b. Applicant is no longer claiming SMALL ENTITY status. See 37 CFR 1.27(g)(2).

The Director of the USPTO is requested to apply the Issue Fee and Publication Fee (if any) or to re-apply any previously paid issue fee to the application identified above. NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

Authorized Signature _____

Date _____

Typed or printed name _____

Registration No. _____

This collection of information is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/345,390	01/16/2003	Mark J. Stefik	111325-151	2180

22204 7590 05/06/2005
NIXON PEABODY, LLP
401 9TH STREET, NW
SUITE 900
WASHINGTON, DC 20004-2128

EXAMINER	
REAGAN, JAMES A	
ART UNIT	PAPER NUMBER
3621	

DATE MAILED: 05/06/2005

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b) (application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 56 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 56 day(s).

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (<http://pair.uspto.gov>).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571) 272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at (703) 305-8283.

Notice of Allowability

Application No.

10/345,390

Applicant(s)

STEFIK ET AL.

Examiner

James A. Reagan

Art Unit

3621

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 08 March 2005.
2. ☒ The allowed claim(s) is/are 1,2 and 4-85.
3. ☒ The drawings filed on 20 June 2003 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
 - * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).**
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

DETAILED ACTION

Status of claims

1. This allowance is in reply to the amendment received on 08 March 2005.
2. Claim 3 has been cancelled.
3. Claims 1, 5, and 26 have been amended.
4. Claims 29-85 have been added.
5. Claims 1, 2, and 4-85 are currently pending and have been examined.

Allowable Subject Matter

6. Claims 1, 2, and 4-85 are allowed. See Reasons for Allowance under separate heading.

Reasons For Allowance

7. The following is an examiner's statement of reason for allowance:

The closest prior art of record is U.S. Patent No. 5,260,999 to Robert M. Wyman. Wyman provides a method and system to manage a license policy for using a digital product based on licensed terms, conditions, and authorization. Moskowitz discloses a method and system to act as a conduit through which users and perform digital transactions. This system can be used to track and bill usage of digital products.

With regard to independent claims 1, 30, and 59, the closest prior art of record when taken either individually or in combination with other prior art of record fails to teach or suggest:

- *a distributed repository coupled to said rendering device and including a requester mode of operation and server mode of operation;*
- *the server mode of operation is operative to enforce usage rights associated with the content and permit the rendering device to render the content in accordance with a manner of use specified by the usage rights;*
- *the requester mode of operation is operative to request access to content from another distributed repository and*
- *said distributed repository is operative to receive a request to render the content and permit the content to be rendered only if a manner of use specified in the request corresponds to a manner of use specified in the usage rights.*

Specifically, in the present invention of the Applicant, a user can determine the extent of usage rights, such as, for example, how many copies can be rendered, how long a song can be played, or how often a document may be edited, as opposed to the prior art of record, which simply allows a user to use a file or not use a file without disclosing the extent to which the file may be employed. In addition, the repository acts in conjunction with the distribution network in one of two modes, either as a server that provides protected digital works to authorized users or as a requester, which seeks protected digital works to authorized users.

Dependent claims 2, 4-29, 31-58, and 60-85 are dependent upon claims 1, 30, and 59 and thus have all the limitations of claims 1, 30, and 59 and are allowable for that reason.

Any comments considered necessary by the applicant must be submitted no later than the payment of the issues fee and, to avoid processing delays, should preferably accompany the issue fee. Such submission should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

1. Rule Generation Device For Utilizing A Software Component by Mihoko Kishi and Koichi Kachi, 30 March 1990, discloses "...automatically formulating, by using formal language...restriction script texts."
2. Fabbio (US 5,335,346 A) discloses a system and method that provides an access control list that spans across object boundaries in an object-oriented database. In addition to providing read and write access permissions, the access control list provides execute semantics which apply to the execution of methods in an object oriented database. Within the entries of the access control lists, each of the permissions for read, write, and execute can be assigned separately to each of a number of ids representing user ids or group ids. Upon request for access to the data by the user, the user id of the user and the group ids for which the user is a member are searched for within the entries to determine whether the user has the privileges to perform the operation requested against the objects. In addition, the access control policies are inherited from an object's superobject; resulting in a least privilege for the object (abstract).
3. Hinsley et al. (US 5,295,266 A) discloses user roles a system has an associated user privilege set indicating the privileges granted to that role that may be selectively enabled or disabled by that role (column 2, lines 25-27).
4. Corbin (US 5,138,712 A) discloses a software application that provides verification and license check out functions that are normally performed by a license server of a network software license system. The encrypted license information is contained in a license token, and is sorted in the database controlled by the license server (abstract).
5. Weber (Digital Rights Management Technologies) discusses the general purpose and guiding framework with regard to DRM.

Application/Control Number:
10/345,390
Art Unit: 3621

Page 5

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **James A. Reagan** whose telephone number is **(703) 306-9131**. The examiner can normally be reached on Monday-Friday, 9:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **James Trammell** can be reached at (703) 305-9768.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the **Receptionist** whose telephone number is **(703) 305-3900**. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://portal.uspto.gov/external/portal/pair> . Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 305-7687 [Official communications; including

After Final communications labeled "Box AF"]

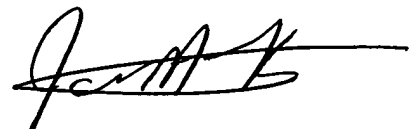
(703) 308-1396 [Informal/Draft communications, labeled "PROPOSED"

or "DRAFT"]

Hand delivered responses should be brought to Crystal Park 5, 2451 Crystal Drive, Arlington, VA, 7th floor receptionist.

JAR

05 April 2005



Notice of References Cited	Application/Control No. 10/345,390	Applicant(s)/Patent Under Reexamination STEFIK ET AL.	
	Examiner James A. Reagan	Art Unit 3621	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
	A	US-5,138,712 A	08-1992	Corbin, John R.	713/200
	B	US-5,295,266 A	03-1994	Hinsley et al.	718/101
	C	US-5,335,346 A	08-1994	Fabbio, Robert A.	711/163
	D	US-			
	E	US-			
	F	US-			
	G	US-			
	H	US-			
	I	US-			
	J	US-			
	K	US-			
	L	US-			
	M	US-			

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N	H03-282733	03-1990	JAPAN	KISHI	G06F 9/06
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	Weber, Robert. Digital Rights Management Technologies. October 1995. Retrieved from IDS.
	V	
	W	
	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

PTO 04-3950

Japanese Patent

Document No. H03-282733

RULE GENERATION DEVICE FOR UTILIZING A SOFTWARE COMPONENT

[Sofutowea Buhin Riyo Ruru Seisei Sochi]

Mihoko Kishi and Koichi Kachi

English Title

UNITED STATES PATENT AND TRADEMARK OFFICE

Washington, D.C.

June 2004

Translated by: Schreiber Translations, Inc.

Country : Japan

Document No. : H03-282733

Document Type : Kokai

Language : Japanese

Inventor : Mihoko Kishi and Koichi Kachi

Applicant : Toshiba Corp.

IPC : G 06 F 9/06

Application Date : December 12, 1991

Publication Date : March 30, 1990

Foreign Language Title : Sofutowea Buhin Riyo Ruru Seisei
Sochi

English Title : RULE GENERATION DEVICE FOR
UTILIZING A SOFTWARE COMPONENT

Specification

1. Title of the invention

Rule generation device for utilizing a software component

2. Patent Claim

A rule generation device for utilizing a software component characterized by the possession of

A component packaging mechanism designed to collect & package software components provided, in relation to the respective targets handled in a given field, for operating said targets,

An inter-component utility restriction scripting mechanism designed to script restrictions on the joint utilities of multiple software components within each component package generated by said component packaging mechanism,

An inter-package relationship definition mechanism designed to define the relationships among the respective component packages generated by the aforementioned component packaging mechanism, and

An inter-component utility restriction fusion mechanism designed to extract, from the script texts of the restrictions on the joint utilities of multiple software components within each component package scripted by the aforementioned inter-component utility restriction scripting mechanism, script portions on the software components actually utilized for program formulation and

¹ Numbers in the margin indicate pagination in the foreign text.

to generate, by fusing these script portions based on the relationships among the respective component packages defined by the aforementioned inter-package relationship definition mechanism, a restriction script text on the joint utilities of multiple software components actually utilized for the aforementioned program formulation.

3. Detailed explanation of the invention

(Objective of the invention)

(Industrial application fields)

The present invention concerns a rule generation device for generating a rule for generating a program, utilizing a software component, which is used for verifying a program formulated by coupling software components.

(Prior art)

A program formulated in the prior art by coupling software components is verified based on any of the following methods:

<1>: After a program has been formulated by synthesizing components, it is verified in compliance with test specifications according to procedures comparable to those for verifying a program formulated by an ordinary method without recourse to component synthesis;

<2>: After a program has been formulated by synthesizing components, whether or not restrictive conditions on component utility are being satisfied is checked; /2

<3>: Restrictive conditions among the respective components are preliminarily defined, and whether or not such restrictive conditions are being satisfied by a given component is checked on an occasion for utilizing said component.

The respective methods listed above, however, are plagued with the following problems.

Despite the fact that a program has been formulated by means of component synthesis according to the method of <1>, the advantage of this history cannot be inherited by the test. In other words, despite the guaranteed reliability of each component, it is necessary to formulate, in a redundant manner, test specifications comparable to those of a program formulated without recourse to component synthesis.

The method of <2> is a test method that exploits the advantage of the component synthesis, for only the combination of components with guaranteed qualities needs to be checked, although it is difficult to automate the test in that it is cumbersome to formally script the entire relationships among large numbers of components.

The method of <3> is advantageous in the sense that a program with a high reliability can be formulated since the component synthesis is perpetually checked, although it is difficult to automate the test, as in the method of <2>.

(Problems to be solved by the invention)

Thus, it has been difficult to automate operations of the prior art for verifying programs formulated by means of component synthesis due to the cumbersomeness of formally scripting restrictions on the utilities among the entire components.

The objective of the present invention, which has been conceived for solving these problems, is to provide a rule generation device for utilizing a software component capable of automating program verifying operations.

(Constitution of the invention)

(Mechanism for solving the problems)

The rule generation device of the present invention for utilizing a software component possesses, for the purpose of achieving the aforementioned objective, a component packaging mechanism designed to collect & package software components provided, in relation to the respective targets handled in a given field, for operating said targets, an inter-component utility restriction scripting mechanism designed to script restrictions on the joint utilities of multiple software components within each component package generated by said component packaging mechanism, an inter-package relationship definition mechanism designed to define the relationships among the respective component packages generated by the aforementioned component packaging mechanism, and

an inter-component utility restriction fusion mechanism designed to extract, from the script texts of the restrictions on the joint utilities of multiple software components within each component package scripted by the aforementioned inter-component utility restriction scripting mechanism, script portions on the software components actually utilized for program formulation and to generate, by fusing these script portions based on the relationships among the respective component packages defined by the aforementioned inter-package relationship definition mechanism, a restriction script text on the joint utilities of multiple software components actually utilized for the aforementioned program formulation.

(Functions)

As far as the rule generation device of the present invention for utilizing a software component is concerned, software components for operating targets handled in a given field are collected & packaged by the component packaging mechanism in relation to the respective targets, whereas the relationships among the respective component packages are defined by the inter-package relationship definition mechanism, whereas restrictions on the joint utilities of multiple software components within each component package are scripted by the inter-component utility restriction scripting mechanism. The inter-component utility restriction fusion mechanism, furthermore, extracts, from the script texts of the restrictions on the joint utilities of

multiple software components within each component package scripted by the inter-component utility restriction scripting mechanism, script portions on the software components actually utilized for program formulation and generates, by fusing these script portions based on the relationships among the respective component packages defined by the inter-package relationship definition mechanism, a restriction script text on the joint utilities of multiple software components actually utilized for the aforementioned program formulation.

According to the present invention, therefore, it becomes possible to automatically formulate, by using a formal language, the restriction script texts on the joint utilities of multiple software components utilized for the aforementioned program formulation and, as a result, to automate the program verifying operation.

(Application examples)

In the following, an application example of the present invention will be explained with reference to figures.

Figure 1 is a block diagram provided for explaining the constitution of an application example of the rule generation device of the present invention for utilizing a software component.

/3

In the same figure, (1) is a component packaging unit which collects & packages software components (hereafter referred to simply as "components") used for operating data that define

targets handled in a given field (i.e., application program) in relation to the respective targets.

(2) is an inter-component utility restriction scripting unit which scripts, by using a formal language, restrictions on the joint utilities of multiple components within each component package generated by the component packaging unit (1).

(3) is an inter-package relationship definition unit which defines the relationships among the respective component packages generated by the component packaging unit (1) [e.g., parent-offspring (is-a) relationship, etc.]. It should be noted that the relationships among targets hereby serve as the relationships among targets as they are.

(4) is an inter-component utility restriction fusion unit which extracts, from the script texts of the restrictions on the joint utilities of multiple software components within each component package scripted by the inter-component utility restriction scripting unit (2), script portions on the software components actually utilized for program formulation and generates, by fusing these script portions based on the relationships among the respective component packages defined by the inter-package relationship definition unit (3), a restriction script text on the joint utilities of multiple software components actually utilized for the aforementioned program formulation.

Next, the actions of the rule generation device for utilizing a software component characterized by the foregoing constitution

will be explained with reference mainly to Figure 2 as well as to Figures 3 through 7.

First, the component packaging unit (1) extracts targets handled in a given field, whereas the relationships among the respective component packages are defined by the inter-package relationship definition unit (3) (step a). Figure 3 shows examples of such relationships among the respective packages (relationships of targets handled by a window system).

Subsequently, the component packaging unit (1) formulates a component package by collecting components for operating each target (step b). Figure 4 shows a component package for operating an "I/O sub-window," which represents one of such targets.

Next; the inter-component utility restriction scripting unit (2) scripts, by using a formal language, restrictions on the joint utilities of multiple components within each package (step c) and then stores them within a database (step d).

The corresponding example is shown in Figures 5 and 6.

Figure 5 shows a restriction script text on the joint utilities of multiple components within the "main window" package. The following are expressed by this text:

"In order to utilize a component within this package, it is necessary to use 'window-create,' namely a component for securing a main window, in the first place";

"In a case where a component within this package is used, it is necessary to use 'window-destroy,' namely a component for releasing the main window region, at the end."

Figure 6, furthermore, shows a restriction script text on the joint utilities of multiple components within the "I/O sub-window" package.

The following are expressed by this text:

"In order to utilize a component within this package, it is necessary to use 'io-open,' namely a component for opening the I/O sub-window, in the first place";

"In a case where a component within this package is used, it is necessary to use 'io-close,' namely a component for closing the I/O sub-window, at the end."

Subsequently, the inter-component utility restriction fusion unit (4) proceeds, upon the reception of a list of utilized components from the program formulator, to extract, from the script texts of the restrictions on the joint utilities of multiple software components within each component package scripted by the inter-component utility restriction scripting unit (2), script portions on the utilized components mentioned in the list (step e), to judge the relationships among the component packages inclusive of said utilized components (step f), to fuse the extracted restriction script texts based on the ascertained relationships among the component packages (step g), and to formulate a restriction script text on the joint uses of the utilized components (component utility rules) (step g).

Figure 7 shows an example of restriction script text formulated by this inter-component utility restriction fusion unit (4) (component utility rules).

The following is expressed by this text:

"The components must be used in the prescribed order, although another component(s) may intervene in-between." /4

Thus, the rule generation device of this application example for utilizing a software component is capable of automatically formulating restriction script texts on multiple components utilized jointly for the formulation of a program, and in a case where such texts are used as test specifications, it becomes possible to automate the program verifying operation.

In a case where the present device is integrated with a component synthesizing system, furthermore, the component synthesis can be executed in a concomitantly verified state, and it becomes possible to formulate a program with a high reliability in a highly efficient manner.

Fig. 10

(Effects of the invention)

As the foregoing explanations have demonstrated, the rule generation device of the present invention for utilizing a software component is capable of automatically formulating, by using a formal language, restriction script texts on the joint utilities of multiple software components utilized for the aforementioned program formulation, as a result of which it becomes possible to automate the program verifying operation.

4. Brief explanation of the figures

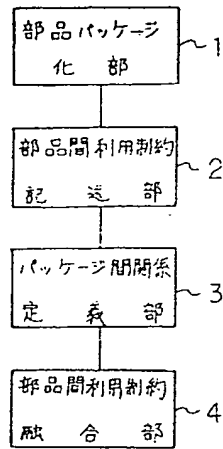
Figure 1 is a block diagram provided for explaining the constitution of an application example of the rule generation device of the present invention for utilizing a software component. Figure 2 is a flow chart provided for explaining the actions of the rule generation device for utilizing a software component shown in Figure 1, whereas Figure 3 is a diagram which shows the relationships among the respective packages, whereas Figure 4 is a diagram which shows an example of package, whereas Figures 5 and 6 are each diagrams which show examples of restriction script texts on joint utilities of multiple components within a package, whereas Figure 7 is a diagram which shows an example of component utility rules generated by the rule-generation device for utilizing a software component shown in Figure 1.

(1): Component packaging unit; (2): Inter-component utility restriction scripting unit; (3): Inter-package relationship definition unit; (4): Inter-component utility restriction fusion unit.

Applicant: Toshiba Corp.

Agent: Saichi Suyama, patent attorney

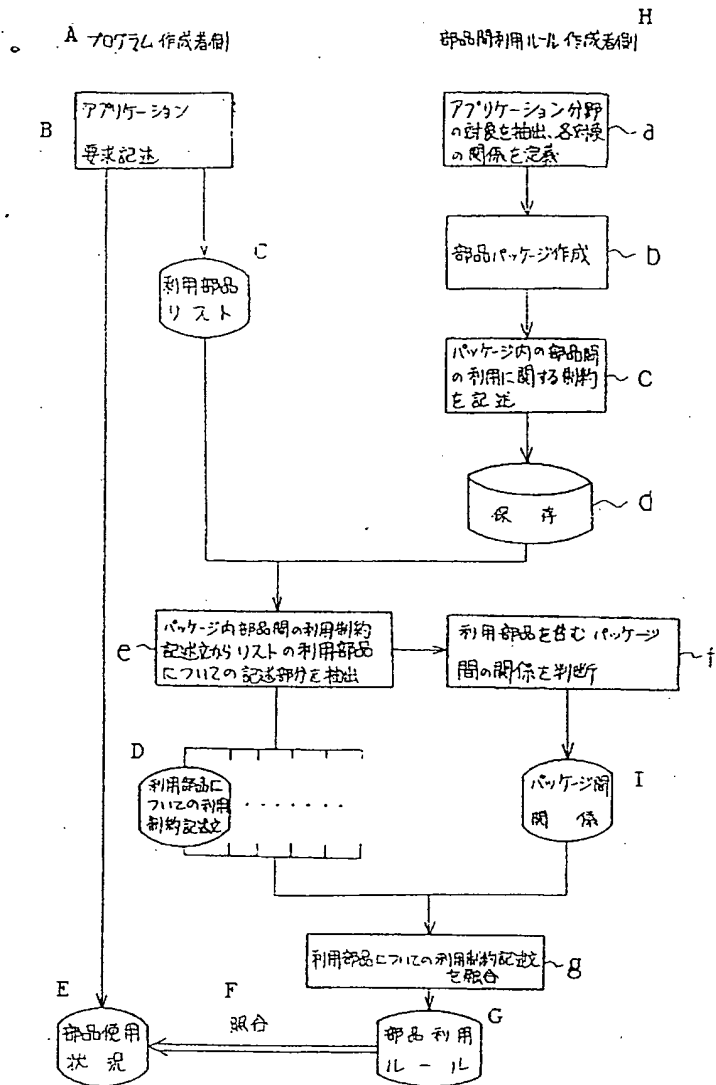
Figure 1



[(1): Component packaging unit; (2): Inter-component utility restriction scripting unit; (3): Inter-package relationship definition unit; (4): Inter-component utility restriction fusion unit]

Figure 2

/5

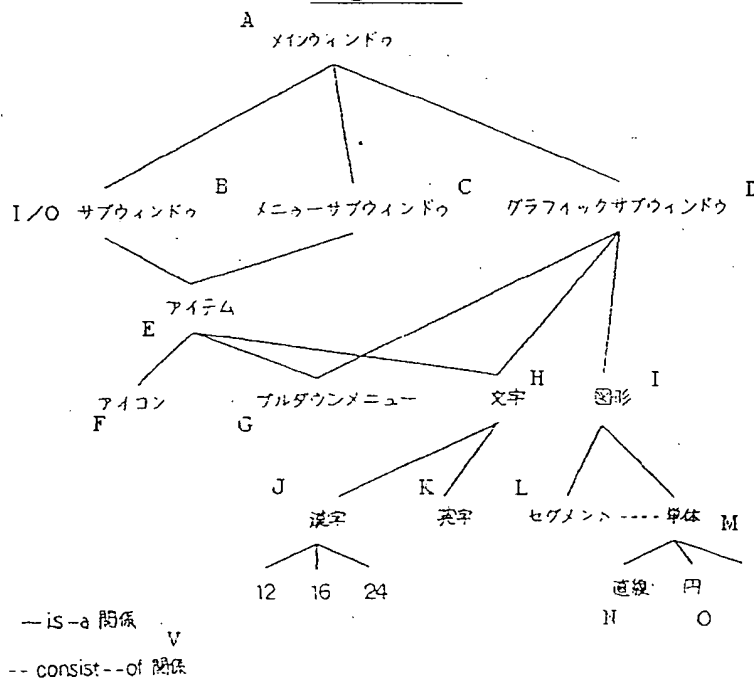


第 2 図

[(A): Program formulator side; (B): Application request script; (C): Utilized component list; (D): Utility restriction script text on utilized components; (E): Component utility state; (F): Matching; (G): Component utility rule; (a): Extraction of targets within an application field & definition of relationships among

the respective targets; (b): Component package formulation; (c): Script on restrictions on joint utilities of multiple components within a package; (d): Storage; (e): Extraction, from the script texts of the restrictions on the joint utilities of multiple software components within each component package, script portions on the utilized components mentioned in the list; (f): Judgment of relationships among packages inclusive of utilized components; (g): Fusion of utility restriction script texts on the utilized components]

Figure 3



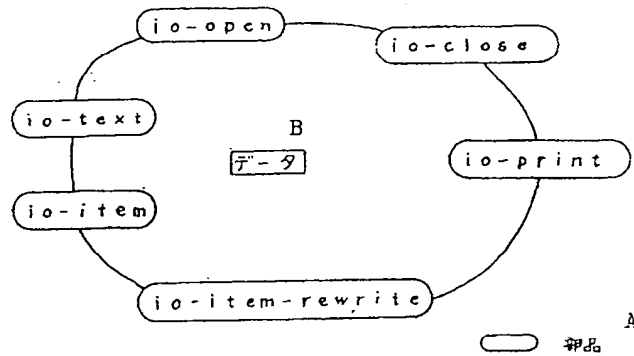
第 3 図

[(A): Main window; (B): I/O sub-window; (C): Menu sub-window; (D): Graphic sub-window; (E): Item; (F): Icon; (G): Pull-down menu;

(H): Characters; (I): Patterns; (J): Kanji characters; (K): European characters; (L): Segment; (M): Singular entity; (N): Line; (O): Circle; (V): Relationship]

Figure 4

/4



第 4 図

[(A): Component; (B): Data]

Figure 5

INIT: window-create
END: window-destroy

第 5 図

Figure 6

INIT: io-open
END: io-close

第 6 図

Figure 7

order:window_create,io_open,io_close,window_destroy

第 7 圖

**This Page is Inserted by IFW Indexing and Scanning
Operations and is not part of the Official Record**

BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images include but are not limited to the items checked:

- ☐ **BLACK BORDERS**
- ☐ **IMAGE CUT OFF AT TOP, BOTTOM OR SIDES**
- ☐ **FADED TEXT OR DRAWING**
- ☐ **BLURRED OR ILLEGIBLE TEXT OR DRAWING**
- ☐ **SKEWED/SLANTED IMAGES**
- ☐ **COLOR OR BLACK AND WHITE PHOTOGRAPHS**
- ☐ **GRAY SCALE DOCUMENTS**
- ☐ **LINES OR MARKS ON ORIGINAL DOCUMENT**
- ☒ **REFERENCE(S) OR EXHIBIT(S) SUBMITTED ARE POOR QUALITY**
- ☐ **OTHER:** _____

IMAGES ARE BEST AVAILABLE COPY.

