United States Patent [19]

Chernow et al.

[11] **Patent Number: 4,999,806**

[45] **Date of Patent: Mar. 12, 1991**

[54] SOFTWARE DISTRIBUTION SYSTEM

[76] Inventors: **Fred Chernow**, 360 Kiowa Pl., Boulder, Colo. 80303; **Randy J. Peterson**, 1330 Arapahoe St., Boulder, Colo. 80302

[21] Appl. No.: **93,321**

[22] Filed: **Sep. 4, 1987**

[51] **Int. Cl.**[5] **G06F 12/14**; H04L 9/00

[52] **U.S. Cl.** **364/900**; 364/969.4; 364/918.5; 364/918.51; 380/4; 380/25

[58] **Field of Search** ... 364/200 MS File, 900 MS File; 380/4, 25

[56] **References Cited**

U.S. PATENT DOCUMENTS

4,278,837	6/1981	Best .	
4,306,289	12/1981	Lumley .	
4,352,952	10/1982	Boone et al. .	
4,446,519	5/1984	Thomas .	
4,465,901	8/1984	Best .	
4,471,163	9/1984	Donald et al.	364/200
4,525,599	6/1985	Curran et al. .	
4,528,643	7/1985	Freeny, Jr. .	
4,553,252	11/1985	Egendorf .	
4,558,176	12/1985	Arnold et al. .	
4,562,305	12/1985	Gaffney, Jr. .	
4,562,306	12/1985	Chou et al. .	
4,573,119	2/1986	Westheimer et al. .	
4,593,353	6/1986	Pickholtz .	
4,593,376	6/1986	Volk	364/900
4,598,170	7/1986	Piosenka et al. .	
4,599,489	7/1986	Cargile .	
4,609,777	9/1986	Cargile .	
4,634,807	11/1987	Chorley et al. .	
4,652,990	3/1987	Pailen et al.	364/200
4,654,799	3/1987	Ogaki et al.	364/900
4,658,093	4/1987	Hellman	380/25
4,672,554	6/1987	Ogaki et al.	364/900
4,674,055	6/1987	Ogaki et al.	364/900
4,677,565	6/1987	Ogaki et al.	364/479
4,740,890	4/1988	William	364/200
4,817,140	3/1989	Chandra et al.	380/4
4,864,494	9/1989	Kobus, Jr.	364/200

Primary Examiner—Allen R. MacDonald
Assistant Examiner—Debra A. Chun
Attorney, Agent, or Firm—Sughrue, Mion, Zinn, Macpeak & Seas

[57] **ABSTRACT**

A central station distributes software by télephone. The central station accepts credit card information, transmits an acceptance code to a caller and then terminates the call. After verifying the credit card information, the station calls the purchaser back and continues with the transaction only after receiving the acceptance code. The central station then transmits a Control Transfer Program and Initialization Program to the purchaser, and the purchaser executes the Initialization Program to turn over control of the purchaser computer to the central station. The Control Transfer Program is then executed to transfer first a Protection program for ensuring that no memory resident copying programs are running, than a Storing Program for modifying the purchased program for storage at the purchaser computer, and finally the requested program itself. During the transaction, the various transmitted programs are erased, so that at the end of the transaction only a copy protected version of the purchased program remains on the purchaser's disk.

52 Claims, 3 Drawing Sheets