As rescanning these documents will not correct the image problems checked, please do not report these problems to the IFW Image Problem Mailbox.

Issue Classification 	Application No.		Applicant(s)	
	10/345,390		STEFIK ET AL.	
	Examiner		Art Unit	
	James A. Reagan		3621	

ISSUE CLASSIFICATION												
ORIGINAL					CROSS REFERENCE(S)							
CLASS		SUBCLASS			CLASS	SUBCLASS (ONE SUBCLASS PER BLOCK)						
705		51			705	52	53	54	55	56	57	58
INTERNATIONAL CLASSIFICATION					705	59	50					
G	0	6	F	17/60	380	201						
				/	707	9	104.1					
				/	713	182	183	184	185	186		
				/								
				/								

JAMES A REAGAN 05 APRIL 05 (Assistant Examiner) (Date)		 JAMES A REAGAN 05 APRIL 05 (Primary Examiner) (Date)	Total Claims Allowed: 84	
 4/29/05 (Legal Instruments Examiner) (Date)			O.G. Print Claim(s) 1	O.G. Print Fig. 1

☐ Claims renumbered in the same order as presented by applicant										☐ CPA		☐ T.D.		☐ R.1.47	
Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original
1	1	30	31	60	61		91		121		151		181		
2	2	31	32	67	62		92		122		152		182		
	3	37	33	61	63		93		123		153		183		
3	4	32	34	62	64		94		124		154		184		
10	5	33	35	63	65		95		125		155		185		
4	6	34	36	64	66		96		126		156		186		
5	7	35	37	65	67		97		127		157		187		
6	8	36	38	68	68		98		128		158		188		
7	9	39	39	69	69		99		129		159		189		
8	10	40	40	70	70		100		130		160		190		
12	11	41	41	71	71		101		131		161		191		
13	12	42	42	72	72		102		132		162		192		
14	13	43	43	73	73		103		133		163		193		
15	14	44	44	74	74		104		134		164		194		
16	15	45	45	75	75		105		135		165		195		
17	16	46	46	76	76		106		136		166		196		
18	17	47	47	77	77		107		137		167		197		
19	18	48	48	78	78		108		138		168		198		
20	19	49	49	79	79		109		139		169		199		
21	20	50	50	81	80		110		140		170		200		
22	21	51	51	82	81		111		141		171		201		
23	22	52	52	80	82		112		142		172		202		
24	23	53	53	83	83		113		143		173		203		
25	24	54	54	66	84		114		144		174		204		
26	25	55	55	84	85		115		145		175		205		
27	26	38	56		86		116		146		176		206		
9	27	56	57		87		117		147		177		207		
11	28	57	58		88		118		148		178		208		
28	29	58	59		89		119		149		179		209		
29	30	59	60		90		120		150		180		210		

Search Notes

Application No.

10/345,390

Examiner

James A. Reagan

Applicant(s)

STEFIK ET AL.

Art Unit

3621

SEARCHED

Class	Subclass	Date	Examiner
705	50-59	3/28/2005	JAR
380	201	3/28/2005	JAR
707	9, 104.1	3/28/2005	JAR
713	182-186	3/28/2005	JAR

INTERFERENCE SEARCHED

Class	Subclass	Date	Examiner
705	50-59	3/28/2005	JAR
380	201	3/28/2005	JAR
707	9, 104.1	3/28/2005	JAR
713/182-186		3/28/2005	JAR

**SEARCH NOTES
(INCLUDING SEARCH STRATEGY)**

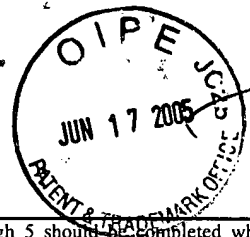
	DATE	EXMR
Updated East	4/5/2005	JAR
Updated Dialog	4/5/2005	JAR
STIC	3/28/2005	JAR
PLUS	3/23/2005	JAR

ART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), to: **Mail**

**Mail Stop ISSUE FEE
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450
(703) 746-4000**

or **Fax**



INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

22204 7590 05/06/2005

**NIXON PEABODY, LLP
401 9TH STREET, NW
SUITE 900
WASHINGTON, DC 20004-2128**

06/20/2005 YPOLITE2 00000081 192380 10345390

01 FC:1501 1400.00 DA
02 FC:1504 300.00 DA
03 FC:8001 30.00 DA

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

Certificate of Mailing or Transmission

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (703) 746-4000, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/345,390	01/16/2003	Mark J. Stefik	111325-151	2180

TITLE OF INVENTION: CONTENT RENDERING REPOSITORY

APPLN. TYPE	SMALL ENTITY	ISSUE FEE	PUBLICATION FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1400	\$300	\$1700	08/08/2005
EXAMINER	ART UNIT	CLASS-SUBCLASS			
REAGAN, JAMES A	3621	705-051000			

Change of correspondence address or indication of "Fee Address" (37 FR 1.363).
☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.
☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. Use of a Customer Number is required.

2. For printing on the patent front page, list
 (1) the names of up to 3 registered patent attorneys or agents OR, alternatively,
 (2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.

1 Marc S. Kaufman
 2 Nixon Peabody, LLP
 3 _____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE

(B) RESIDENCE: (CITY and STATE OR COUNTRY)

ContentGuard Holdings, Inc. Wilmington, Delaware

Please check the appropriate assignee category or categories (will not be printed on the patent): ☐ Individual ☒ Corporation or other private group entity ☐ Government

4a. The following fee(s) are enclosed:

☒ Issue Fee
☒ Publication Fee (No small entity discount permitted)
☒ Advance Order - # of Copies 10

4b. Payment of Fee(s):

☐ A check in the amount of the fee(s) is enclosed.
☐ Payment by credit card. Form PTO-2038 is attached.
☒ The Director is hereby authorized by charge the required fee(s), or credit any overpayment, to Deposit Account Number 19-2380 (enclose an extra copy of this form).

Change in Entity Status (from status indicated above)

☐ a. Applicant claims SMALL ENTITY status. See 37 CFR 1.27. ☐ b. Applicant is no longer claiming SMALL ENTITY status. See 37 CFR 1.27(g)(2).

The Director of the USPTO is requested to apply the Issue Fee and Publication Fee (if any) or to re-apply any previously paid issue fee to the application identified above.

NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

Authorized Signature _____

Date 6-17-05

Typed or printed name Marc S. Kaufman

Registration No. 35,212

This collection of information is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

FEE TRANSMITTAL FOR FY 2005

Patent fees are subject to annual revision.

☐ Applicant claims small entity status. See 37 CFR 1.27

TOTAL AMOUNT OF PAYMENT **\$1,730.00**

Complete if Known

Application Number 10,345,390
Filing Date January 16, 2003
First Named Inventor Mark J. STEFIK, et al.
Examiner Name James A. Reagan
Art Unit 3621
Attorney Docket No. 111325-151 (021500)
Confirmation No. 2180



METHOD OF PAYMENT (check all that apply)

☐ Check ☐ Credit Card ☐ Money Order ☐ Other ☐ None

☒ Deposit Account:

Deposit Account Number

19-2380

Deposit Account Name

Nixon Peabody LLP

The Commissioner is authorized to: (check all that apply)

☒ Charge fee(s) indicated below ☒ Credit any overpayments

☒ Charge any additional fee(s)

☐ Charge fee(s) indicated below, except for the filing fee to the above-identified deposit account.

FEE CALCULATION

1. BASIC FILING FEE

Large Entity Fee Code	Large Entity Fee (\$)	Small Entity Fee Code	Small Entity Fee (\$)	Fee Description	Fee Paid
1001	300	2001	150	Utility filing fee	
1002	200	2002	100	Design filing fee	
1003	200	2003	100	Plant filing fee	
1004	300	2004	150	Reissue filing fee	
1005	200	2005	100	Provisional filing fee	

SUBTOTAL (1) (\$ 0)

2. EXTRA CLAIM FEES FOR UTILITY AND REISSUE

Total Claims	Extra Claims	Fee from below	Fee Paid
-20** =	X		0
Independent Claims -3** =	X		0
Multiple Dependent	X		0

Large Entity Fee Code	Large Entity Fee (\$)	Small Entity Fee Code	Small Entity Fee (\$)	Fee Description
1202	50	2202	25	Claims in excess of 20
1201	200	2201	100	Independent claims in excess of 3
1203	360	2203	180	Multiple dependent claim, if not paid
1204	200	2204	100	** Reissue independent claims over original patent
1205	50	2205	25	** Reissue claims in excess of 20 and over original patent

SUBTOTAL (2) (\$ 0)

**or number previously paid, if greater; For Reissues, see above

FEE CALCULATION (continued)

3. ADDITIONAL FEES

Large Entity Fee Code	Large Entity Fee (\$)	Small Entity Fee Code	Small Entity Fee (\$)	Fee Description
1051	130	2051	65	Surcharge - late filing fee or oath
1052	50	2052	25	Surcharge - late provisional filing fee or cover sheet
1053	130	1053	130	Non-English specification
1812	2,520	1812	2,520	For filing a request for ex parte reexamination
1804	920*	1804	920*	Requesting publication of SIR prior to Examiner action
1805	1,840*	1805	1,840*	Requesting publication of SIR after Examiner action
1251	120	2251	60	Extension for reply within first month
1252	450	2252	225	Extension for reply within second month
1253	1,020	2253	510	Extension for reply within third month
1254	1,590	2254	795	Extension for reply within fourth month
1255	2,160	2255	1,080	Extension for reply within fifth month
1401	500	2401	250	Notice of Appeal
1402	500	2402	250	Filing a brief in support of an appeal
1403	1,000	2403	500	Request for oral hearing
1451	1,510	1451	1,510	Petition to institute a public use proceeding
1452	500	2452	250	Petition to revive - unavoidable
1453	1,500	2453	750	Petition to revive - unintentional
1501	1,400	2501	700	Utility issue fee (or reissue)
1502	800	2502	400	Design issue fee
1503	1,100	2503	550	Plant issue fee
1460	130	1460	130	Petitions to the Commissioner
1807	50	1807	50	Processing fee under 37 CFR 1.17(q)
1806	180	1806	180	Submission of Information Disclosure Stmt
8021	40	8021	40	Recording each patent assignment per property (times number of properties)
1809	790	2809	395	Filing a submission after final rejection (37 CFR 1.129(a))
1810	790	2810	395	For each additional invention to be examined (37 CFR 1.129(b))
1801	790	2801	395	Request for Continued Examination (RCE)
1802	900	1802	900	Request for expedited examination of a design application

Other fee (specify) 10 Advance Copies

Publication Fee

*Reduced by Basic Filing Fee Paid

SUBTOTAL (3) **\$1,730.00**

CERTIFICATE OF MAILING OR TRANSMISSION [37 CFR 1.8(a)]

I hereby certify that this correspondence is being:

- ☐ deposited with the United States Postal Service on the date shown below with sufficient postage as first class mail in an envelope addressed to: Mail Stop _____, Commissioner for Patents, P. O. Box 1450, Alexandria, VA 22313-1450
- ☐ transmitted by facsimile on the date shown below to the United States Patent and Trademark Office at (703) _____

Date

Signature

Typed or printed name

SUBMITTED BY

Name (Print/Type)

Marc S. Kaufman

Signature

[Signature]

Registration No. (Attorney/Agent)

35,212

Complete (if applicable)

Telephone

(202) 585-8000

Date

6-17-05

SEND TO: Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

● PRINTER RUSH ●

(PTO ASSISTANCE)

Application : <u>10/345,390</u>	Examiner : <u>J. REGAN</u>	GAU : <u>3621</u>
From: <u>L. MITCHELL</u>	Location: <u>(IDC) FMF FDC</u>	Date: <u>7/20/05</u>
Tracking #: <u>6113946</u>		Week Date: <u>6/6/05</u>

DOC CODE	DOC DATE	MISCELLANEOUS
☐ 1449		☐ Continuing Data
☒ IDS	<u>3/8/2005</u>	☐ Foreign Priority
☐ CLM		☐ Document Legibility
☐ IIFW		☐ Fees
☐ SRFW		☐ Other
☐ DRW		
☐ OATH		
☐ 312		
☐ SPEC		

[RUSH] MESSAGE: PLEASE INITIAL / LINE THROUGH CITATIONS (10 PAGES)

THANK YOU
REM

[XRUSH] RESPONSE: _____

INITIALS: _____

NOTE: This form will be included as part of the official USPTO record, with the Response document coded as XRUSH.
REV 10/04

PRINTER RUSH
(PTO ASSISTANCE)

Application : <u>10/345,390</u>	Examiner : <u>J. RENGAN</u>	GAU : <u>3621</u>	
From : <u>R. MITCHELL</u>	Location : <u>(IDC) FMF FDC</u>	Date : <u>7/20/05</u>	
Tracking # : <u>6113946</u>		Week Date : <u>6/6/05</u>	

DOC CODE	DOC DATE	MISCELLANEOUS
☐ 1449		☐ Continuing Data
☒ IDS	<u>3/8/2005</u>	☐ Foreign Priority
☐ CLM		☐ Document Legibility
☐ IIFW		☐ Fees
☐ SRFW		☐ Other
☐ DRW		
☐ OATH		
☐ 312		
☐ SPEC		

[RUSH] MESSAGE: PLEASE INITIAL / LINE THROUGH CITATIONS (10 PAGES)

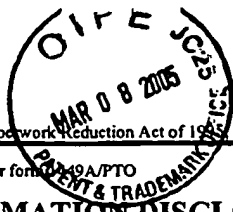
THANK YOU
REM

[XRUSH] RESPONSE: _____

IDS (3/8/05) has been initialed and is attached

INITIALS: MR

NOTE: This form will be included as part of the official USPTO record, with the Response document coded as XRUSH.
REV 10/04

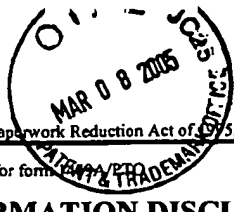


Substitute for form PTO/A/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)				Complete if Known			
Sheet	1	of	10	Application Number	10/345,390		
				Filing Date	January 16, 2003		
				First Named Inventor	Mark J. STEFIK, et al.		
				Art Unit	3621		
				Examiner Name	James A. Reagan		
				Attorney Docket Number	111325-151 (021500)		
U.S. PATENT DOCUMENTS							
Examiner Initials ¹	Cite No. ¹	U.S. Patent Document		Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	
		Number - Kind Code ² (if known)					
JHR		US-3,263,158		07/26/1966	D.W. Barga et al.		
		US-3,609,697		09/28/1971	Blevins et al.		
		US-3,790,700		02/05/1974	Callais et al.		
		US-3,798,605		03/19/1974	Feistel		
		US-4,159,468		06/26/1979	Barnes et al.		
		US-4,220,991		09/02/1980	Hamano et al.		
		US-4,278,837		07/14/1981	Best		
		US-4,323,921		04/06/1982	Guillou		
		US-4,442,486		04/10/1984	Mayer		
		US-4,529,870		07/16/1985	Chaum		
		US-4,558,176		12/10/1985	Arnold et al.		
		US-4,593,376		06/03/1986	Volk		
		US-4,614,861		09/30/1986	Pavlov et al.		
		US-4,644,493		02/17/1987	Chandra et al.		
		US-4,658,093		04/14/1987	Hellman		
		US-4,713,753		12/15/1987	Beobert et al.		
		US-4,796,220		01/03/1989	Wolfe		
		US-4,817,140		03/28/1989	Chandra et al.		
		US-4,827,508		05/02/1989	Shear		
		US-4,868,376		09/19/1989	Lessin et al.		
FOREIGN PATENT DOCUMENTS							
Examiner Initials ¹	Cite No. ¹	Foreign Patent Document		Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ⁴
		Country Code ³	Number ³ Kind Code ² (if known)				
JHR		0 084 441	EP	07/27/1983	TABS LIMITED		
		0 180 460	EP	05/07/1986	SONY CORPORATION		
		0 332 707	EP	09/20/1989	HONDA GIKEN KOGYO KABUSHIKI KAISHA		
		0 651 554	EP	05/03/1995	EASTMAN KODAK CO.		
		0 668 695	EP	08/23/1995	VICTOR COMPANY OF JAPAN LIMITED		
		0 725 376	EP	08/07/1996	SONY CORP.		
		2 136 175	GB	09/12/1984	ATALLA CORP.		
		2 236 604	GB	04/10/1991	SUN MICROSYSTEMS INC		
		0 715 241	JP	06/05/1996	MITSUBISHI CORP.		
		04-369068	JP	12/21/1992	CHIYUUBU NIHON DENKI SOFUTOEUA KK		Abst
Examiner Signature	JHR			Date Considered	05 APR 03		

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Applicant's unique citation designation number (optional). ² See Kinds Codes of USPTO Patent Documents at 222.uspto.gov or MPEP 901.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁶ Applicant is to place a check mark here if English language translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, Washington, DC 20231.



Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)				Complete if Known	
				Application Number	10/345,390
				Filing Date	January 16, 2003
				First Named Inventor	Mark J. STEFIK, et al.
				Art Unit	3621
				Examiner Name	James A. Reagan
Sheet	2	of	10	Attorney Docket Number	111325-151 (021500)

U.S. PATENT DOCUMENTS					
Examiner Initials ¹	Cite No. ¹	U.S. Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number - Kind Code ² (if known)			
JAL		US-4,891,838	01/02/1990	Faber	
		US-4,924,378	05/08/1990	Hershey et al.	
		US-4,932,054	06/05/1990	Chou et al.	
		US-4,937,863	06/26/1990	Robert et al.	
		US-4,949,187	08/14/1990	Cohen	
		US-4,953,209	08/28/1990	Ryder, Sr. et al.	
		US-4,961,142	10/02/1990	Elliott et al.	
		US-4,975,647	12/04/1990	Downer et al.	
		US-4,977,594	12/11/1990	Shear	
		US-4,999,806	03/12/1991	Chernow et al.	
		US-5,010,571	04/23/1991	Katznelson	
		US-5,014,234	05/07/1991	Edwards, Jr.	
		US-5,023,907	06/11/1991	Johnson et al.	
		US-5,047,928	09/10/1991	Wiedemer	
		US-5,050,213	09/17/1991	Shear	
		US-5,052,040	09/24/1991	Preston et al.	
		US-5,058,164	10/15/1991	Elmer et al.	
		US-5,103,476	04/07/1992	Waite et al.	
		US-5,113,519	05/12/1992	Johnson et al.	
		US-5,136,643	08/04/1992	Fischer	

FOREIGN PATENT DOCUMENTS							
Examiner Initials ¹	Cite No. ¹	Foreign Patent Document		Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ⁴
		Country Code ³	Number ³ Kind Code ² (if known)				
JAL		05-268415	JP	10/15/1993	RICOH CO LTD		Abst
		06-175794	JP	06/24/1994	FUJI XEROX CO LTD		Abst
		06-215010	JP	08/05/1994	SONY CORP.		Abst
		07-084852	JP	03/31/1995	HITACHI LTD.		Abst
		07-200317	JP	08/04/1995	TOSHIBA CORP.		Abst
		07-244639	JP	09/19/1995	FUJITSU LTD		Abst
		62-241061	JP	10/21/1987	NEC CORP.		Abst
		64-068835	JP	03/14/1989	RYOICHI MORI		Abst
		WO 01/63528	PCT	08/30/2001	IPDN COPR.		
		WO 92/20022	PCT	11/12/1992	DIGITAL EQUIPMENT CORP.		

Examiner Signature	Date Considered	OSAPROS

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Applicant's unique citation designation number (optional). ² See Kinds Codes of USPTO Patent Documents at 222.uspto.gov or MPEP 901.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, Washington, DC 20231.

MAR 08 2005
U.S. PATENT & TRADEMARK OFFICE

PTO/SB/08A (10-01)

Approved for use through 10/31/2002. OMB 0651-0031

U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

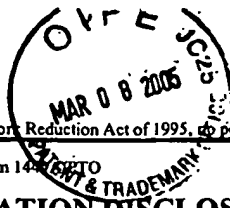
Substitute for form 1449A/INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)				Complete if Known	
				Application Number	10/345,390
				Filing Date	January 16, 2003
				First Named Inventor	Mark J. STEFIK, et al.
				Art Unit	3621
				Examiner Name	James A. Reagan
Sheet	3	of	10	Attorney Docket Number	111325-151 (021500)

U.S. PATENT DOCUMENTS							
Examiner Initials [*]	Cite No. ¹	U.S. Patent Document		Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	
		Number - Kind Code ² (if known)					
[Signature]		US-5,138,712		08/11/1992	Corbin		
		US-5,146,499		09/08/1992	Geffrotin		
		US-5,148,481		09/15/1992	Abraham et al.		
		US-5,159,182		10/27/1992	Eisele		
		US-5,183,404		02/02/1993	Aldous et al.		
		US-5,191,193		03/02/1993	Le Roux		
		US-5,204,897		04/20/1993	Wyman		
		US-5,222,134		06/22/1993	Waite et al.		
		US-5,235,642		08/10/1993	Wobber et al.		
		US-5,247,575		09/21/1993	Sprague et al.		
		US-5,255,106		10/19/1993	Castro		
		US-5,260,999		11/09/1993	Wyman		
		US-5,263,157		11/16/1993	Janis		
		US-5,263,158		11/16/1993	Janis		
		US-5,276,444		01/04/1994	McNair		
		US-5,276,735		01/04/1994	Boebert et al.		
		US-5,291,596		03/01/1994	Mita		
		US-5,301,231		04/05/1994	Abraham et al.		
		US-5,311,591		05/10/1994	Fischer		
		US-5,319,705		06/07/1994	Halter et al.		
FOREIGN PATENT DOCUMENTS							
Examiner Initials [*]	Cite No. ¹	Foreign Patent Document		Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ⁴
		Country Code ³ Number ⁴	Kind Code ² (if known)				
[Signature]		WO 93/01550	PCT	01/21/1993	INFOLOGIC SOFTWARE, INC		
		WO 94/01821	PCT	01/20/1994	SECURE COMPUTING CORP.		
		WO 96/24092	PCT	08/08/1996	BENSON, Greg		
		WO 97/48203	PCT	12/18/1997	INTEL CORP.		
		WO 98/11690	PCT	03/19/1998	GLOVER, John J.		
		WO 98/42098	PCT	09/24/1998	CRYPTOWORKS, INC.		
		WO 99/49615	PCT	09/30/1999	MICROTOME		
Examiner Signature	[Signature]				Date Considered	05 APR 03	

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Applicant's unique citation designation number (optional). ² See Kinds Codes of USPTO Patent Documents at 222.uspto.gov or MPEP 901.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, Washington, DC 20231.



Substitute for form 1449, USPTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)				Complete if Known	
				Application Number	10/345,390
				Filing Date	January 16, 2003
				First Named Inventor	Mark J. STEFIK, et al.
				Art Unit	3621
				Examiner Name	James A. Reagan
Sheet	4	of	10	Attorney Docket Number	111325-151 (021500)

U.S. PATENT DOCUMENTS					
Examiner Initials ¹	Cite No. ¹	U.S. Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number - Kind Code ² (if known)			
JAF		US-5,337,357	08/09/1994	Chou et al.	
		US-5,339,091	08/16/1994	Yamazaki et al.	
		US-5,341,429	08/23/1994	Stringer et al.	
		US-5,347,579	09/13/1994	Blandford	
		US-5,381,526	01/10/1995	Ellson	
		US-5,394,469	02/28/1995	Nagel et al.	
		US-5,410,598	04/25/1995	Shear	
		US-5,412,717	05/02/1995	Fischer	
		US-5,428,606	06/27/1995	Moskowitz	
		US-5,432,849	07/11/1995	Johnson et al.	
		US-5,438,508	08/01/1995	Wyman	
		US-5,444,779	08/22/1995	Daniele	
		US-5,453,601	09/26/1995	Rosen	
		US-5,455,953	10/03/1995	Russell	
		US-5,457,746	10/10/1995	Dolphin	
		US-5,473,687	12/05/1995	Lipscomb et al.	
		US-5,473,692	12/05/1995	Davis	
		US-5,499,298	03/12/1996	Narasimhalu et al.	
		US-5,502,766	03/26/1996	Boebert et al.	
		US-5,504,814	04/02/1996	Miyahara	

FOREIGN PATENT DOCUMENTS						
Examiner Initials ¹	Cite No. ¹	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ⁶
		Country Code ³ Number ⁴ Kind Code ² (if known)				

Examiner Signature		Date Considered	05 APR 05

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Applicant's unique citation designation number (optional). ² See Kinds Codes of USPTO Patent Documents at 222.uspto.gov or MPEP 901.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, Washington, DC 20231.

MAR 08 2005

PTO/SB/08A (10-01)

Approved for use through 10/31/2002. OMB 0651-0031

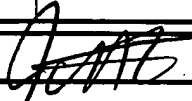
U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1996, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449 INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(use as many sheets as necessary)</i>				Complete if Known	
				Application Number	10/345,390
				Filing Date	January 16, 2003
				First Named Inventor	Mark J. STEFIK, et al.
				Art Unit	3621
Examiner Name	James A. Reagan				
Attorney Docket Number	111325-151 (021500)				
Sheet	5	of	10		

U.S. PATENT DOCUMENTS					
Examiner Initials ¹	Cite No. ¹	U.S. Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number - Kind Code ² (if known)			
JMR		US-5,504,818	04/02/1996	Okano	
		US-5,504,837	04/02/1996	Griffeth et al.	
		US-5,509,070	04/16/1996	Schull	
		US-5,530,235	06/25/1996	Stefik et al.	
		US-5,532,920	07/02/1996	Hartrick et al.	
		US-5,534,975	07/09/1996	Stefik et al.	
		US-5,539,735	07/23/1996	Moskowitz	
		US-5,563,946	10/08/1996	Cooper et al.	
		US-5,568,552	10/22/1996	Davis	
		US-5,621,797	04/15/1997	Rosen	
		US-5,629,980	05/13/1997	Stefik et al.	
		US-5,633,932	05/27/1997	Davis et al.	
		US-5,634,012	05/27/1997	Stefik et al.	
		US-5,638,443	06/10/1997	Stefik et al.	
		US-5,649,013	07/15/1997	Stuckey et al.	
		US-5,655,077	08/05/1997	Jones et al.	
		US-5,708,717	01/13/1998	Alasia	
		US-5,734,823	03/31/1998	Saigh et al.	
		US-5,734,891	03/31/1998	Saigh	
		US-5,737,413	04/07/1998	Akiyama et al.	

FOREIGN PATENT DOCUMENTS						
Examiner Initials ¹	Cite No. ¹	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ⁶
		Country Code ³ Number ⁴ Kind Code ² (if known)				

Examiner Signature		Date Considered	05 APR 03

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Applicant's unique citation designation number (optional). ² See Kinds Codes of USPTO Patent Documents at 222.uspto.gov or MPEP 901.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, Washington, DC 20231.

U.S. PATENT & TRADEMARK OFFICE
MAR 08 2005

PTO/SB/08A (10-01)

Approved for use through 10/31/2002. OMB 0651-0031

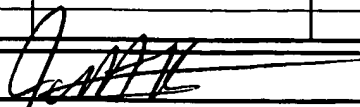
U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449, PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)				Complete if Known	
				Application Number	10/345,390
				Filing Date	January 16, 2003
				First Named Inventor	Mark J. STEFIK, et al.
				Art Unit	3621
				Examiner Name	James A. Reagan
Sheet	6	of	10	Attorney Docket Number	111325-151 (021500)

U.S. PATENT DOCUMENTS					
Examiner Initials ¹	Cite No. ¹	U.S. Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number - Kind Code ² (if known)			
JMR		US-5,737,416	04/07/1998	Cooper et al.	
		US-5,745,569	04/28/1998	Moskowitz et al.	
		US-5,748,783	05/05/1998	Rhoads	
		US-5,757,907	05/26/1998	Cooper et al.	
		US-5,761,686	06/02/1998	Bloomberg	
		US-5,765,152	06/09/1998	Erickson	
		US-5,768,426	06/16/1998	Rhoads	
		US-5,825,892	10/20/1998	Braudaway et al.	
		US-5,892,900	04/06/1999	Ginter et al.	
		US-5,910,987	06/08/1999	Ginter et al.	
		US-5,915,019	06/22/1999	Ginter et al.	
		US-5,917,912	06/29/1999	Ginter et al.	
		US-5,920,861	07/06/1999	Hall et al.	
		US-5,940,504	08/17/1999	Griswold	
		US-5,943,422	08/24/1999	Van Wie et al.	
		US-5,949,876	09/07/1999	Ginter et al.	
		US-5,982,891	11/09/1999	Ginter et al.	
		US-5,999,949	12/07/1999	Crandall	
		US-6,047,067	04/04/2000	Rosen	
		US-6,112,181	08/29/2000	Shear et al.	

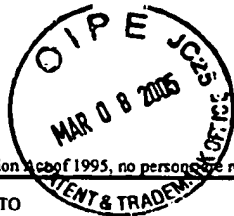
FOREIGN PATENT DOCUMENTS							
Examiner Initials ¹	Cite No. ¹	Foreign Patent Document		Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ⁴
		Country Code ⁵	Kind Code ² (if known)				

Examiner Signature		Date Considered	USAPPROS

*EXAMINER: Initial is reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Applicant's unique citation designation number (optional). ² See Kinds Codes of USPTO Patent Documents at 222.uspto.gov or MPEP 901.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, Washington, DC 20231.



PTO/SB/08B (10-01)

Approved for use through 10/31/2002. OMB 0651-0031

U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no person is required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449A/PTO				Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)				Application Number	10/345,390
				Filing Date	January 16, 2003
				First Named Inventor	Mark J. STEFIK, et al.
				Art Unit	3621
				Examiner Name	James A. Reagan
Sheet	8	of	10	Attorney Docket Number	111325-151 (021500)

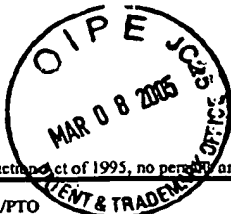
OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
QAZ		"National Semiconductor and EPR Partner for Information Metering/Data Security Cards" March 4, 1994, Press Release from Electronic Publishing Resources, Inc.	
		Weber, R., "Digital Rights Management Technology" October 1995	
		Flasche, U. et al., "Decentralized Processing of Documents", pp. 119-131, 1986, Comput. & Graphics, Vol. 10, No. 2	
		Mori, R. et al., "Superdistribution: The Concept and the Architecture", pp. 1133-1146, 1990. The Transactions of the IEICE, Vo. E 73, No. 7, Tokyo, JP	
		Weber, R., "Metering Technologies for Digital Intellectual Property", pp. 1-29, Oct. 1994, A Report to the International Federation of Reproduction Rights Organizations	
		Clark, P.C. et al., "Bits: A Smartcard protected Operating System", pp. 66-70 and 94, November 1994, Communications of the ACM, Vol. 37, No. 11	
		Ross, P.E., "Data Guard", pp. 101, June 6, 1994, Forbes	
		Saigh, W.K., "Knowledge is Sacred", 1992, Video Pocket/Page Reader Systems, Ltd.	
		Kahn, R.E., "Deposit, Registration and Recordation in an Electronic Copyright Management System", pp. 1-19, August 1992, Corporation for National Research Initiatives, Virginia	
		Hilts, P. et al., "Books While U Wait", pp. 48-50, January 3, 1994, Publishers Weekly	
		Strattner, A., "Cash Register on a Chip may Revolutionize Software Pricing and Distribution; Wave Systems Corp.", pp. 1-3, April 1994, Computer Shopper, Vol. 14, No. 4, ISSN 0886-0556	

Examiner Signature		Date Considered	05/17/05

* EXAMINER Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Applicant's unique citation designation number (optional). ² Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, Washington, DC 20231.



PTO/SB/08B (10-01)

Approved for use through 10/31/2002. OMB 0651-0031

U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no person is required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449A/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)				Complete if Known	
				Application Number	10/345,390
				Filing Date	January 16, 2003
				First Named Inventor	Mark J. STEFIK, et al.
				Art Unit	3621
				Examiner Name	James A. Reagan
Sheet	9	of	10	Attorney Docket Number	111325-151 (021500)

OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
JMR		O'Conner, M., "New Distribution Option for Electronic Publishers; iOpener Data Encryption and Metering System for CD-ROM use; Column", pp. 1-6, March 1994, CD-ROM Professional, Vol. 7, No. 2, ISSN: 1409-0833	
		Willett, S., "Metered PCs: Is Your System Watching You? Wave System beta tests new technology", pp. 84, May 2, 1994, InfoWorld	
		Linn, R., "Copyright and Information Services in the Context of the National Research and Education Network", pp. 9-20, January 1994, IMA Intellectual Property Project Proceedings, Vol. 1, Issue 1	
		Perrit, Jr., H., "Permission Headers and Contract Law", pp. 27-48, January 1994, IMA Intellectual Property Project Proceedings, Vol. 1, Issue 1	
		Upthegrove, L., "Intellectual Property Header Descriptors: A Dynamic Approach", pp. 63-66, January 1994, IMA Intellectual Property Proceedings, Vol. 1, Issue 1	
		Sirbu, M., "Internet Billing Service Design and prototype Implementation", pp. 67-80, January 1994, IMA Intellectual Property Project Proceedings, Vol. 1, Issue 1	
		Simmell, S. et al., "Metering and Licensing of Resources: Kala's General Purpose Approach", pp. 81-110, January 1994, IMA Intellectual Property Project Proceedings, Vol. 1, Issue 1	
		Kahn, R., "Deposit, Registration and Recordation in an Electronic Copyright Management System", pp. 111-120, January 1994, IMA Intellectual Property Project Proceedings, Vol. 1, Issue 1	
		Tygar, J. et al., "Dyad: A System for Using Physically Secure Coprocessors", pp. 121-152, January 1994, IMA Intellectual Property Project Proceedings, Vol. 1, Issue 1	
✓		Griswold, G., "A Method for Protecting Copyright on Networks", pp. 169-178, January 1994, IMA Intellectual Property Project Proceedings, Vol. 1, Issue 1	

Examiner Signature		Date Considered	05/18/05

* EXAMINER: initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Applicant's unique citation designation number (optional). ² Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, Washington, DC 20231.



PTO/SB/08B (10-01)

Approved for use through 10/31/2002. OMB 0651-0031

U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no person is required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449A/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)				Complete if Known	
				Application Number	10/345,390
				Filing Date	January 16, 2003
				First Named Inventor	Mark J. STEFIK, et al.
				Art Unit	3621
				Examiner Name	James A. Reagan
Sheet	10	of	10	Attorney Docket Number	111325-151 (021500)

OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS			
Examiner Initials ¹	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
		Nelson, T., "A Publishing and Royalty Model for Networked Documents", pp. 257-259, January 1994, IMA Intellectual Property Project Proceedings, Vol. 1, Issue 1	
		Robinson, E., "Redefining Mobile Computing", pp. 238-240, 247-248 and 252, July 1993, PC Computing	
		Abadi, M. et al., "Authentication and Delegation with Smart-cards", PP. 1-24, 1990, Research Report DEC Systems Research Center	
		Mark Stefik, "Letting Loose the Light: Igniting Commerce in Electronic Publication", pp. 219-253, 1996, Internet Dreams: Archetypes, Myths, and Metaphors, IDS N 0-262-19373-6	
		Mark Stefik, "Letting Loose the Light: Igniting Commerce in Electronic Publication", pp. 2-35, February 8, 1995, Internet Dreams: Archetypes, Myths and Metaphors	
		Henry H. Perritt, Jr., "Technological Strategies for Protecting Intellectual Property in the Networked Multimedia Environment", April 2-3, 1993, Knowbots, Permissions Headers & Contract Law	

Examiner Signature		Date Considered	05/11/05

¹ EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Applicant's unique citation designation number (optional). ² Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, Washington, DC 20231.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

POWER OF ATTORNEY TO PROSECUTE APPLICATIONS BEFORE THE USPTO

I hereby revoke all previous powers of attorney given in the application identified in the attached statement under 37 CFR 3.73(b).

I hereby appoint:



Practitioners associated with the Customer Number:

98804

OR



Practitioner(s) named below (if more than ten patent practitioners are to be named, then a customer number must be used).

Name	Registration Number	Name	Registration Number

as attorney(s) or agent(s) to represent the undersigned before the United States Patent and Trademark Office (USPTO) in connection with any and all patent applications assigned only to the undersigned according to the USPTO assignment records or assignment documents attached to this form in accordance with 37 CFR 3.73(b).

Please change the correspondence address for the application identified in the attached statement under 37 CFR 3.73(b) to:



The address associated with Customer Number:

98804

OR



Firm or Individual Name

Address

City

State

Zip

Country

Telephone

Email

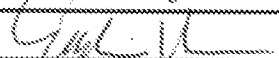
Assignee Name and Address:

ContentGuard Holdings, Inc.
222 N. Sepulveda Blvd., Suite 1400
El Segundo, CA 90245

A copy of this form, together with a statement under 37 CFR 3.73(b) (Form PTO/SB/96 or equivalent) is required to be filed in each application in which this form is used. The statement under 37 CFR 3.73(b) may be completed by one of the practitioners appointed in this form if the appointed practitioner is authorized to act on behalf of the assignee, and must identify the application in which this Power of Attorney is to be filed.

SIGNATURE of Assignee of Record

The individual whose signature and title is supplied below is authorized to act on behalf of the assignee

Signature		Date	9/16/2010
Name	Eddie Chen	Telephone	
Title	Chief Technology Officer		

This collection of information is required by 37 CFR 1.31, 1.32 and 1.33. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 3 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Privacy Act Statement

The **Privacy Act of 1974 (P.L. 93-579)** requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

STATEMENT UNDER 37 CFR 3.73(b)

Applicant/Patent Owner: MARK J. STEFIK, et al.

Application No./Patent No.: 08/967,084

Filed/Issue Date: 11-10-1997

Titled: **SYSTEM FOR CONTROLLING THE DISTRIBUTION AND USE OF DIGITAL WORKS USING DIGITAL TICKETS**

CONTENTGUARD HOLDINGS, INC., a Corporation

(Name of Assignee)

(Type of Assignee, e.g., corporation, partnership, university, government agency, etc.)

states that it is:

1. ☒ the assignee of the entire right, title, and interest in;
2. ☐ an assignee of less than the entire right, title, and interest in
(The extent (by percentage) of its ownership interest is _____ %); or
3. ☐ the assignee of an undivided interest in the entirety of (a complete assignment from one of the joint inventors was made)

the patent application/patent identified above, by virtue of either:

A. ☒ An assignment from the inventor(s) of the patent application/patent identified above. The assignment was recorded in the United States Patent and Trademark Office at Reel 011122, Frame 0204, or for which a copy therefore is attached.

OR

B. ☐ A chain of title from the inventor(s), of the patent application/patent identified above, to the current assignee as follows:

1. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at

Reel _____, Frame _____, or for which a copy thereof is attached.

2. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at

Reel _____, Frame _____, or for which a copy thereof is attached.

3. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at

Reel _____, Frame _____, or for which a copy thereof is attached.

☐ Additional documents in the chain of title are listed on a supplemental sheet(s).

☒ As required by 37 CFR 3.73(b)(1)(i), the documentary evidence of the chain of title from the original owner to the assignee was, or concurrently is being, submitted for recordation pursuant to 37 CFR 3.11.

[NOTE: A separate copy (i.e., a true copy of the original assignment document(s)) must be submitted to Assignment Division in accordance with 37 CFR Part 3, to record the assignment in the records of the USPTO. See MPEP 302.08]

The undersigned (whose title is supplied below) is authorized to act on behalf of the assignee.

/Stephen M. Hertzler, Reg. No. 58,247/

Signature

2010-09-16

Date

Stephen M. Hertzler, Reg. No. 58,247

Printed or Typed Name

Title

This collection of information is required by 37 CFR 3.73(b). The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

Privacy Act Statement

The **Privacy Act of 1974 (P.L. 93-579)** requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (*i.e.*, GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Electronic Acknowledgement Receipt

EFS ID:	8563822
Application Number:	10345390
International Application Number:	
Confirmation Number:	2180
Title of Invention:	CONTENT RENDERING REPOSITORY
First Named Inventor/Applicant Name:	Mark J. Stefik
Customer Number:	22204
Filer:	Stephen M. Hertzler
Filer Authorized By:	
Attorney Docket Number:	111325-021500
Receipt Date:	05-OCT-2010
Filing Date:	16-JAN-2003
Time Stamp:	15:37:51
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Miscellaneous Incoming Letter	2010-10-05_- _Authorization_Statement.pdf	407008 01ab114e39275dc6ed116c6a0a5e5b8130820f04	no	1

Warnings:

Information:

2	Power of Attorney	2010-10-05_-_POA.pdf	1217636 e6ce4e7be6e5cb0ed814e488d50f9a970815e583	no	2
Warnings:					
Information:					
3	Assignee showing of ownership per 37 CFR 3.73(b).	2010-10-05_-_Statement_under_37_CFR_373.pdf	413936 64ca835f087405a0dd7375f4856349e299cd5f4	no	2
Warnings:					
Information:					
Total Files Size (in bytes):			2038580		
This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503. <u>New Applications Under 35 U.S.C. 111</u> If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application. <u>National Stage of an International Application under 35 U.S.C. 371</u> If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course. <u>New International Application Filed with the USPTO as a Receiving Office</u> If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.					

AUTHORIZATION TO ACT ON BEHALF OF THE ASSIGNEE

UNDER 37 CFR 3.73(b)(2)(i)

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

The practitioners associated with Customer Number 98804 have been authorized (or empowered) to act on behalf of ContentGuard Holdings, Inc. before the United States Patent and Trademark Office (i.e. to sign the enclosed submission on behalf of the assignee), pursuant to 37 CFR 3.73(b)(2)(i).

If any additional information is required in this regard, please contact the undersigned as soon as possible.

Respectfully submitted,

Date: September 16, 2010

/Stephen M. Hertzler, Reg. No. 58,247/
Stephen M. Hertzler
Registration No. 58,247

REED SMITH LLP
CUSTOMER NO.: 98804
1301 K Street N.W.
Suite 1100 – East Tower
Washington, D.C. 20005



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
10/345,390	01/16/2003	Mark J. Stefik	111325-021500

98804
Reed Smith LLP
P.O. Box 488
Pittsburgh, PA 15230

CONFIRMATION NO. 2180
POA ACCEPTANCE LETTER



Date Mailed: 01/24/2011

NOTICE OF ACCEPTANCE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 10/05/2010.

The Power of Attorney in this application is accepted. Correspondence in this application will be mailed to the above address as provided by 37 CFR 1.33.

/hgray/

Office of Data Management, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
10/345,390	01/16/2003	Mark J. Stefik	111325-021500

CONFIRMATION NO. 2180

POWER OF ATTORNEY NOTICE



OC000000045577919

22204
NIXON PEABODY, LLP
401 9TH STREET, NW
SUITE 900
WASHINGTON, DC 20004-2128

Date Mailed: 01/24/2011

NOTICE REGARDING CHANGE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 10/05/2010.

- The Power of Attorney to you in this application has been revoked by the assignee who has intervened as provided by 37 CFR 3.71. Future correspondence will be mailed to the new address of record(37 CFR 1.33).

/hgray/

Office of Data Management, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101

**The United States Patent and Trademark Office
PATENT TRIAL AND APPEAL BOARD**



A petition has been filed in Patent Number 6,963,859 on 2/14/2013.

The Case Number is IPR2013-00137.

To view the documents filed in this petition, go to www.uspto.gov/ptab and click on the Direct Link.

Click on Search for a proceeding / Browse the proceedings and enter the Patent Number or the Trial or Case Number and select the Search button.

Questions regarding this notice should be directed to the Patent Trial and Appeal Board at 571-272-7822.

Trials@uspto.gov
571-272-7822

Paper 17
Entered: July 1, 2013

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

ZTE Corporation and ZTE (USA) Inc.
Petitioner,

v.

ContentGuard Holdings, Inc.
Patent Owner.

Case IPR2013-00137
Patent 6,963,859

Before JAMESON LEE, MICHAEL W. KIM, and MICHAEL R. ZECHER,
Administrative Patent Judges.

KIM, *Administrative Patent Judge.*

DECISION
Institution of *Inter Partes* Review
37 C.F.R. § 42.108

Case IPR2013-00137
Patent 6,963,859

I. INTRODUCTION

ZTE Corporation and ZTE (USA) Inc. ("ZTE") filed a corrected petition requesting an *inter partes* review of claims 1-84 of U.S. Patent No. 6,963,859 (Ex. 1001, "the '859 patent"). (Paper 12, "Pet.") The patent owner, ContentGuard Holdings, Inc. ("ContentGuard") filed a preliminary response. (Paper 16, "Prel. Resp.") We have jurisdiction under 35 U.S.C. § 314.

The standard for instituting an *inter partes* review is set forth in 35 U.S.C. § 314(a) which provides as follows:

THRESHOLD -- The Director may not authorize an *inter partes* review to be instituted unless the Director determines that the information presented in the petition filed under section 311 and any response filed under section 313 shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.

Upon consideration of the petition and ContentGuard's preliminary response, we determine that the information presented in the petition establishes that there is a reasonable likelihood that ZTE would prevail in showing the unpatentability of claims 1-5, 9-11, 15-17, 19, 21-33, 37, 38, 42-44, 46, 48-62, 66, 67, 71-73, 75, and 77-84 of the '859 patent. Accordingly, we grant the petition and institute an *inter partes* review of those claims of the '859 patent.

A. Related Proceedings

ZTE indicates that the '859 patent is involved in co-pending litigation captioned *ContentGuard Holdings Inc. v. ZTE Corp. et al.*, Case No. 3:12-cv-01226 (S.D. Cal.). (Pet. 1.)

Case IPR2013-00137
Patent 6,963,859

ZTE also filed five other petitions seeking *inter partes* review of the following patents: U.S. Patent No. 7,523,072 (IPR2013-00133); U.S. Patent No. 7,225,160 (IPR2013-00134); U.S. Patent No. 7,359,884 (IPR2013-00136); U.S. Patent No. 7,139,736 (IPR2013-00138); and U.S. Patent No. 7,269,576 (IPR2013-00139). (Pet. 1.)

B. The '859 Patent (Ex. 1001)

The subject matter of the '859 patent relates to distribution of and usage rights enforcement for digitally encoded works. (Ex. 1001, 1:12-13.) According to the '859 patent, an issue facing the publishing and information industries is how to prevent the unauthorized and unaccounted distribution or usage of electronically published materials. (Ex. 1001, 1:16-19.) In particular, a major concern, according to the '859 patent, is the ease in which electronically published works can be "perfectly" reproduced and distributed. (Ex. 1001, 1:30-31.) According to the '859 patent, one way to curb unaccounted distribution is to prevent unauthorized copying and transmission. (Ex. 1001, 1:49-51.) Another way, according to the '859 patent, is to distribute software, which requires a "key" to enable its use. (Ex. 1001, 1:65-66.) However, the '859 patent discloses that while such distribution and protection schemes prevent unauthorized distributions, it does so by sacrificing the potential for subsequent revenue bearing uses. (Ex. 1001, 2:61-65.) For example, the '859 patent discloses that it may be desirable to allow the lending of a purchased work to permit exposure of the work to potential buyers, permit the creation of a derivative work for a fee, or permit copying the work for a fee. (Ex. 1001, 2:65-3:3.) The '859 patent discloses that it

Case IPR2013-00137
Patent 6,963,859

solves these problems by both permanently attaching usage rights to digital works, and by placing elements in repositories, which store and control the digital works, that enforce these usage rights. (Ex. 1001, 6:11-21.)

C. Exemplary Claims

Of the challenged claims, claims 1, 29, and 58 are independent claims. Independent claims 1, 29, and 58 are respectively directed to a system, a method, and a computer readable medium. Claims 2-28 directly or indirectly depend from claim 1, claims 30-57 directly or indirectly depend from claim 29, and claims 59-84 directly or indirectly depend from claim 58. Claims 1, 29, and 58 are reproduced below, with similar and key features bolded for emphasis:

1. A rendering system adapted for use in a distributed system for managing use of content, said rendering system being operative to rendering content in accordance with usage rights associated with the content, said rendering system comprising:

a rendering device configured to render the content; and

a distributed **repository** coupled to said rendering device and including a requester mode of operation and server mode of operation,

wherein the server mode of operation is operative to enforce usage rights associated with the content and permit the rendering device to render the content in accordance with a manner of use specified by the usage rights,

the requester mode of operation is operative to request access to content from another distributed repository, and

said distributed repository is operative to receive a request to render the content and permit the content to be rendered only if a

Case IPR2013-00137

Patent 6,963,859

manner of use specified in the request corresponds to a manner of use specified in the usage rights.

29. A rendering method adapted for use in a distributed system for managing use of content, and operative to render content in accordance with usage rights associated with the content, said method comprising:

configuring a rendering device to render the content;

configuring a distributed *repository* coupled to said rendering device to include a requester mode of operation and server mode of operation;

enforcing usage rights associated with the content and permitting the rendering device to render the content in accordance with a manner of use specified by the usage rights, when in the server mode of operation;

requesting access to content from another distributed repository, when in the requester mode of operation; and

receiving by said distributed repository a request to render the content and permitting the content to be rendered only if a manner of use specified in the request corresponds to a manner of use specified in the usage rights.

58. A computer readable medium including one or more computer readable instructions embedded therein for use in a distributed system for managing use of content, and operative to render content in accordance with usage rights associated with the content, said computer readable instructions configured to cause one or more computer processors to perform the steps of:

configuring a rendering device to render the content;

Case IPR2013-00137
Patent 6,963,859

configuring a distributed *repository* coupled to said rendering device to include a requester mode of operation and server mode of operation;

enforcing usage rights associated with the content and permitting the rendering device to render the content in accordance with a manner of use specified by the usage rights, when in the server mode of operation;

requesting access to content from another, distributed repository, when in the requester mode of operation; and

receiving by said distributed repository a request to render the content and permitting the content to be rendered only if a manner of use specified in the request corresponds to a manner of use specified in the usage rights.

D. Prior Art Relied Upon

ZTE relies upon the following prior art references:

Hendricks	U.S. Patent 5,986,690	Nov. 16, 1999	(Ex. 1013)
Walker	U.S. Patent 4,868,736	Sept. 19, 1989	(Ex. 1014)
Leroux	U.S. Patent 5,588,146	Dec. 24, 1996	(Ex. 1011)
Wyman	U.S. Patent 5,260,999	Nov. 9, 1993	(Ex. 1015)
European Patent Pub. 0 268 139 A2	("EP '139")		
		May 25, 1988	(Ex. 1012)
European Patent Pub. 0 464 306 A2	("EP '306")		
		June 29, 1990	(Ex. 1010)
Henry H. Perritt Jr., "Knowbots, Permissions Headers and Contract Law,"			
Papers for the Conference on Technological Strategies for Protecting			
Intellectual Property in the Networked Multimedia Environment, (Retrieved			
from http://archive.ifa.org/documents/infopol/copyright/perh2.txt on			
January 4, 2013) ("Perritt")		Apr. 30, 1993	(Ex. 1006)

Case IPR2013-00137
Patent 6,963,859

E. The Asserted Grounds

ZTE contends that the challenged claims are unpatentable based on the following grounds:

1. Claims 1-5, 8-11, 13-15, 19-33, 36-38, 40-42, 46-62, 65-67, 69-71, and 75-84 are unpatentable under 35 U.S.C. § 102(e) as anticipated by Hendricks¹;
2. Claims 1-5, 9-11, 15-17, 21-33, 37, 38, 42-44, 48-62, 66, 67, 71-73, and 77-84 are unpatentable under 35 U.S.C. § 102(b) as anticipated by EP '139;
3. Claims 1-5, 7-23, 25-33, 35-50, 52-62, 64-80, and 82-84 are unpatentable under 35 U.S.C. § 102(b) as anticipated by Walker;
4. Claims 1-5, 9-11, 15-17, 19, 21-33, 37, 38, 42-44, 46, 48-62, 66, 67, 71-73, 75, and 77-84 are unpatentable under 35 U.S.C. § 102(e) as anticipated by Leroux²;

¹ The '859 patent claims priority to application No. 08/344,760, filed Nov. 23, 1994. Hendricks was published on Nov. 16, 1999, and was filed on Nov. 7, 1994. Accordingly, even though the Petition contends that Hendricks is prior art to the '859 patent under 35 U.S.C. § 102(b), Hendricks is actually only prior art to the '859 patent under 35 U.S.C. § 102(e). *Accord* Pet. 11-12 (confirming that Hendricks only qualifies as prior art to the '856 patent under 35 U.S.C. § 102(e)).

² The '859 patent claims priority to application No. 08/344,760, filed Nov. 23, 1994. Leroux was published on December 24, 1996, and was filed on Oct. 21, 1993. Accordingly, even though the Petition contends that Leroux is prior art to the '859 patent under 35 U.S.C. § 102(b), Leroux is actually only prior art to the '859 patent under 35 U.S.C. § 102(e). *Accord* Pet. 11, 40 (confirming that Leroux only qualifies as prior art to the '859 patent under 35 U.S.C. § 102(e)).

Case IPR2013-00137
Patent 6,963,859

5. Claims 1-7, 9-12, 14-16, 18-23, 25-35, 37-39, 41-43, 45-50, 52-64, 66-68, 70-72, 74-80, and 82-84 are unpatentable under 35 U.S.C. § 102(b) as anticipated by EP '306; and
6. Claims 1-3, 5-11, 15-17, 21, 22, 25, 27-31, 33-38, 42-44, 48, 49, 52, 54-60, 62-67, 71-73, 77-78, and 82-84 are unpatentable under 35 U.S.C. § 103(a) as obvious over Perritt and Wyman.

II. ANALYSIS

A. Claim Construction

As a first step in our analysis for determining whether to institute a review, we determine the meaning of the claims. In an *inter partes* review, claim terms in an unexpired patent are given their broadest reasonable construction in light of the specification of the patent in which they appear. 37 C.F.R. § 42.100(b). Under that standard, claim terms are given their ordinary and customary meaning as would be understood by one of ordinary skill in the art in the context of the entire disclosure. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1313 (Fed. Cir. 2005) (en banc). An inventor may rebut that presumption by providing a definition of the term in the specification with reasonable clarity, deliberateness, and precision. *In re Paulsen*, 30 F.3d 1475, 1480 (Fed. Cir. 1994).

ContentGuard submits its proposed construction for the claim term “repository.” (Prel. Resp. 17-20.) ZTE provides its construction for three terms recited in dependent claims, all of which are in a means-plus-function format: “means for storing the content,” “means for communicating with an authorization repository for authorizing a condition,” and “means for communication with a

Case IPR2013-00137
Patent 6,963,859

master repository for obtaining an identification certificate.” (Pet. 7.) For this decision, we will construe each of these claim limitations in turn.

1. *“Repository” (Independent Claims 1, 29, and 58)*

ContentGuard contends that the term “repository” should be construed as “a trusted system for supporting usage rights.” (Prel. Resp. 17.) ContentGuard cites several portions of the specification which support that construction. (Prel. Resp. 17-21 citing Ex. 1001, 3:57-62, 6:17-21, 11:52-61, 12:57-59, 13:10-15, 50:47-52.) ZTE does not provide a claim construction for “repository.” *See generally* Pet. 5-6 and 15, FN 2.

The specification provides a glossary which recites the following for “repository”:

Conceptually a set of functional specifications defining core functionality in the support of usage rights. A repository is a trusted system in that it maintains physical, communications and behavioral integrity.

(Ex. 1001, 50:47-51, emphasis added.) By setting forth the term in a glossary and using the verb “is” following “repository” in the second sentence, we find that the specification sets forth an explicit definition of “repository” as “a trusted system in that it maintains physical, communications and behavioral integrity.” However, the first sentence is also relevant to the definition of “repository” because it elaborates that the repository supports usage rights. Accordingly, we construe “repository” as a trusted system which maintains physical, communications and behavioral integrity, and supports usage rights.

Our analysis does not end here. In order to understand “a trusted system,” it

Case IPR2013-00137

Patent 6,963,859

is necessary additionally to construe “physical integrity,” “communications integrity,” and “behavioral integrity.” These terms are described in a section of the specification specifically labeled “[r]epositories.” (Ex. 1001, 11:51-14:28.) For “physical integrity,” the specification discloses the following:

Physical integrity refers to the integrity of the physical devices themselves. *Physical integrity applies both to the repositories and to the protected digital works.* Thus, the higher security classes of repositories themselves may have sensors that detect when tampering is attempted on their secure cases. *In addition to protection of the repository itself, the repository design protects access to the content of digital works.* In contrast with the design of conventional magnetic and optical devices-such as floppy disks, CD-ROMs, and videotapes-*repositories never allow non-trusted systems to access the works directly.* A maker of generic computer systems cannot guarantee that their platform will not be used to make unauthorized copies. The manufacturer provides generic capabilities for reading and writing information, and the general nature of the functionality of the general computing device depends on it. Thus, a copy program can copy arbitrary data. This copying issue is not limited to general purpose computers. It also arises for the unauthorized duplication of entertainment “software” such as video and audio recordings by magnetic recorders. Again, the functionality of the recorders depends on their ability to copy and they have no means to check whether a copy is authorized. In contrast, *repositories prevent access to the raw data by general devices* and can test explicit rights and conditions before copying or otherwise granting access. *Information is only accessed by protocol between trusted repositories.*

(Ex. 1001, 11:62-12:20; emphasis added.) Many of the above aspects that are associated with “physical integrity” are described using permissive terms such as “may” and “can” and, thus, are inappropriate to include in this broadest reasonable construction as necessary limitations. The specification also appears to use the

Case IPR2013-00137
Patent 6,963,859

terms or phrases in each of the following three groups interchangeably: (1) data, content, digital work, information; (2) non-trusted system, general device; and (3) “never allow access” and “prevent access.” When referring to the relationship between the repository and data, the specification uses absolute terms such as “never” and “only.”

In light of the foregoing, we construe “physical integrity” as “preventing access to information by a non-trusted system.”

For “communications integrity,” the specification discloses the following:

Communications integrity refers to the integrity of the communications channels between repositories. Roughly speaking, communications integrity means that repositories cannot be easily fooled by “telling them lies.” Integrity in this case refers to the property that *repositories will only communicate with other devices that are able to present proof that they are certified repositories*, and furthermore, that the repositories monitor the communications to detect “impostors” and malicious or accidental interference. Thus *the security measures involving encryption, exchange of digital certificates, and nonces described below are all security measures aimed at reliable communication* in a world known to contain active adversaries.

(Ex. 1001, 12:21-33; emphasis added.) We construe “communications integrity” as “only communicating with other devices that are able to present proof that they are trusted systems, for example, by using security measures such as encryption, exchange of digital certificates, and nonces.” The Encyclopedia of Cryptography defines “nonce” as “[a] number used in a cryptographic protocol to indicate the unique character of a message.” Newton, David E., Encyclopedia of Cryptography 197 (1997).

Case IPR2013-00137

Patent 6,963,859

For “behavioral integrity,” the specification discloses the following:

Behavioral integrity refers to the integrity in what repositories do. What repositories do is determined by the software that they execute. The integrity of the software is generally assured only by knowledge of its source. Restated, a user will trust software purchased at a reputable computer store but not trust software obtained off a random (insecure) server on a network. ***Behavioral integrity is maintained by requiring that repository software be certified and be distributed with proof of such certification, i.e. a digital certificate.*** The purpose of the certificate is to authenticate that the software has been tested by an authorized organization, which attests that the software does what it is supposed to do and that it does not compromise the behavioral integrity of a repository. ***If the digital certificate cannot be found in the digital work or the master repository which generated the certificate is not known to the repository receiving the software, then the software cannot be installed.***

(Ex. 1001, 12:34-50; emphasis added.) We construe “behavioral integrity” in the context of a repository as “requiring software to include a digital certificate in order to be installed in the repository.”

The record is not without evidence contrary to our construction. The nature of construction is to come to the appropriate conclusion in light of all of the evidence. All of the evidence does not have to point uniformly in a single direction.

The specification in Table 2 (Ex. 1001, 14) indicates ten different levels of security for repositories, and the lowest level, *i.e.*, level “0,” is described as follows:

Open system. Document transmission is unencrypted. No digital certificate is required for identification. The security of the system depends mostly on user honesty, since only modest knowledge may

Case IPR2013-00137
Patent 6,963,859

be needed to circumvent the security measures. The repository has no provisions for preventing unauthorized programs from running and accessing or copying files. The system does not prevent the use of removable storage and does not encrypt stored files.

(Ex. 1001, 14:58-64.) Thus, according to Table 2, repositories are not all trusted systems. Level “0” security represents having an open system lacking in physical, communications, and behavioral security, and without support for managing usage rights. That is directly contrary to the meaning of “repository” as defined in the glossary. For reasons discussed below, we adhere to the definition provided in the glossary. The contrary evidence based on level “0” security shown in Table 2 is insufficient to outweigh the rest of the evidence including, in particular, the explicit definition provided in the glossary. We make our determination based on the totality of the evidence.

As noted above, the disclosed invention is about distribution and usage rights enforcement of digital works. The problems described in the background portion of the specification concern unauthorized and unaccounted distribution or usage of electronically published materials. The ’859 patent states that it solves preexisting problems by both permanently attaching usage rights to digital works and placing elements in repositories that enforce those usage rights.

The glossary is an important part of the patent specification because important or key terms are defined in the glossary. Here, the definition set forth in the glossary for “repository” is fully consistent with the description of the acknowledged prior art and the objective or goal to be achieved by the invention of the ’859 patent. The specification also contains detailed preferred embodiments utilizing repositories which are trusted systems to provide usage control for digital

Case IPR2013-00137
Patent 6,963,859

works. (Ex. 1001, 3:57-62, 6:66-7:37, 7:54-55, 13:1-9, 16-18; 14:3-15, 17:30-32; 25:62-28-56; 40:42-41:44.)

The bulk of the specification consistently is directed to repositories which are trusted systems for providing usage control for digital works. For example, the specification states:

The enforcement elements of the present invention are embodied in repositories. Among other things, repositories are used to store digital works, control access to digital works, bill for access to digital works and maintain the security and integrity of the system.

(Ex. 1001, 6:17-21.)

Other references to “repository” in the specification that recite necessary features of repositories also support the definition in the glossary that a repository is a trusted system. For example, the specification states:

The core repository services 1302 comprise a set of functions ***required by each and every repository***. The core repository services 1302 include the session initiation transactions which are defined in greater detail below. This set of services also includes a generic ticket agent which is used to “punch” a digital ticket and a generic authorization server for processing authorization specifications.

(Ex. 1001, 14:3-9; emphasis added.) In another example, the specification discloses that “[a]s a prerequisite to operation, a repository will ***require possession of an identification certificate***” and that “***identification certificates 1306 are required*** to enable the use of the repository.” (Ex. 1001, 13:1-2, 14:14-15; emphasis added.) In further example, the specification states “***[p]rovisions for security and privacy are part of the requirements*** for specifying and implementing repositories and thus form the need for various transactions.” (Ex. 1001, 25:59-61;

Case IPR2013-00137

Patent 6,963,859

emphasis added.) Indeed, by using words such as “required” and “requirements,” such disclosures amply support the definition provided in the glossary that a repository is a trusted system. In summary, the weight of the evidence supports the definition provided in the glossary, even applying the rule of broadest reasonable construction consistent with the specification. We regard as significant that the definition states in no equivocal manner that a repository “is a trusted system.”

2. “Means for storing the content” (Claims 3 and 4)

Claim 3 recites “means for storing content.” Claim 4 depends from claim 3 and recites “wherein said means for storing is means for storing ephemeral copies of the content.”

Under 35 U.S.C. § 112, sixth paragraph, a claim element may be expressed as a means or a step for performing a specified function without the recital of structure, material, or acts in support thereof, and such an element would cover the corresponding structure, material or acts described in the specification and equivalents thereof. To determine what is covered by a means-plus-function element, we look to the specification to identify the corresponding structure, material, or acts which are described as performing the recited function. 35 U.S.C. § 112, 6th paragraph; *In re Donaldson Co.*, 16 F.3d 1189, 1193 (Fed. Cir. 1994) (en banc). The “means for storing . . .” recitations in claims 3 and 4 are a means-plus-function elements under 35 U.S.C. § 112, sixth paragraph. Accordingly, we look to the specification of the ’859 patent to identify the structure, material, or acts which are described as performing the recited functions.

ZTE contends the following:

Case IPR2013-00137

Patent 6,963,859

With respect to dependent claims 3 and 4, the corresponding structure for performing the claimed function of means for storing the content is content storage 1204 (Fig. 12; 13:40-41: "The content storage will store the associated content."). The specification describes that the content storage may be an optical disk (13:46-47), a magneto-optical storage system or magnetic tape (37:11-15) or a solid state storage (13:41-47).

(Pet. 7). We agree. The "means for storing . . ." covers content storage, such as an optical disk, a magneto-optical storage system, a magnetic tape, or a solid state storage, and equivalents thereof.

3. *"Means for communicating with an authorization repository for authorizing a condition" (Claim 23) and "means for communication with a master repository for obtaining an identification certificate." (Claim 24)*

Claim 23 recites "means for communicating with an authorization repository for authorizing a condition." Claim 24 recites "means for communication with a master repository for obtaining an identification certificate."

For corresponding structure, ZTE contends the following:

Claim 23 requires means for communicating with an authorization repository for authorizing a condition, and claim 24 requires means for communication with a master repository for obtaining an identification certificate. The corresponding structure for performing the claimed function of means for communicating is external interface 1206 (Fig. 12; 13:52-59: "The external interface means 1206 provides for the signal connection to other repositories.").

(Pet. 7) We agree. Each of the "means for communicating . . ." covers an external interface that provides for a signal connection with another device and equivalents thereof.

Case IPR2013-00137
Patent 6,963,859

*B. 1-5, 9-11, 15-17, 19, 21-33, 37, 38, 42-44, 48-62, 66, 67, 71-73, 75, and 77-84 –
Anticipated by Leroux*

ZTE contends that claims 1-5, 9-11, 15-17, 19, 21-33, 37, 38, 42-44, 48-62, 66, 67, 71-73, 75, and 77-84 are unpatentable under 35 U.S.C. § 102(e) as anticipated by Leroux. (Pet. 40-46.) We are persuaded by ZTE's analysis and supporting evidence.

Leroux discloses a method of acquiring software programs by microcomputers. (Ex. 1011, 1:8-9.) Leroux discloses a data base service center 1 that stores application software programs 10, a microcomputer 2 connected to the service center by interface 3, and a removable electronic memory carrier 4. (Ex. 1011, 3:42-46.) Leroux discloses that memory carrier 4 includes interface 40 for connecting memory 41 to the drive 24 of microcomputer 2. (Ex. 1011, 3:53-55.) Leroux discloses that microcomputer 2 is fitted with corresponding drives to read memory carrier 4. (Ex. 1011, 4:60-64.) Leroux discloses that memory 41 may comprise programmed security circuitry 410, which monitors access to memory 41 and manages external access to memory carrier 4. (Ex. 1011, 4:64-5:3.) Leroux discloses that to carry out acquisition of application software program 10, communication is set up between microcomputer 2 and data base service center 1. (Ex. 1011, 3:61-66.) Leroux discloses that after the user chooses which application software programs 10 that they wish to acquire, service center 1 will check the right of access to the application software programs 10 by interrogating carrier 4 through microcomputer 2. (Ex. 1011, 4:1-5.) According to Leroux, the check is made by using security methods, such as with identification and authentication procedures that use enciphering and deciphering algorithms. (Ex. 1011, 4:5-8.) If

Case IPR2013-00137
Patent 6,963,859

the check is positive, according to Leroux, service center 1 remotely loads application software program 10 in the internal memory of the microcomputer 2. (Ex. 1011, 4:13-16.)

ContentGuard contends that a combination of microcomputer 2 and removable carrier 4 of Leroux cannot correspond to a “repository.” (Prel. Resp. 44-45.) We disagree. Independent claims 1, 29, and 58 each recite a “repository.” As set forth above, we have construed a “repository” as “a trusted system which maintains physical, communications and behavioral integrity, and supports usage rights,” where physical integrity is “preventing access to information by a non-trusted system,” communications integrity is “only communicating with other devices that are able to present proof that they are trusted systems, for example, by using security measures such as encryption, exchange of digital certificates, and nonces,” and behavioral integrity is “requiring software to include a digital certificate in order to be installed in the repository.”

Leroux discloses that combination of microcomputer 2 and removable carrier 4 possesses physical integrity by “preventing access to information by a non-trusted system.” That is, Leroux discloses that memory 41 of removable carrier 4 may comprise programmed security circuitry 410, which monitors access to memory 41 and manages external access to memory carrier 4. (Ex. 1011, 4:64-5:3.) Leroux also discloses that combination of microcomputer 2 and removable carrier 4 possesses communications integrity by “only communicating with other devices that are able to present proof that they are trusted systems, for example, by using security measures such as encryption, exchange of digital certificates, and nonces.” Leroux discloses that microcomputer 2 and removable carrier 4

Case IPR2013-00137
Patent 6,963,859

communicate with service center 1 using security methods, such as identification and authentication procedures that use enciphering and deciphering algorithms. (Ex. 1011, 3:61-4:8.) Leroux further discloses that a combination of microcomputer 2 and removable carrier 4 possesses behavioral integrity by “requiring software to include a digital certificate in order to be installed.” Leroux discloses that service center 1 will check the right of access to software programs 10 by interrogating carrier 4 through microcomputer 2. (Ex. 1011, 4:1-5.) According to Leroux, only if the check is positive will service center 1 remotely load application software programs 10 in the internal memory of the microcomputer 2. (Ex. 1011, 4:13-16.)

We are also similarly persuaded that ZTE has demonstrated a reasonable likelihood that claims 2-5, 9-11, 15-17, 19, 21-28, 30-33, 37, 38, 42-44, 48-57, 59-62, 66, 67, 71-73, 75, and 77-84 are unpatentable under 35 U.S.C. § 102(e) as anticipated by Leroux. (Pet. 40-46.)

ZTE has shown a reasonable likelihood that it would prevail in showing that claims 1-5, 9-11, 15-17, 19, 21-33, 37, 38, 42-44, 46, 48-62, 66, 67, 71-73, 75, and 77-84 of the '859 patent are unpatentable under 35 U.S.C. § 102(e) as anticipated by Leroux.

C. Claims 1-5, 8-11, 13-15, 19-33, 36-38, 40-42, 46-62, 65-67, 69-71, and 75-84 – Anticipated by Hendricks

ZTE contends that claims 1-5, 8-11, 13-15, 19-33, 36-38, 40-42, 46-62, 65-67, 69-71, and 75-84 are unpatentable under 35 U.S.C. § 102(e) as anticipated by Hendricks. (Pet. 12-21.) We have considered ZTE’s analysis and supporting evidence, but are unpersuaded in light of ContentGuard’s submissions.

Case IPR2013-00137
Patent 6,963,859

ContentGuard contends that Hendricks does not disclose a “repository.” (Prel. Resp. 28-32.) We agree. Independent claims 1, 29, and 58 each recite a “repository.” All other claims depend from one of independent claims 1, 29, and 58.

ZTE cites viewer 266 of Hendricks as the required “repository.” ZTE is incorrect because viewer 266 does not possess “communications integrity.” Hendricks discloses an electronic book selection and delivery system. (Ex. 1013, Title.) Hendricks discloses a viewer 266 that allows books to be stored, read, erased, and includes the capability to order books and retain them in memory. (Ex. 1013, 12:1-6.) Hendricks discloses that viewer 266 requests information from library 262. (Ex. 1013, 10:18-19.) Hendricks discloses that information requests from viewer 266 are received either through a cable connecting viewer 266 to library 262, or through wireless transmissions such as radio frequency (“RF”). (Ex. 1013, 10:18-23.) Hendricks discloses that when viewer 266 requests a specific book from library 262, library 262 opens an electronic file for the specific book requested by viewer 266 and transmits the information on a packet-by-packet basis. (Ex. 1013, 10:37-41.) While Hendricks does disclose that the information itself is encrypted (Ex. 1013, 11:8-10.), Hendricks does not disclose that the connection between viewer 266 and library 262 uses “security measures such as encryption, exchange of digital certificates, and nonces,” so as to show that viewer 266 “only communicates with other devices that are able to present proof that they are trusted systems,” as required for “communications integrity.”

ZTE has not shown a reasonable likelihood that it would prevail in showing that claims 1-5, 8-11, 13-15, 19-33, 36-38, 40-42, 46-62, 65-67, 69-71, and 75-84

Case IPR2013-00137
Patent 6,963,859

of the '859 patent are unpatentable under 35 U.S.C. § 102(e) as anticipated by Hendricks.

D. Claims 1-5, 9-11, 15-17, 21-33, 37, 38, 42-44, 48-62, 66, 67, 71-73, and 77-84 – Anticipated by EP '139

ZTE contends that claims 1-5, 9-11, 15-17, 21-33, 37, 38, 42-44, 48-62, 66, 67, 71-73, and 77-84 are unpatentable under 35 U.S.C. § 102(b) as anticipated by EP '139. (Pet. 21-30.) We have considered ZTE's analysis and supporting evidence, but are unpersuaded in light of ContentGuard's contentions.

ContentGuard contends that EP '139 does not disclose "requesting access to content from another distributed repository," as recited in independent claims 29 and 58. (Prel. Resp. 35-37.) We agree. Independent claim 1 similarly recites "the requester mode of operation is operative to request access to content from another distributed repository." All other claims depend from one of independent claims 1, 29, and 58.

ZTE proposes two alternative readings of EP '139, each of which would satisfy the limitation at issue. However, we agree with neither reading. EP '139 is directed to data processing in connection with a software copy protection mechanism. (Ex. 1012, 1:4-6.) EP '139 discloses a source composite processor including host 10 and coprocessor 20, and a sink composite processor including sink host 110 and sink coprocessor 120. (Ex. 1012, 25:49-52.) EP '139 discloses that host 10 and coprocessor 20 are connected via some communication link or path 14. (Ex. 1012, 22:5-6.) EP '139 discloses that the source and sink processors are interconnected via communication link 200. (Ex. 1012, 26:5-6.) EP '139 discloses that source coprocessor 20 and sink coprocessor 120 exchange encrypted

Case IPR2013-00137

Patent 6,963,859

information. (Ex. 1012, 26:10-20.) EP '139 discloses that the source coprocessor can encrypt a right to execute and send it to the sink coprocessor. (Ex. 1012, 26:32-35.)

For one proposed reading of EP '139, ZTE contends that the following disclosure meets the limitation at issue:

The source computing system (10, 20) is part of a network of computers through which software can be requested and transferred from another computing system, e.g., via a communication link 200. (EP 139, 26:48-56; 27:52-28:4.)

(Pet. 26-27). We disagree. While the cited portions of EP '139 disclose transferring the right to execute between the source and sink processors, they do

not disclose one of the source and sink processors requesting the right to execute

from the other. ZTE acknowledges as much by stating that in EP '139 that

“software can be requested” (emphasis added). (Pet. 26.) A disclosure that does

not preclude a recited operation is not the same as a disclosure which discloses performing the operation.

In an alternative reading, ZTE contends that the following disclosure meets the limitation at issue:

Alternatively, the coprocessor 20 requests a right to execute and software from another computing device in a network of computers. (EP 139, 26:48-56; 27:52-28:4; 26:31-47.)

(Pet. 27; emphasis omitted). We disagree. While EP '139 discloses that source coprocessor 20 and sink coprocessor 120 exchange encrypted information, the cited portions of EP '139 do not disclose one coprocessor 20 or 120 requesting this information from the other, as required in independent claims 1, 29., and 58

Case IPR2013-00137
Patent 6,963,859

ZTE has not shown a reasonable likelihood that it would prevail in showing that claims 1-5, 9-11, 15-17, 21-33, 37, 38, 42-44, 48-62, 66, 67, 71-73, and 77-84 of the '859 patent are unpatentable under 35 U.S.C. § 102(b) as anticipated by EP '139.

E. Claims 1-5, 7-23, 25-33, 35-50, 52-62, 64-80, and 82-84 – Anticipated by Walker

ZTE contends that claims 1-5, 7-23, 25-33, 35-50, 52-62, 64-80, and 82-84 are unpatentable under 35 U.S.C. § 102(b) as anticipated by Walker. (Pet. 30-40.) We have considered ZTE's analysis and supporting evidence, but are unpersuaded in light of ContentGuard's contentions.

ContentGuard contends that Walker does not disclose a "repository." (Prel. Resp. 38-40.) We agree. Independent claims 1, 29, and 58 each recite a "repository," which we have construed above. All other claims depend from one of independent claims 1, 29, and 58.

ZTE proposes three alternative readings of Walker as satisfying the aforementioned "repository." We are unpersuaded by all three proposed readings because none of the structures identified in Walker as corresponding to the recited "repository" have "communications integrity." Figure 9 of Walker is shown below, and illustrates an exemplary system for controlling access to a store of information stored in divisible form in machine readable media using a unique code. (Ex. 1014, 1:7-10.)

Case IPR2013-00137

Patent 6,963,859

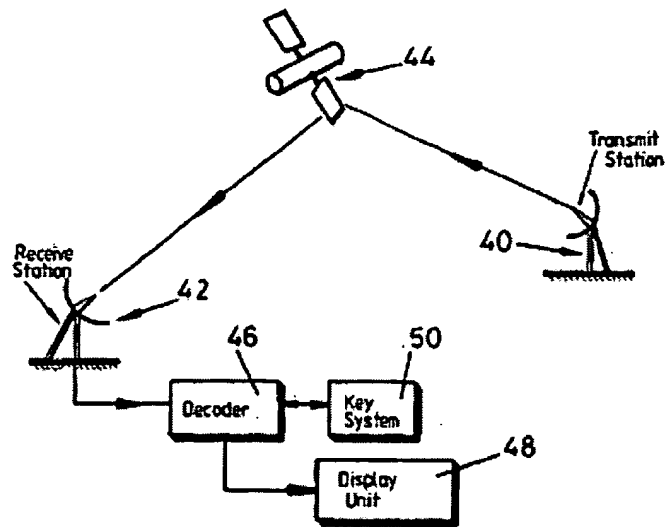
**FIG. 9**

Figure 9 illustrates a satellite information transmission system (Ex. 1014, Fig. 9.) Figure 9 of Walker discloses ground transmission station 40 transmitting information to ground receiving station 42 via satellite 44. (Ex. 1014, 7:27-30.) Walker discloses that the information is then passed to decoder 46 associated with display unit 48. (*Id.*) Walker discloses that key unit 50 is coupled to decoder 46, and information transmitted over the satellite link cannot be accessed until a user obtains “key codes,” which provides control of access to the information. (Ex. 1014, 7:30-35.)

Figure 1 of Walker is shown below, and illustrates another exemplary embodiment that is similar to the system of Figure 9.

Case IPR2013-00137

Patent 6,963,859

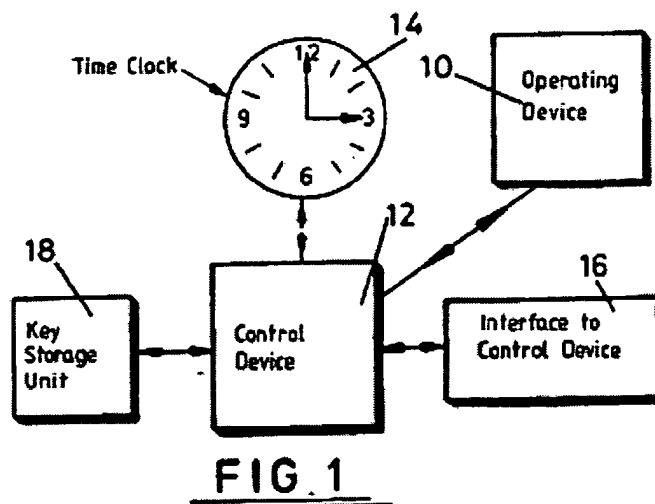


Figure 1 illustrates a control system

(Ex. 1014, Fig. 1.) Figure 1 of Walker discloses a control system including operating device 10, interface 16, and key storage unit 18 that are each connected to control device 12. (Ex. 1014, 4:14-21.) Walker discloses that storage unit 18, operational device 10, control device 12, and interface 16 can be interlinked by electrical, optical, radio frequency, or other signal carrying means. (Ex. 1014, 5:17-20.) Walker discloses that at the beginning of operation, control device 12 requests a matching of a unit of data provided by a user to one stored in an area of key storage unit 18. (Ex. 1014, 4:46-49.) If a match is found, according to Walker, control device 12 is allowed access to key storage unit 18. (Ex. 1014, 4:51-53.)

Based on all three proposed readings, ZTE contends that at least one of the systems illustrated in Figures 1 and 9 of Walker corresponds to the recited “repository.” ZTE is incorrect. While Walker discloses that both systems are connected to other systems, Walker does not disclose that either system, when communicating with other systems, uses “security measures such as encryption,

Case IPR2013-00137
Patent 6,963,859

exchange of digital certificates, and nonces,” so as to show that each system “only communicates with other devices that are able to present proof that they are trusted systems,” as required for “communications integrity.” For example, assume a system similar to the system attached to receive station 42 is attached to transmit station 40 in Figure 9 of Walker. In that scenario, Walker does not disclose any security measures employed between those two systems via receive station 42, satellite 44, and transmit station 40.

ZTE has not shown a reasonable likelihood that it would prevail in showing that claims 1-5, 7-23, 25-33, 35-50, 52-62, 64-80, and 82-84 of the '859 patent are unpatentable under 35 U.S.C. § 102(b) as anticipated by Walker.

F. Claims 1-7, 9-12, 14-16, 18-23, 25-35, 37-39, 41-43, 45-50, 52-64, 66-68, 70-72, 74-80, and 82-84 – Anticipated by EP '306.

ZTE contends that claims 1-7, 9-12, 14-16, 18-23, 25-35, 37-39, 41-43, 45-50, 52-64, 66-68, 70-72, 74-80, and 82-84 are unpatentable under 35 U.S.C. § 102(b) as anticipated by EP '306. (Pet. 46-53.) We have considered ZTE's analysis and supporting evidence, but are unpersuaded in light of ContentGuard's submissions.

ContentGuard contends that EP '306 does not disclose a “repository.” (Prel. Resp. 46-47.) We agree. Independent claims 1, 29, and 58 each recite a “repository,” which we have construed above. All other claims depend from one of independent claims 1, 29, and 58.

ZTE cites a combination of processor 20 and memory 22 of EP '306 as corresponding to the recited “repository.” ZTE is incorrect because the combination of processor 20 and memory 22 does not possess “communications

Case IPR2013-00137

Patent 6,963,859

integrity.” EP ’306 discloses management of display and printing operations for a document by a data processor, so as to comply with proprietary and security restrictions of the document. (Ex. 1010, 1:5-10.) EP ’306 discloses that online books may be rendered on a variety of display devices. (Ex. 1010, 2:2-4.) EP ’306 provides a book data stream in an intermediate format for storing on-line information that is specifically designed to be used by a book display program on the display device. (Ex. 1010, 1:54-57.) EP ’306 discloses that electronic books are communicated, stored, displayed, and modified. (Ex. 1010, 2:12-14.) EP ’306 discloses that the book display program may be a document manager system including a processor 20 connected to a display 26, memory 22, printer 44, disk drive 46, communications adapter 48, and enunciator 52. (Ex. 1010, 6:48-52.) While EP ’306 does disclose processor 20 and memory 22 communicating with an outside device via communications adapter 48, EP ’306 does not disclose using security measures between the outside device and a combination of processor 20 and memory 22 via communications adapter 48, as required for “communications integrity.”

ZTE has not shown a reasonable likelihood that it would prevail in showing that claims 1-7, 9-12, 14-16, 18-23, 25-35, 37-39, 41-43, 45-50, 52-64, 66-68, 70-72, 74-80, and 82-84 of the ’859 patent are unpatentable under 35 U.S.C. § 102(b) as anticipated by EP ’306.

G. Claims 1-3, 5-11, 15-17, 21, 22, 25, 27-31, 33-38, 42-44, 48, 49, 52, 54-60, 62-67, 71-73, 77, 78, and 82-84 – Obvious over Perritt and Wyman

ZTE contends that claims 1-3, 5-11, 15-17, 21, 22, 25, 27-31, 33-38, 42-44, 48, 49, 52, 54-60, 62-67, 71-73, 77, 78, and 82-84 are unpatentable under

Case IPR2013-00137
Patent 6,963,859

35 U.S.C. § 103(a) as obvious in view of Perritt and Wyman. (Pet. 53-59.) We have considered ZTE's analysis and supporting evidence, but are unpersuaded because neither Perritt nor Wyman discloses a "repository" with "physical integrity." Independent claims 1, 29, and 58 each recite a "repository," which we have construed above as including "physical integrity." All other claims depend from one of independent claims 1, 29, and 58.

ZTE contends that each of Perritt and Wyman discloses the claimed "repository." (Pet. 54.) Specifically, ZTE contends that the client workstations of Perritt and delegatee servers 13 of Wyman each correspond to the recited "repository." (*Id.*) We disagree.

Perritt discloses a digital library infrastructure where a set of information resources is distributed through an electronic network. (Ex. 1006, p. 3.) Perritt discloses that the information resides on servers and can be retrieved remotely by using client workstations. (Ex. 1006, p. 3.) Perritt discloses that to obtain information, a client workstation sends a query indicating a desire to download the information with certain conditions. (Ex. 1006, p. 4.) Perritt discloses that software attempts to match the conditions with data in permission headers associated with the desired information, and if they match, the desired information is transmitted. (Ex. 1006, pp. 4-5.) Perritt discloses that security in a transfer of rights would be provided by digital signatures using public key encryption. (Ex. 1006, p. 4.) While this infrastructure of Perritt may possess both "communications integrity" and "behavioral integrity," Perritt does not disclose that the client workstation itself "prevents access to information by a non-trusted system," as required for "physical integrity." "Physical integrity" would be a feature of the

Case IPR2013-00137
Patent 6,963,859

client workstation alone, while Perritt's security features are directed only to the transfer of information to the client workstations from the perspective of the servers.

Wyman discloses managing licensing of software executed on computer systems. (Ex. 1015, 1:23-26.) Wyman discloses license server 10, which communicates with delegatee servers 13. (Ex. 1015, 9:25-35.) Wyman discloses that license server 10 includes license management program 14. (Ex. 1015, 9:30-35.) Wyman discloses that license management program 14 stores product use authorizations on database 23, which is connected to license server 10. (Ex. 1015, Fig. 1, 11:12-16.) Wyman discloses that license management program 14 may

distribute parts of these product use authorizations to delegatee servers 13. (*Id.*)

Wyman discloses that license server 10 communicates with delegatee servers 13 over a network via interserver interface 34. (Ex. 1015, 9:60-62, 11:44-49.)

Wyman discloses that delegatee servers 13 are in turn servers for user nodes 16, which are where licensed programs are actually executed. (Ex. 1015, 9:40-42.) As both license server 10 and user nodes 16 have access to the information on delegatee servers 13, and Wyman does not set forth enough information to determine whether license server 10 and user nodes 16 are trusted systems, Wyman does not disclose that delegatee servers 13 meet "preventing access to information by a non-trusted system," as required for "physical integrity."

ZTE has not shown a reasonable likelihood that it would prevail in showing that claims 1-3, 5-11, 15-17, 21, 22, 25, 27-31, 33-38, 42-44, 48, 49, 52, 54-60, 62-67, 71-73, 77, 78, and 82-84 of the '859 patent are unpatentable under 35 U.S.C. § 103(a) as obvious over Perritt and Wyman.

Case IPR2013-00137

Patent 6,963,859

H. Declaration of Dr. Vijay K. Madisetti (Ex. 1016)

ContentGuard contends that Dr. Madisetti's declaration is entitled to little or no weight because it merely parrots the arguments made by ZTE in the petition. (Prel. Resp. 53-54.) The current situation does not require us to assess the strength of ContentGuard's argument. Even if we were to give Dr. Madisetti's declaration little or no weight, the cited prior art references still constitute sufficient evidence supporting a reasonable likelihood that ZTE will prevail on its assertion that claims 1-5, 9-11, 15-17, 19, 21-33, 37, 38, 42-44, 48-62, 66, 67, 71-73, 75, and 77-84 of the '859 patent are unpatentable.

III. CONCLUSION

For the forgoing reasons, we determine that the information presented in the petition establishes that there is a reasonable likelihood that ZTE would prevail with respect to claims 1-5, 9-11, 15-17, 19, 21-33, 37, 38, 42-44, 48-62, 66, 67, 71-73, 75, and 77-84 of the '859 patent.

IV. ORDER

Accordingly, it is

ORDERED that pursuant to 35 U.S.C. § 314, an *inter partes* review is hereby instituted as to claims 1-5, 9-11, 15-17, 19, 21-33, 37, 38, 42-44, 46, 48-62, 66, 67, 71-73, 75, and 77-84 of the '859 patent under 35 U.S.C. § 102(e) as anticipated by Leroux;

FURTHER ORDERED that inter partes review is not instituted with respect to the following claims and alleged grounds:

Case IPR2013-00137

Patent 6,963,859

- Claims 1-5, 8-11, 13-15, 19-33, 36-38, 40-42, 46-62, 65-67, 69-71, and 75-84 are unpatentable under 35 U.S.C. § 102(e) as anticipated by Hendricks;
- Claims 1-5, 9-11, 15-17, 21-33, 37, 38, 42-44, 48-62, 66, 67, 71-73, and 77-84 are unpatentable under 35 U.S.C. § 102(b) as anticipated by EP '139;
- Claims 1-5, 7-23, 25-33, 35-50, 52-62, 64-80, and 82-84 are unpatentable under 35 U.S.C. § 102(b) as anticipated by Walker;
- Claims 1-7, 9-12, 14-16, 18-23, 25-35, 37-39, 41-43, 45-50, 52-64, 66-68, 70-72, 74-80, and 82-84 are unpatentable under 35 U.S.C. § 102(b) as anticipated by EP '306; and
- Claims 1-3, 5-11, 15-17, 21, 22, 25, 27-31, 33-38, 42-44, 48, 49, 52, 54-60, 62-67, 71-73, 77, 78, and 82-84 are unpatentable under 35 U.S.C. § 103(a) as unpatentable over Perritt and Wyman.

FURTHER ORDERED that pursuant to 35 U.S.C. § 314(d) and 37 C.F.R. § 42.4, notice is hereby given of the institution of a trial; the trial is commencing on the entry date of this decision; and

FURTHER ORDERED that an initial conference call with the Board is scheduled for 3:00 PM Eastern Time on July 29, 2013; the parties are directed to the Office Trial Practice Guide³ for guidance in preparing for the initial conference call, and should come prepared to discuss any proposed changes to the Scheduling Order entered herewith and any motions the parties anticipate filing during the trial.

³ *Office Patent Trial Practice Guide*, 77 Fed. Reg. 48756, 48765-66 (Aug. 14, 2012).

Case IPR2013-00137
Patent 6,963,859

For PETITIONER:

Jon Beaupre
jbeaupre@brinkshofer.com

Miyoung Shin
mshin@brinkshofer.com

Jeremy Snodgrass
jsnodgrass@brinkshofer.com

For PATENT OWNER:

Robert Sterne
rsterne-PTAB@skgf.com

Jon Wright
Jwright-PTAB@skgf.com

Venice, Naples, Mantua, Florence, and other city-states, along with the political intrigue and plotting that developed as a consequence of this economic interchange. David Kahn reports that, by the end of the sixteenth century, cryptology had become important enough for most Italian city states to employ full-time cipher secretaries. These officials were responsible for developing new nomenclators, enciphering plaintexts, deciphering incoming messages, and breaking captured cryptograms.

A nomenclator is actually a hybrid of code and cipher systems. In its earliest form, it consisted of a relatively short list of names alluded to in secret documents, along with codewords representing the names. In one nomenclator, for example, "Naples" was represented by the word *nobile* (noble), while "Florence" was represented by the word *terra* (land).

Before long, a simple monosubstitution cipher alphabet was added to the list of names. The nomenclator mentioned above, for example, used the symbol g for the letter C and the symbol T for the letter O. Over time, both the codenames and cipher alphabets used in nomenclators became more extensive and complex. Rather than a few dozen codewords, they often contained a few thousand. In place of a monosubstitution alphabet, these nomenclators employed multiple substitutes, or homophones. Nomenclators also commonly included symbols for nulls, or *nihil importantes* (nothing important), to confuse prospective cryptanalysts.

An example of a message encrypted by means of a nomenclator (using modern symbols and language) might look like the following:

PLAINTEXT: S E N D M O N E Y T O S M I T H
nomenclator: x t v i k j o v e a b p c t u l i p

See also: cipher; code; homophones; monoalphabetic substitution; null.

For further reading: David Kahn, *The Codebreakers: The Story of Secret Writing*, New York: Macmillan, 1967, ch. 3.

Nonce

A number used in a cryptographic protocol to indicate the unique character of a message. Nonces are essential when the same protocol is used many times with the same set of participants. Theoretically, it would be simple for a third party to alter any particular transmission using the protocol if no change were made in its use each time. A number of different devices can be used as nonces, including large random numbers and time-stamps.

See also: random number; time-stamp.

For further reading: Charlie Kaufman, Radia Perlman, and Mike Speciner, *Network Security: Private Communication in a Public World*, Englewood Cliffs, NJ: Prentice-Hall, 1995, pp. 244, 254-256.

Nonrepudiation

Proof that a particular person or organization has made some type of agreement with one or more other people or organizations. Nonrepudiation means that a person or organization cannot say at some time in the future that he, she, or it never really agreed to some arrangement with another party.

Nonrepudiation is a normal and common feature of agreements in everyday life. For example, when someone wants to borrow money from a bank, he or she signs an agreement indicating that the money really was borrowed and that it will be paid back. The person cannot later say that the money was never really obtained and/or that there was never any intent to pay the money back.

Nonrepudiation is normal in business transactions also. Alice may sign an agreement with Bob to buy 10,000 shares of stock in the ABC Company for \$1 million. Her signature on the agreement is accepted as proof that she made the agreement in the first place.

For many everyday transactions, a personal signature is sufficient evidence for later nonrepudiation of an agreement. In many cases, the signature may need to be witnessed by a trusted third party.

**This Page is Inserted by IFW Indexing and Scanning
Operations and is not part of the Official Record**

BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images include but are not limited to the items checked:

- ☐ **BLACK BORDERS**
- ☐ **IMAGE CUT OFF AT TOP, BOTTOM OR SIDES**
- ☒ **FADED TEXT OR DRAWING**
- ☐ **BLURRED OR ILLEGIBLE TEXT OR DRAWING**
- ☐ **SKEWED/SLANTED IMAGES**
- ☐ **COLOR OR BLACK AND WHITE PHOTOGRAPHS**
- ☐ **GRAY SCALE DOCUMENTS**
- ☒ **LINES OR MARKS ON ORIGINAL DOCUMENT**
- ☐ **REFERENCE(S) OR EXHIBIT(S) SUBMITTED ARE POOR QUALITY**
- ☐ **OTHER:**

IMAGES ARE BEST AVAILABLE COPY.

As rescanning these documents will not correct the image problems checked, please do not report these problems to the IFW Image Problem Mailbox.

To:	Mail Stop 8 Director of the U.S. Patent and Trademark Office P.O. Box 1450 Alexandria, VA 22313-1450	REPORT ON THE FILING OR DETERMINATION OF AN ACTION REGARDING A PATENT OR TRADEMARK

In Compliance with 35 U.S.C. § 290 and/or 15 U.S.C. § 1116 you are hereby advised that a court action has been filed in the U.S. District Court Southern District of California on the following: X Patents or _____ Trademarks:

DOCKET NO.	DATE FILED	US District Court Southern District of California
3:13-cv-03073-LAB-JMA	12/17/13	San Diego, CA
PLAINTIFF		DEFENDANT
ZTE Corporation, et al.		ContentGuard Holdings, Inc.
PATENT OR TRADEMARK NO.	PATENT OR TRADEMARK NO.	PATENT OR TRADEMARK NO.
1. 6,963,859	6. 7,523,072	11.
2. 7,139,736	7.	12.
3. 7,225,160	8.	13.
4. 7,269,576	9.	14.
5. 7,359,884	10.	15.

In the above-entitled case, the following patent(s)/ trademark(s) have been included:

DATE INCLUDED	INCLUDED BY	
	Amendment ___ Answer ___ Cross Bill ___ Other Pleading ___	
PATENT OR TRADEMARK NO.	PATENT OR TRADEMARK NO.	PATENT OR TRADEMARK NO.
1.	6.	11.
2.	7.	12.
3.	8.	13.
4.	9.	14.
5.	10.	15.

In the above-entitled case, the following decision has been rendered or judgment issued:

DECISION/JUDGMENT

CLERK	(BY) DEPUTY CLERK	DATE
John Morrill, Acting Clerk of Court		

9 #5

Attachment B

PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
6,963,859	11/08/2005	ContentGuard Holdings, Inc.
7,225,160	05/29/2007	ContentGuard Holdings, Inc.
7,269,576	09/11/2007	ContentGuard Holdings, Inc.
7,523,072	04/21/2009	ContentGuard Holdings, Inc.
7,774,280	08/10/2010	ContentGuard Holdings, Inc.
8,001,053	08/16/2011	ContentGuard Holdings, Inc.
8,370,956	02/05/2013	ContentGuard Holdings, Inc.
8,393,007	03/05/2013	ContentGuard Holdings, Inc.
8,583,556	11/12/2013	ContentGuard Holdings, Inc.

Attachment A

Defendants

AMAZON.COM, INC.

APPLE INC.

BLACKBERRY CORPORATION (FKA RESEARCH IN MOTION CORPORATION)

HUAWEI DEVICE USA, INC.

MOTOROLA MOBILITY LLC

McKool Smith

Daniela Lattes
Direct Dial: (212) 402-9499
dlattes@mckoolsmith.com

One Bryant Park
47th Floor
New York, NY 10036

Telephone: (212) 402-9400
Facsimile: (212) 402-9444

December 26, 2013

VIA CERTIFIED MAIL

Mail Stop 8
Director of the U.S. Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450

RE: ContentGuard Holdings, Inc. v. Amazon.com et al. - 2:13-cv-01112

Please find attached form AO 120 in the above captioned case filed in the Eastern District of Texas - Marshall.

Best regards,

A handwritten signature in black ink, appearing to be 'Daniela Lattes', with a stylized, overlapping loop structure.

Daniela Lattes

McKool Smith

A Professional Corporation • Attorneys

Austin | Dallas | Houston | Los Angeles | Marshall | New York | Silicon Valley | Washington, DC

Petitioner Apple Inc. - Exhibit 1002, p. 354

To:	Mail Stop 8 Director of the U.S. Patent and Trademark Office P.O. Box 1450 Alexandria, VA 22313-1450	REPORT ON THE FILING OR DETERMINATION OF AN ACTION REGARDING A PATENT OR TRADEMARK

In Compliance with 35 U.S.C. § 290 and/or 15 U.S.C. § 1116 you are hereby advised that a court action has been filed in the U.S. District Court Southern District of California on the following: X Patents or Trademarks:

DOCKET NO.	DATE FILED	US District Court Southern District of California
3:13-cv-03073-LAB-JMA	12/17/13	San Diego, CA
PLAINTIFF		DEFENDANT
ZTE Corporation, et al.		ContentGuard Holdings, Inc.
PATENT OR TRADEMARK NO.	PATENT OR TRADEMARK NO.	PATENT OR TRADEMARK NO.
1. 6,963,859	6. 7,523,072	11.
2. 7,139,736	7.	12.
3. 7,225,160	8.	13.
4. 7,269,576	9.	14.
5. 7,359,884	10.	15.

In the above-entitled case, the following patents(s)/ trademark(s) have been included:

DATE INCLUDED	INCLUDED BY	
	Amendment <u> </u> Answer <u> </u> Cross Bill <u> </u> Other Pleading <u> </u>	
PATENT OR TRADEMARK NO.	PATENT OR TRADEMARK NO.	PATENT OR TRADEMARK NO.
1.	6.	11.
2.	7.	12.
3.	8.	13.
4.	9.	14.
5.	10.	15.

In the above-entitled case, the following decision has been rendered or judgment issued:

DECISION/JUDGMENT	Notice of Voluntary Dismissal	
CLERK	(BY) DEPUTY CLERK	DATE
John Morrill, Acting Clerk of Court	A. Garcia	03/03/2014

AO 120 (Rev. 08/10)

TO: Mail Stop 8 Director of the U.S. Patent and Trademark Office P.O. Box 1450 Alexandria, VA 22313-1450	REPORT ON THE FILING OR DETERMINATION OF AN ACTION REGARDING A PATENT OR TRADEMARK

In Compliance with 35 U.S.C. § 290 and/or 15 U.S.C. § 1116 you are hereby advised that a court action has been filed in the U.S. District Court Eastern District/Texas (Marshall) on the following

☐ Trademarks or ☒ Patents. (☒ the patent action involves 35 U.S.C. § 292.):

DOCKET NO. 2:13-cv-01112	DATE FILED 12/18/2013	U.S. DISTRICT COURT Eastern District/Texas (Marshall)
PLAINTIFF ContentGuard Holdings, Inc.		DEFENDANT See Attachment A
PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1 <i>See attached</i>		See Attachment B
2		
3		
4		
5		

In the above—entitled case, the following patent(s)/ trademark(s) have been included:

DATE INCLUDED	INCLUDED BY ☐ Amendment ☐ Answer ☐ Cross Bill ☐ Other Pleading		
PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK	
1			
2			
3			
4			
5			

In the above—entitled case, the following decision has been rendered or judgement issued:

DECISION/JUDGEMENT

CLERK	(BY) DEPUTY CLERK	DATE

Copy 1—Upon initiation of action, mail this copy to Director Copy 3—Upon termination of action, mail this copy to Director
 Copy 2—Upon filing document adding patent(s), mail this copy to Director Copy 4—Case file copy

Attachment A

Defendants

Amazon.com, Inc.
Apple Inc.
BlackBerry Limited (fka Research In Motion Limited)
BlackBerry Corporation (fka Research In Motion Corporation)
HTC Corporation
HTC America, Inc.
Huawei Technologies Co., Ltd.
Huawei Device USA, Inc.
Motorola Mobility LLC
Samsung Electronics Co., Ltd.
Samsung Electronics America, Inc.
Samsung Telecommunications America, LLC

Attachment B

PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
6,963,859	11/08/2005	ContentGuard Holdings, Inc.
7,225,160	05/29/2007	ContentGuard Holdings, Inc.
7,269,576	09/11/2007	ContentGuard Holdings, Inc.
7,523,072	04/21/2009	ContentGuard Holdings, Inc.
7,774,280	08/10/2010	ContentGuard Holdings, Inc.
8,001,053	08/16/2011	ContentGuard Holdings, Inc.
8,370,956	02/05/2013	ContentGuard Holdings, Inc.
8,393,007	03/05/2013	ContentGuard Holdings, Inc.
8,583,556	11/12/2013	ContentGuard Holdings, Inc.

AO 120 (Rev. 08/10)

TO: Mail Stop 8 Director of the U.S. Patent and Trademark Office P.O. Box 1450 Alexandria, VA 22313-1450	REPORT ON THE FILING OR DETERMINATION OF AN ACTION REGARDING A PATENT OR TRADEMARK

In Compliance with 35 U.S.C. § 290 and/or 15 U.S.C. § 1116 you are hereby advised that a court action has been filed in the U.S. District Court Eastern District/Texas (Marshall) on the following

☐ Trademarks or ☒ Patents. (☒ the patent action involves 35 U.S.C. § 292.):

DOCKET NO. 2:14-cv-00061	DATE FILED 2/5/2014	U.S. DISTRICT COURT Eastern District/Texas (Marshall)
PLAINTIFF ContentGuard Holdings, Inc.		DEFENDANT Google, Inc.

PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1 See attached		See Attachment A
2		
3		
4		
5		

In the above—entitled case, the following patent(s)/ trademark(s) have been included:

DATE INCLUDED	INCLUDED BY		
	☐ Amendment	☐ Answer	☐ Cross Bill ☐ Other Pleading
PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK	
1			
2			
3			
4			
5			

In the above—entitled case, the following decision has been rendered or judgement issued:

DECISION/JUDGEMENT		

CLERK	(BY) DEPUTY CLERK	DATE

Copy 1—Upon initiation of action, mail this copy to Director Copy 3—Upon termination of action, mail this copy to Director
 Copy 2—Upon filing document adding patent(s), mail this copy to Director Copy 4—Case file copy

Attachment A

PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
6,963,859	11/08/2005	ContentGuard Holdings, Inc.
7,225,160	05/29/2007	ContentGuard Holdings, Inc.
7,269,576	09/11/2007	ContentGuard Holdings, Inc.
7,523,072	04/21/2009	ContentGuard Holdings, Inc.
7,774,280	08/10/2010	ContentGuard Holdings, Inc.
8,001,053	08/16/2011	ContentGuard Holdings, Inc.
8,370,956	02/05/2013	ContentGuard Holdings, Inc.
8,393,007	03/05/2013	ContentGuard Holdings, Inc.
8,583,556	11/12/2013	ContentGuard Holdings, Inc.

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

ZTE CORPORATION and ZTE (USA) INC.,
Petitioners,

v.

CONTENTGUARD HOLDINGS, INC.,
Patent Owners.

Case IPR2013-00137
Patent 6,963,859

Before JAMESON LEE, MICHAEL W. KIM, and
MICHAEL R. ZECHER, *Administrative Patent Judges*.

KIM, *Administrative Patent Judge*.

FINAL WRITTEN DECISION
35 U.S.C. § 318(a) and 37 C.F.R. § 42.73

I. BACKGROUND

A. Introduction

Petitioners (“ZTE”) filed a corrected Petition for *inter partes* review of claims 1-84 of U.S. Patent No. 6,963,859 (“the ’859 patent”). Paper 12 (“Pet.”). The Patent Owner (“ContentGuard”) timely filed a Patent Owner Preliminary Response. Paper 16 (“Prel. Resp.”) On July 1, 2013, the Board instituted trial for claims 1-5, 9-11, 15-17, 19, 21-33, 37, 38, 42-44, 46, 48-62, 66, 67, 71-73, 75, and 77-84, under 35 U.S.C. § 102(e), as anticipated by U.S. Patent No. 5,588,146 to Leroux (Ex. 1011). Paper 17 (“Dec.”).

After institution of trial, Patent Owners (“ContentGuard”)¹ filed a Patent Owner Response (Paper 34, “PO Resp.”), but did not file a motion to amend. Petitioner subsequently filed a Reply. Paper 39 (“Reply”).

A consolidated oral hearing for IPR2013-00133, IPR2013-00137, IPR2013-00138, and IPR2013-00139, each involving the same Petitioners and Patent Owners, was held on February 26 and 27, 2014. The transcript of the consolidated hearing has been entered into the record. Papers 55-57.

We have jurisdiction under 35 U.S.C. § 6(c). This final written decision is issued pursuant to 35 U.S.C. § 318(a).

Claims 1-5, 9-11, 15-17, 19, 21-33, 37, 38, 42-44, 46, 48-62, 66, 67, 71-73, 75, and 77-84 of the ’859 patent are not *unpatentable*.

¹ The mandatory notices filed pursuant to 37 C.F.R. § 42.8(b)(1) indicate that both ContentGuard Holdings, Inc. and Pendrell Corporation are the real parties in interest. Paper 15, 2.

IPR2013-00137
Patent 6,963,859

B. Related Proceedings

ZTE indicates that the '859 patent is involved in co-pending district court case titled *ContentGuard Holdings Inc. v. ZTE Corp.*, No. 3:12-cv-01226 (S.D. Cal.). Pet. 1. ZTE also filed five other Petitions seeking *inter partes* review of the following patents of ContentGuard: U.S. Patent No. 7,523,072 (IPR2013-00133); U.S. Patent No. 7,225,160 (IPR2013-00134); U.S. Patent No. 7,359,884 (IPR2013-00136); U.S. Patent No. 7,139,736 (IPR2013-00138); and U.S. Patent No. 7,269,576 (IPR2013-00139). *Id.*

C. The '859 patent

The subject matter of the '859 patent relates to distribution of and usage rights enforcement for digitally encoded works. Ex. 1001, 1:12-13. According to the '859 patent, an issue facing the publishing and information industries is how to prevent the unauthorized and unaccounted distribution or usage of electronically published materials. Ex. 1001, 1:16-19. In particular, a major concern is the ease in which electronically published works can be “perfectly” reproduced and distributed. Ex. 1001, 1:30-31. One way to curb unaccounted distribution is to prevent unauthorized copying and transmission. Ex. 1001, 1:49-51. Another way is to distribute software, which requires a “key” to enable its use. Ex. 1001, 1:65-66. However, the '859 patent discloses that, although such distribution and protection schemes prevent unauthorized distributions, it does so by sacrificing the potential for subsequent revenue bearing uses. Ex. 1001, 2:61-65. For example, the '859 patent discloses that it may be desirable to allow the lending of a purchased work to permit exposure of the work to

potential buyers, permit the creation of a derivative work for a fee, or permit copying the work for a fee. Ex. 1001, 2:65-3:3. The '859 patent discloses that it solves these problems by both permanently attaching usage rights to digital works, and by placing elements in repositories, which store and control the digital works, that enforce these usage rights. Ex. 1001, 6:11-21.

D. Illustrative Claim

Claims 1, 29, and 58 are independent claims. Independent claims 1, 29, and 58 are directed to a system, a method, and a computer readable medium, respectively. Claims 2-28 directly or indirectly depend from claim 1, claims 30-57 directly or indirectly depend from claim 29, and claims 59-84 directly or indirectly depend from claim 58. Claims 1, 29, and 58 are exemplary of the claimed subject matter of the '859 patent, and are reproduced as follows (emphasis added):

1. A rendering system adapted for use in a distributed system for managing use of content, said rendering system being operative to rendering content in accordance with usage rights associated with the content, said rendering system comprising:

a rendering device configured to render the content; and

a distributed *repository* coupled to said rendering device and including a requester mode of operation and server mode of operation,

wherein the server mode of operation is operative to enforce usage rights associated with the content and permit the rendering device to render the content in accordance with a manner of use specified by the usage rights,

the requester mode of operation is operative to request access to content from another distributed repository, and

said distributed repository is operative to receive a request to render the content and permit the content to be rendered only if a manner of use specified in the request corresponds to a manner of use specified in the usage rights.

29. A rendering method adapted for use in a distributed system for managing use of content, and operative to render content in accordance with usage rights associated with the content, said method comprising:

configuring a rendering device to render the content;

configuring a distributed *repository* coupled to said rendering device to include a requester mode of operation and server mode of operation;

enforcing usage rights associated with the content and permitting the rendering device to render the content in accordance with a manner of use specified by the usage rights, when in the server mode of operation;

requesting access to content from another distributed repository, when in the requester mode of operation; and

receiving by said distributed repository a request to render the content and permitting the content to be rendered only if a manner of use specified in the request corresponds to a manner of use specified in the usage rights.

58. A computer readable medium including one or more computer readable instructions embedded therein for use in a distributed system for managing use of content, and operative

to render content in accordance with usage rights associated with the content, said computer readable instructions configured to cause one or more computer processors to perform the steps of:

configuring a rendering device to render the content;

configuring a distributed *repository* coupled to said rendering device to include a requester mode of operation and server mode of operation;

enforcing usage rights associated with the content and permitting the rendering device to render the content in accordance with a manner of use specified by the usage rights, when in the server mode of operation;

requesting access to content from another distributed repository, when in the requester mode of operation; and

receiving by said distributed repository a request to render the content and permitting the content to be rendered only if a manner of use specified in the request corresponds to a manner of use specified in the usage rights.

Ex. 1001, 51:16-38, 52:45-65, 54:6-28 (emphasis added).

II. ANALYSIS

The only ground instituted for trial is that of the alleged anticipation, under 35 U.S.C. § 102(e), of claims 1-5, 9-11, 15-17, 19, 21-33, 37, 38, 42-44, 46, 48-62, 66, 67, 71-73, 75, and 77-84 by Leroux. ZTE has to prove unpatentability by a preponderance of the evidence. 35 U.S.C. § 316(e). In patent law, “the name of the game is the claim.” *In re Hiniker Co.*, 150 F.3d 1362, 1369 (Fed. Cir. 1998). Therefore, we begin with claim construction, and then follow with specific analysis of the prior art.

A. Claim Construction

In an *inter partes* review, claim terms in an unexpired patent are interpreted according to their broadest reasonable construction in light of the specification of the patent in which they appear. 37 C.F.R. § 42.100(b); Office Patent Trial Practice Guide, 77 Fed. Reg. 48,756, 48,766 (Aug. 14, 2012). Under the broadest reasonable construction standard, claim terms are given their ordinary and customary meaning, as would be understood by one of ordinary skill in the art in the context of the disclosure. *In re Translogic Tech., Inc.*, 504 F.3d 1249, 1257 (Fed. Cir. 2007). If an inventor acts as his or her own lexicographer, the definition must be set forth in the specification with reasonable clarity, deliberateness, and precision. *Renishaw PLC v. Marposs Societa' per Azioni*, 158 F.3d 1243, 1249 (Fed. Cir. 1998).

An extraneous limitation should not be read into the claims from the specification. *See e.g., E.I. du Pont de Nemours & Co. v. Phillips Petroleum Co.*, 849 F.2d 1430, 1433 (Fed. Cir. 1988). An extraneous limitation is one where its presence in a claim is unnecessary to make sense of the claim. *See, e.g., In re Paulsen*, 30 F.3d 1475, 1480 (Fed. Cir. 1994); *Renishaw PLC*, 158 F.3d at 1249. The construction that stays true to the claim language and most naturally aligns with the inventor's description is likely the correct interpretation. *See Renishaw PLC*, 158 F.3d at 1250. The challenge is to interpret claims without unnecessarily importing limitations from the specification into the claims. *See E-Pass Techs., Inc. v. 3Com Corp.*, 343 F.3d 1364, 1369 (Fed. Cir. 2003).

Repository (Claims 1, 29, and 58)

In its Petition, ZTE did not provide an explicit construction for “repository.” In the Patent Owner Preliminary Response, ContentGuard contended that “repository” should be interpreted as “a trusted system for supporting usage rights.” Prelim. Resp. 17. When instituting trial, we construed “repository” as “a trusted system which maintains physical, communications and behavioral integrity, and supports usage rights.” Dec. 9. For reasons discussed below, we adhere to the same interpretation for this final written decision.

The specification provides a glossary which recites the following meaning for “repository”:

Conceptually a set of functional specifications defining core functionality in the support of usage rights. *A repository is a trusted system in that it maintains physical, communications and behavioral integrity.*

Ex. 1001, 50:47-51 (emphasis added). By setting forth the term in a glossary and using the verb “is” following “repository” in the second sentence, the specification sets forth an explicit definition of “repository” as “a trusted system in that it maintains physical, communications and behavioral integrity.” The first sentence is relevant also to the definition of “repository” because it specifies that the repository supports usage rights. Accordingly, we construe “repository” as “a trusted system which maintains physical, communications and behavioral integrity, and supports usage rights.”

Our analysis does not end here. In order to understand “a trusted system,” it is necessary to construe “physical integrity,” “communications integrity,” and “behavioral integrity.” Those terms are described in a section of the specification labeled “[r]epositories.” For “physical integrity,” the specification describes:

Physical integrity refers to the integrity of the physical devices themselves. *Physical integrity applies both to the repositories and to the protected digital works.* Thus, the higher security classes of repositories themselves may have sensors that detect when tampering is attempted on their secure cases. *In addition to protection of the repository itself, the repository design protects access to the content of digital works.* In contrast with the design of conventional magnetic and optical devices-such as floppy disks, CD-ROMs, and videotapes-*repositories never allow non-trusted systems to access the works directly.* A maker of generic computer systems cannot guarantee that their platform will not be used to make unauthorized copies. The manufacturer provides generic capabilities for reading and writing information, and the general nature of the functionality of the general computing device depends on it. Thus, a copy program can copy arbitrary data. This copying issue is not limited to general purpose computers. It also arises for the unauthorized duplication of entertainment “software” such as video and audio recordings by magnetic recorders. Again, the functionality of the recorders depends on their ability to copy and they have no means to check whether a copy is authorized. In contrast, *repositories prevent access to the raw data by general devices* and can test explicit rights and conditions before copying or otherwise granting access. *Information is only accessed by protocol between trusted repositories.*

Ex. 1001, 11:62-12:20 (emphases added). Much of the above description makes use of permissive terms such as “may” and “can” and, thus, does not

reflect or indicate a required limitation for physical integrity. The specification also appears to use the terms or phrases in each of the following three groups interchangeably:

1. data, content, digital work, information;
2. non-trusted system, general device; and
3. “never allow access” and “prevent access.”

When referring to the relationship between the repository and data, the specification uses absolute terms such as “never” and “only.” In light of the foregoing, we construe “physical integrity” as “preventing access to information by a non-trusted system.”

For “communications integrity,” the specification describes the following:

Communications integrity refers to the integrity of the communications channels between repositories. Roughly speaking, communications integrity means that repositories cannot be easily fooled by “telling them lies.” Integrity in this case refers to the property that *repositories will only communicate with other devices that are able to present proof that they are certified repositories*, and furthermore, that the repositories monitor the communications to detect “impostors” and malicious or accidental interference. Thus *the security measures involving encryption, exchange of digital certificates, and nonces described below are all security measures aimed at reliable communication* in a world known to contain active adversaries.

Ex. 1001, 12:21-33 (emphases added). We construe “communications integrity” as “only communicates with other devices that are able to present proof that they are trusted systems, for example, by using security measures

such as encryption, exchange of digital certificates, and nonces.” The Encyclopedia of Cryptography defines “nonce” as “[a] number used in a cryptographic protocol to indicate the unique character of a message.”

ENCYCLOPEDIA OF CRYPTOGRAPHY 197 (1997) (Ex. 3001).

For “behavioral integrity,” the specification describes:

Behavioral integrity refers to the integrity in what repositories do. What repositories do is determined by the software that they execute. The integrity of the software is generally assured only by knowledge of its source. Restated, a user will trust software purchased at a reputable computer store but not trust software obtained off a random (insecure) server on a network. *Behavioral integrity is maintained by requiring that repository software be certified and be distributed with proof of such certification, i.e. a digital certificate.* The purpose of the certificate is to authenticate that the software has been tested by an authorized organization, which attests that the software does what it is supposed to do and that it does not compromise the behavioral integrity of a repository. *If the digital certificate cannot be found in the digital work or the master repository which generated the certificate is not known to the repository receiving the software, then the software cannot be installed.*

Ex. 1001, 12:34-50 (emphasis added). We construe “behavioral integrity” in the context of a repository as “requiring software to include a digital certificate in order to be installed in the repository.”

We acknowledge that the record is not without evidence contrary to our interpretation. That is not unusual. The nature of interpretation is to come to the appropriate conclusion in light of all of the evidence. All of the evidence does not have to point uniformly in a single direction.

For example, the specification in Table 2 indicates ten different levels of security for repositories, and the lowest level, i.e., level “0,” is described as follows:

Open system. Document transmission is unencrypted. No digital certificate is required for identification. The security of the system depends mostly on user honesty, since only modest knowledge may be needed to circumvent the security measures. The repository has no provisions for preventing unauthorized programs from running and accessing or copying files. The system does not prevent the use of removable storage and does not encrypt stored files.

Ex. 1001, 14:58-64. Thus, according to Table 2, repositories are not all trusted systems. Level “0” security means having an open system lacking in physical, communications, and behavioral integrity, and without support for managing usage rights. That is directly contrary to the meaning of “repository” as defined in the glossary. For reasons discussed below, we adhere to the definition provided in the glossary. The contrary evidence based on level “0” security shown in Table 2 is insufficient to outweigh the rest of the evidence including, in particular, the explicit definition provided in the glossary. We make our determination based on the totality of the evidence.

As noted above, the disclosed invention is about distribution of and usage rights enforcement of digital works. The problems described in the background portion of the specification concerns unauthorized and unaccounted distribution or usage of electronically published materials. *See generally* Ex. 1001, 1:30-48. The ’859 patent states that it solves preexisting problems by both permanently attaching usage rights to digital works and

placing elements in repositories which enforce those usage rights. Ex. 1001, 6:11-21.

Here, the definition set forth in the glossary for “repository” is consistent fully with the description of the acknowledged prior art, and the objective or goal to be achieved by the invention of the ’859 patent. The specification also contains detailed preferred embodiments utilizing repositories which are trusted systems to provide usage control for digital works. Ex. 1001, 3:57-62, 6:66-7:37, 7:54-55, 13:1-9, 16-18; 14:3-15, 17:30-32; 25:62-28-56; 40:42-41:44.

The bulk of the disclosure is directed to repositories which are trusted systems for providing usage control for digital works. For example, the specification states:

The enforcement elements of the present invention are embodied in repositories. Among other things, repositories are used to store digital works, control access to digital works, bill for access to digital works and maintain the security and integrity of the system.

Ex. 1001, 6:17-21 (emphasis added). Other references to “repository” in the specification that recite necessary features of repositories also support the definition in the glossary that a repository is a trusted system:

The core repository services 1302 comprise a set of functions *required by each and every repository.* The core repository services 1302 include the session initiation transactions which are defined in greater detail below. This set of services also includes a generic ticket agent which is used to “punch” a digital ticket and a generic authorization server for processing authorization specifications.

Ex. 1001, 14:3-9 (emphasis added). In yet another example, the specification discloses that “[a]s a prerequisite to operation, a repository will require possession of an identification certificate,” and that “identification certificates 1306 are required to enable the use of the repository.” Ex. 1001, 13:1-2, 14:14-15. Indeed, by using words such as “require” and “required,” such examples amply support the definition provided in the glossary that a repository is a trusted system.

In summary, even applying the rule of broadest reasonable construction consistent with the specification, the weight of the evidence supports the definition provided in the glossary. We regard as significant that the definition states in an unequivocal manner that a repository “is a trusted system.”

ContentGuard's Contentions

According to ContentGuard, our interpretation of “repository” is incorrect because it is too broad in one respect and too narrow in another. PO Resp. 8-11. For reasons discussed below, however, the specification of the '859 patent does not support adequately either contention. On the record before us, we are unpersuaded by ContentGuard's contentions.

We first address ContentGuard's contention that our construction is too broad, and then its contention that our construction is too narrow.

1.

ContentGuard contends that our construction regarding “behavioral integrity” as “requiring software to include a digital certificate in order to be installed in the repository” is excessively broad, and should be limited to

software that makes the repository operative—that which ContentGuard believes is referred to in the specification as “repository software.” *Id.* at 8.

We reproduce ContentGuard’s argument, in more detail, below:

[The Board’s construction] is too broad because it is not restricted to what the ’859 patent refers to as “repository software”—that is, software that makes the repository operative. (*See* Ex. 1001, 12:34-50.) According to the ’859 patent specification, “[b]ehavioral integrity refers to the integrity in what repositories do.” (*Id.*, 12:34-35.) What repositories do, in turn, “is determined by the software that they execute.” (*Id.*, 12:35-36.)

But not all software relates “to the integrity in what repositories do.” (Ex. 1001, 12:34-35.) Repositories, along with usage rights, are used to manage the use and distribution of digital content. (*See, e.g., id.*, 50:48-52, 5:47-48, 14:3-15.) For example, part of a repository’s function is to permit the rendering of content in accordance with the usage rights associated with the content. (*E.g., id.*, cl. 1.) But content itself does not necessarily supply that function to a repository. (Goodrich Dec[1], Ex. 2013, ¶ 53.) Rather, repository software implements the repository functions that are used to manage the use and distribution of the content. (Ex. 1001, 14:3-15.) Thus, since “[b]ehavioral integrity refers to the integrity in what repositories do,” the relevant software is not any “software . . . to be installed in the repository,” but the software the repository uses to manage the use and distribution of content.

PO Resp. 8-9.

On what repositories “do,” ContentGuard’s argument overlooks and fails to discuss the portions of the specification which indicate that repositories themselves also can be rendering devices which run and execute the software type digital works the usage rights of which they control. For

instance, the '859 patent states the following with regard to software runnable on a repository:

An Install transaction is a request to install a digital work as *runnable software on a repository*. In a typical case, the requester repository is a *rendering repository* and the software would be a new kind or *new version of a player*.

Ex. 1001, 41:28-31 (emphases added). This disclosure in the specification does not support ContentGuard's contention that a repository merely manages the use and distribution of digital content, such as software, and does not perform, run, or execute that digital content. The above-quoted disclosure refers to a digital work that is "runnable software on a repository," and states that, in a typical case, the repository asking for the digital work is itself a rendering repository that identifies the software digital work not as operating software, but application software. As such, the specification conveys information contrary to ContentGuard's contention. ContentGuard does not explain such disclosure and does not point to any testimony of its expert witness that addresses such disclosure in light of its "excessively broad" contention.

Because a repository, itself, may run and execute software the usage and distribution of which is managed by the repository, it is unpersuasive that the reference to "repository software" in that portion of the specification discussing "behavioral integrity" (Ex. 1001, 12:34-50) is restricted to software that only manages usage rights. Indeed, in the context of installing software identified as "a new kind or new version of a player," which does not control usage rights, the specification discusses extracting a copy of the

digital certificate for that software (Ex. 1001, 41:41-44), in the same manner that the specification describes requiring a digital certificate in the digital work to ensure behavioral integrity of the repository (Ex. 1001, 12:40-43). Moreover, some repositories are rendering repositories. Ex. 1001, 41:29-31. “Repository software,” as used in the specification, is broad enough to cover application software, such as the “player” referenced in column 41, lines 29-31, of the specification, as well as what ContentGuard refers to as “operating software” which enables the repository to regulate usage rights.

We do not credit the testimony of the expert witness of ContentGuard, Dr. Michael T. Goodrich, in paragraphs 40 and 41 of his declaration (Ex. 2013). In those paragraphs, Dr. Goodrich testifies that, in his opinion, a person of ordinary skill in the art in 1994 would have understood that the term “repository software” in the ’859 patent identifies and refers to the operating software of the repository, and not the software digital works the usage rights of which are controlled by the repository. The testimony is unpersuasive, because it does not account for the disclosure of the specification, discussed above, which conveys that some repositories are themselves rendering depositories which run and execute the software digital works the rights of which they control, such as a new version of a “player.”

2.

ContentGuard contends that our construction regarding “behavioral integrity” as “requiring software to include a digital certificate in order to be installed in the repository” is “excessively narrow,” because it unnecessarily requires the inclusion of a “digital certificate” to ensure behavioral integrity.

PO Resp. 9-10. According to ContentGuard, in order to maintain behavioral integrity, it is necessary only that the broader purpose of a repository doing what it is supposed to do is satisfied. *Id.* at 9.

ContentGuard's contention that our construction is too narrow is inconsequential to the outcome of this proceeding, because a broader interpretation of "behavioral integrity," would not render inapplicable any teaching of the prior art which was applied under the narrower construction.

We reproduce ContentGuard's argument, here, in more detail:

The Board's construction is also too narrow because it requires "a digital certificate." After explaining that "[b]ehavioral integrity refers to the integrity in what repositories do" and that "[w]hat repositories do is determined by the software that they execute," the '859 patent says that "[t]he integrity of the software is generally assured only by knowledge of its source." (Ex. 1001, 12:36-37.) Although the specification does say that "behavioral integrity is maintained by requiring that repository software be certified and be distributed with proof of such certification, i.e., a digital certificate," the specification continues by explaining the broader purpose of the certificate. (*Id.*, 12:40-43.) "The purpose of the certificate is to authenticate that the software has been tested by an authorized organization, which *attests that the software does what it is supposed to do* and that it does not compromise the behavioral integrity of a repository." (*Id.*, 12:43-47 (emphasis added).) So, as long as there is some assurance "that the software does what it is supposed to do," whether by source certification or otherwise, behavioral integrity can be maintained.

PO Resp. 9 (emphasis in original).

The breadth argued by ContentGuard is on the extreme end of a spectrum for the meaning of "repository"—whatever ensures a repository

does what it is supposed to do. ContentGuard would like to generalize the feature into a generic goal or purpose, entirely removed from any specific means for its implementation. There are several obstacles precluding such an interpretation.

First, the restrictive language in the specification does not permit such an expansive construction. Although it is true that the broadest reasonable construction rule applies for claim interpretation, the construction must be reasonable in light of the specification. In that connection, the specification states: “Behavioral integrity is maintained by *requiring* that repository software be certified and be distributed with proof of such certification, i.e., a digital certificate.” Ex. 1001, 12:40-43 (emphasis added).

Second, ContentGuard does not point to any other means, described in the specification, for ensuring behavioral integrity of a repository. The sole disclosure in that regard, as identified by ContentGuard, relates to the use of digital certificates. There is no basis to assume, on this record, that digital certificates are representative of all ways for ensuring that a digital work is authentic. Even ContentGuard does not make that assertion. Thus, the scope of disclosure is not commensurate with the breadth for the construction of “repository” desired by ContentGuard.

Third, the general articulation that a repository “does what it is supposed to do” is not accompanied by any well-defined or otherwise recognized standard for making an objective determination in that regard. If that is the claim construction, the scope of the claims would be uncertain and indeterminable.

We do not credit the testimony of the expert witness of ContentGuard, Dr. Goodrich, that “a person of ordinary skill in the art of 1994 would [have understood] that the ’859 patent specification refers to the use of digital certificates as only an exemplary method of preserving the behavioral integrity of a repository.” Ex. 2013 ¶ 39. The testimony is unexplained and conclusory; it does not account for the various factors we have considered and discussed above.

B. Alleged Anticipation by Leroux

ZTE contends that claims 1-5, 9-11, 15-17, 19, 21-33, 37, 38, 42-44, 46, 48-62, 66, 67, 71-73, 75, and 77-84 are unpatentable under 35 U.S.C. § 102(e) as anticipated by Leroux. Pet. 40-46. ZTE relies on claim charts to explain how Leroux allegedly describes the claimed subject matter, and also on the Declaration of Dr. Vijay K. Madiseti to support its positions. Ex. 1005. To establish anticipation, each and every element in a claim, arranged as is recited in the claim, must be found in a single prior art reference. *Net MoneyIN, Inc. v. VeriSign, Inc.*, 545 F.3d 1359, 1369 (Fed. Cir. 2008); *Karsten Mfg. Corp. v. Cleveland Golf Co.*, 242 F.3d 1376, 1383 (Fed. Cir. 2001).

Leroux discloses a method of acquiring software programs by microcomputers. Ex. 1011, 1:8-9. Figure 1 of Leroux is set forth as follows:

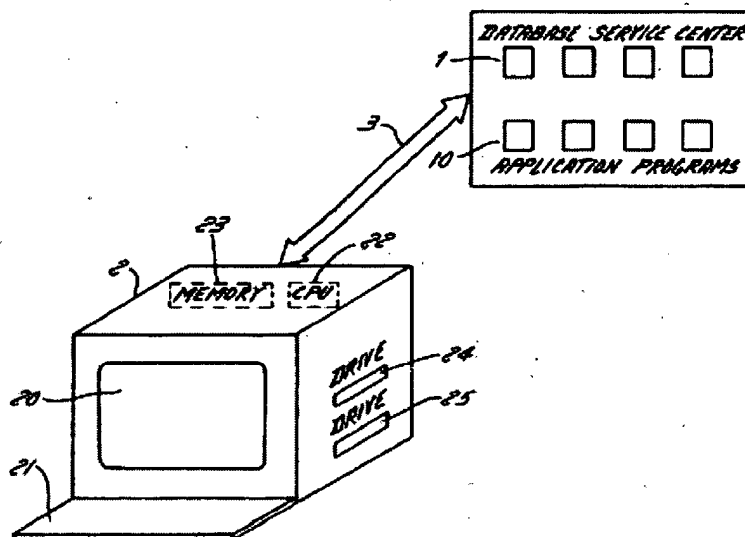


Figure 1 illustrates a data-processing system.

As shown in Figure 1, Leroux discloses data base service center 1 that stores application software programs 10, microcomputer 2 connected to service center 1 by interface 3, and removable electronic memory carrier 4.

Ex. 1011, 3:42-46. Leroux discloses that memory carrier 4 includes interface 40 for connecting memory 41 to drive 24 of microcomputer 2.

Ex. 1011, 3:53-55. Leroux discloses that microcomputer 2 is fitted with corresponding drives to read memory carrier 4. Ex. 1011, 4:60-64. Leroux discloses that memory 41 may comprise programmed security circuitry 410, which monitors access to memory 41 and manages external access to memory carrier 4. Ex. 1011, 4:64-5:3. Leroux discloses that to carry out acquisition of application software program 10, communication is set up between microcomputer 2 and data base service center 1. Ex. 1011, 3:61-66. Leroux discloses that after a user chooses which application software programs 10 that he/she wishes to acquire, service center 1 will check a right

of access to application software programs 10 by interrogating carrier 4 through microcomputer 2. Ex. 1011, 4:1-5. According to Leroux, the check is made by using security methods, such as with identification and authentication procedures that use enciphering and deciphering algorithms. Ex. 1011, 4:5-8. If the check is positive, service center 1 remotely loads application software program 10 in the internal memory of microcomputer 2. Ex. 1011, 4:13-16.

As discussed above, “repository” is construed as “a trusted system which maintains physical, communications and behavioral integrity, and supports usage rights.” “Physical integrity” is construed as “preventing access to information by a non-trusted system.” “Communications integrity” is construed as “only communicates with other devices that are able to present proof that they are trusted systems, for example, by using security measures such as encryption, exchange of digital certificates, and nonces.” “Behavioral integrity” is construed as “requiring software to include a digital certificate in order to be installed in the repository.” ZTE relies on a combination of microcomputer 2 and removable carrier 4 as corresponding to the claimed “distributed repository,” and service center 1 as corresponding to the “another distributed repository” recited in each of independent claims 1, 29, and 58. Pet. 42-43.

1. “distributed repository” (claims 1, 29, and 58)

Independent claims 1, 29, and 58 each require a “distributed repository.” As discussed above, a “repository” is construed as “a trusted system which maintains physical, communications and behavioral integrity,

and supports usage rights.” “Physical integrity” is construed as “preventing access to information by a non-trusted system.” “Communications integrity” is construed as “only communicates with other devices that are able to present proof that they are trusted systems, for example, by using security measures such as encryption, exchange of digital certificates, and nonces.” “Behavioral integrity” is construed as “requiring software to include a digital certificate in order to be installed in the repository.” In its Petition, ZTE takes the position that the combination of Leroux’s microcomputer 2 and removable carrier 4 constitutes the claimed “distributed repository.” Pet. 43. In our analysis below, we determine whether the combination of Leroux’s microcomputer 2 and removable carrier 4 constitutes the claimed “distributed repository” that maintains “behavioral integrity.”

“behavioral integrity”

ContentGuard contends that the combination of Leroux’s microcomputer 2 and removable carrier 4 does not amount to the claimed “distributed repository” because such a combination does not maintain “behavioral integrity.” PO Resp. 11-15. That contention has three layers of complexity.

a.

The first relates to ContentGuard’s contention that “behavioral integrity” of a repository is directed to and concerns only the operating software of the repository, i.e., the software that enables the repository to control the usage rights and distribution of digital works, and not the

software digital works managed by the repository, itself. PO Resp. 11-12. In our claim construction analysis, we already found that contention of ContentGuard unpersuasive.

b.

The second relates to ContentGuard's contention that "behavioral integrity" of a repository does not require the presence and use of a digital certificate to authenticate the software digital work being installed in a repository. PO Resp. 12-15. Instead, ContentGuard argues that "behavioral integrity" of a repository merely requires checking that the software loaded onto the repository is authentic or unaltered prior to rendering the software. *Id.* at 14. In our claim construction analysis, we also found that contention of ContentGuard unpersuasive.

c.

The third relates to ContentGuard's contention that interrogating the right of access disclosed in Leroux, which is associated with a particular software program stored on database service center 1, prior to installing the software on microcomputer 2, does not require a digital certificate. PO Resp. 14-15. According to ZTE, Leroux's disclosure of interrogating the right of access includes the authentication of a "digital certificate" required for "behavioral integrity." Reply 1-3. Taking into account the evidence presented by both parties, we determine that ZTE has not demonstrated by a preponderance of the evidence that, in the disclosed system of Leroux, the identification and authentication procedures used to interrogate the right of

access associated with a software program necessarily includes a digital certificate that authenticates the source of the software.

In its Reply, ZTE contends that the identification and authentication procedures disclosed in Leroux ensure that software digital works stored on database service center 1 are authorized before such software is loaded remotely onto microcomputer 2. Reply 2. For instance, ZTE argues that Leroux discloses that removable carrier 4 authorizes database service center 1 to load remotely software digital works onto microcomputer 2 following a successful safety check that includes identification and authentication procedures using enciphering and deciphering algorithms. *Id.* (citing Ex. 1011, 4:1-16; *see* Ex. 1025 ¶¶ 10, 11). Based on that disclosure, ZTE argues that one with ordinary skill in the art would have recognized that the authorization of the software includes an authentication of a “digital certification” corresponding to the software on database service center 1. *Id.*

As an initial matter, we note that the ground of unpatentability is based on anticipation by Leroux—not obviousness over Leroux. As such, the issue is not merely whether one with ordinary skill in the art would have recognized that Leroux’s identification and authentication procedures used to interrogate the right of access include using a digital certificate to authenticate the source of the software, but whether those procedures necessarily require a digital certificate.

To establish inherency, the extrinsic evidence ‘must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill. Inherency, however,

may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient.”

In re Oelrich, 666 F.2d 578, 581-82 (CCPA 1981). Although Leroux’s identification and authentication procedures may include using a digital certificate to authenticate the source of the software, mere probabilities or possibilities fall short of demonstrating that those procedures necessarily require using a digital certificate. In our discussion of the construction of “behavioral integrity,” we were not persuaded by ContentGuard’s contention that a digital certificate is not required, or that anything which accomplishes a similar objective in substantially the same way is satisfactory.

Insofar as “assurance” means a specifically expressed indication, we credit the testimony of ContentGuard’s expert, Dr. Goodrich, that “a person of ordinary skill in the art [in 1994] would [have understood] a digital certificate to be an assurance that downloaded software comes from a reputable source, including a measure of tamper resistance.” Ex. 2013 ¶ 39 (citing the definition of “digital certificate” from the MICROSOFT COMPUTER DICTIONARY (4th ed. 1999)). An unexpressed and subjective thought, on the other hand does not qualify. As discussed above, the identification and authentication procedures disclosed in Leroux that are used to interrogate the right of access do not include necessarily that requirement of that definition of “digital certificate.”

2. “another distributed repository” (claims, 1 29, and 58)

Independent claims 1, 29, and 58 each recite “another distributed repository.” ContentGuard asserts that Leroux does not disclose the recited

“another distributed repository” because service center 1 does not exhibit “behavioral integrity.” PO Resp. 16-17. Specifically, ContentGuard asserts the following:

Leroux does not discuss the software responsible for implementing the functions of the service center, nor the manner in which software is installed on the service center. Therefore, Leroux does not disclose that the service center possesses behavioral integrity. (Ex. 2013, ¶ 51.) Accordingly, Leroux does not disclose that the service center has the trust properties necessary to constitute the “another distributed repository” required by claim 1.

PO Resp. 17. ZTE disagrees, and asserts the following:

CG’s assertion ignores relevant disclosures of Leroux, for example, (1) the software uploaded to the service center 1 is known to be authentic software from a trusted system (e.g., vendor) (Ex. 1011, 2:43-48; *see also supra*), and (2) the software loaded onto the service center 1 in Leroux includes a “digital certificate” so that the software may later be identified by the microcomputer 2 when initiating the identification and authentication procedures to remote-load the software onto the microcomputer 2. (Ex. 1011, 4:1-12; *See also* Ex. 1025, ¶¶ 25-26).

Reply 5-6. We are persuaded that service center 1 does not exhibit “behavioral integrity,” and, thus, cannot correspond properly to the recited “another distributed repository.”

As set forth above, “behavioral integrity” is construed as “requiring software to include a digital certificate *in order to be installed in the repository.*” Leroux discloses that software programs are uploaded into service center 1. Ex. 1011, 1:62-67, 2:43-44. Leroux also discloses that a right of access, corresponding to the aforementioned digital certificate, is

required to remote load software from service center 1 to the internal memory of microcomputer 2. Ex. 1011, 2:46-48, 3:19-22, 4:1-16. The aforementioned citations of Leroux, however, do not indicate that Leroux discloses that service center 1 has “behavioral integrity.” As an initial matter, we are not persuaded that the “uploading” of software to service center 1 disclosed in Leroux can correspond properly to the “installing” of software required for “behavioral integrity.” Moreover, even if “uploading” could be considered “installing,” Leroux is silent as to whether such “uploading” of software to service center 1 requires the software to include a digital certificate, as required for “behavioral integrity.”

ZTE cites the Declaration of Dr. Madisetti to support its position. Specifically, Dr. Madisetti asserts the following:

As for behavioral integrity, it is my opinion that the service center 1 requires software to include a digital certificate in order to be installed on the service center 1, in accordance with the Board’s construction. In my opinion, software installed on the service center 1 includes a digital certificate identifying the vendor source of the software because the vendor is responsible for installing the software onto the service center 1. (*See supra* ¶ 22). Also, in my opinion software installed on the service center 1 includes a digital certificate identifying the vendor source of the software so that later the software can be identified by the microcomputer 2 running the identification and authorization procedures to load the software from the service center 1 to the microcomputer 2. (Ex. 1011, 4:1-12).

Ex. 1025, ¶ 25. We are not persuaded that Dr. Madisetti’s conclusion is credible, because, even though we agree with the underlying facts in the aforementioned portions of Leroux cited by Dr. Madisetti, those underlying

facts do not support adequately his conclusion. In particular, Dr. Madisetti asserts that software uploaded to service center 1 from the vendor will include a digital certificate, so that later the software can be identified by microcomputer 2 running the identification and authorization procedures to load the software from the service center 1 to the microcomputer 2.

However, these facts are inapposite to Dr. Madisetti's conclusion for several reasons. First, there is no indication that only a vendor is capable of uploading software to service center 1. Leroux is silent as to whether software uploaded into service center 1 by a non-vendor requires a digital certificate. Behavioral integrity requires that all software uploaded to service center 1 include a digital certificate, whether from a vendor or a non-vendor. Second, just because the uploaded software includes a digital certificate does not indicate that the digital certificate is required to upload the software. In other words, there is no indication in Leroux that the digital certificate has any relationship to the uploading process, itself, when it is uploaded with the software into service center 1, as would be required for "behavioral integrity."

Indeed, ZTE acknowledged at oral hearing that Leroux did not disclose expressly that service center 1 has "behavioral integrity" as follows:

MS: SHIN: So, it is my -- it is our position that Leroux's disclosure does not expressly, literally disclose what I just described, but it is implicit. And it must be present there, so that the identification done by the service center can be -- can identify the rights of access stored in the carrier.

JUDGE LEE: So you are relying on inherency?

MS. SHIN: I would like to rely on inherency or implicit disclosure.

JUDGE LEE: What is implicit disclosure? Do you have a case for something between express disclosure and inherent disclosure?

...

MS. SHIN: So, in light of your comment, the Judges' comments, it is inherent in the disclosure of Leroux that -- supporting that another distributed repository maintains behavioral integrity.

JUDGE LEE: We knew that. You were relying on inherency. Are you saying you no longer are relying on this so-called implicit disclosure theory, so we need only concern ourselves with express disclosure and inherent disclosure? Is that what you are trying to tell us?

MS. SHIN: Yes, Your Honor.

Paper 56, 14:17-15:2, 17:17-25.

Accordingly, ZTE asserts alternatively that Leroux inherently discloses that a digital certificate is required in order to upload software into service center 1. Concerning whether service center 1 of Leroux inherently has "behavioral integrity," Dr. Madisetti asserts the following:

Under ContentGuard's construction for behavioral integrity, it is my opinion that the service center 1 necessarily includes operational software analogous to the repository software in order for the service center to operate as described in Leroux. Such operational software running on the service center 1 serves to manage the use and distribution of the software content stored on the service center 1. This includes having software uploaded to the service center 1 by a trusted system (e.g., software vendor), who is trusted to upload authentic copies of the software. (*See supra* ¶ 22; *see also* Ex. 1011, 2:43-

48). The operational software running on the service center 1 also serves to manage the transfer of software to a trusted microcomputer 2 under the identification and authentication procedures described in Leroux. (Ex. 1011, 4:1-16). It also follows that software installed on the service center 1 includes a type of “digital certificate”, as still required under ContentGuard’s construction. (See [pages 22-32 of Dr. Madisetti’s Declaration). In this way, the service center 1 transfers the software to another trusted system. Therefore, in my opinion the service center 1 in Leroux satisfies behavioral integrity even under ContentGuard’s construction.

Ex. 1025, ¶ 26. We are not persuaded by Dr. Madisetti’s testimony, because it is not explained adequately. Specifically, we are not persuaded that Leroux discloses that the software vendor is a trusted system. Via paragraphs 22 and 25 of his Declaration, Dr. Madisetti cites the following portions of Leroux (Ex. 1011) as supporting his factual basis that the software vendor is a trusted system: column 2, lines 14-20, 43-48; column 3, lines 58-60; and column 4, lines 1-16. The aforementioned portions of Leroux disclose that software including a right of access is uploaded into service center 1 from a software vendor, and that an authentication procedure is required to install software from service center 1 to microcomputer 2. These disclosures do not support the fact that the software vendor of Leroux is a trusted system, as it does not disclose that the software vendor, itself, exhibits any physical, communications, or behavioral integrity, all of which are required in a trusted system. Accordingly, as Leroux does not disclose that a software vendor is a trusted system, we are not persuaded that Dr. Madisetti has expressed an adequate underlying factual basis to conclude that a digital certificate is required necessarily to

upload software into service center 1 from a software vendor, as required to show that service center 1 inherently has “behavioral integrity.”

At oral hearing, ZTE asserted that, when the aforementioned portions of Leroux are considered as a whole, one of ordinary skill would have understood that Leroux discloses inherently that service center 1 has “behavioral integrity.” Paper 57, 20:1-21:25. For the reasons discussed previously, we are not persuaded that just because software is uploaded to service center 1 with a right of access, and the combination of microcomputer 2 and carrier 4 has “behavioral integrity,” it follows necessarily that service center 1 also has “behavioral integrity.”

3. *Summary*

In summary, the combination of Leroux’s microcomputer 2 and removable carrier 4 does not constitute the “distributed repository,” as recited by each of independent claims 1, 29, and 58, because ZTE has not persuaded us that the identification and authentication procedures used to interrogate the right of access associated with the software stored on removable carrier 4 necessarily includes a digital certificate that authenticates the source of the software. In addition, Leroux’s database service center 1 does not constitute the “another distributed repository,” as recited by each of independent claims 1, 29, and 58, because ZTE has not persuaded us that a digital certificate is required necessarily to upload software from a software vendor into database service center 1. For the foregoing reasons, we conclude that ZTE has not demonstrated by a

preponderance of the evidence that independent claims 1, 29, and 58 are anticipated by Leroux.

Claims 2-5, 9-11, 15-17, 19, 21-28, 30-33, 37, 38, 42-44, 46, 48-57, 59-62, 66, 67, 71-73, 75, and 77-84 each depend directly or indirectly from one of independent claims 1, 29, and 58, and, thus, each recite the “distributed repository” and “additional distributed repository” of independent claims 1, 29, and 58. For the same reasons discussed above in the context of independent claims 1, 29, and 58, ZTE has not shown that either the recited “distributed repository” or “additional distributed repository” is disclosed in Leroux.

III.CONCLUSION

ZTE has not proved, by a preponderance of the evidence, that any of claims 1-5, 9-11, 15-17, 19, 21-33, 37, 38, 42-44, 46, 48-62, 66, 67, 71-73, 75, and 77-84 of the '859 patent are unpatentable under 35 U.S.C. § 102(e) as anticipated by Leroux.

IV. ORDER

It is

ORDERED that ZTE has not demonstrated by a preponderance of the evidence that claims 1-5, 9-11, 15-17, 19, 21-33, 37, 38, 42-44, 46, 48-62, 66, 67, 71-73, 75, and 77-84 of U.S. Patent No. 6,963,859 are unpatentable; and

FURTHER ORDERED that, because this is a final written decision, parties to the proceeding seeking judicial review of the decision must comply with the notice and service requirements of 37 C.F.R. § 90.2.

IPR2013-00137
Patent 6,963,859

For PETITIONER:

Jon Beaupre
Miyoungh Shin
Rickard DeMille
David Bluestone
Peter Lee
Lawrence Chen
BRINKS HOFER GILSON & LIONE
jbeaupre@brinkshofer.com
mshin@brinkshofer.com
rdemille@brinkshofer.com
dbluestone@brinkshofer.com
plee@brinkshofer.com
lchen@brinkshofer.com

For PATENT OWNER:

Robert Sterne
Jon Wright
Jason Eisenberg
STERNE, KESSLER, GOLDSTEIN & FOX PLLC
rsterne-PTAB@skgf.com
jwright-PTAB@skgf.com
jasone-PTAB@skgf.com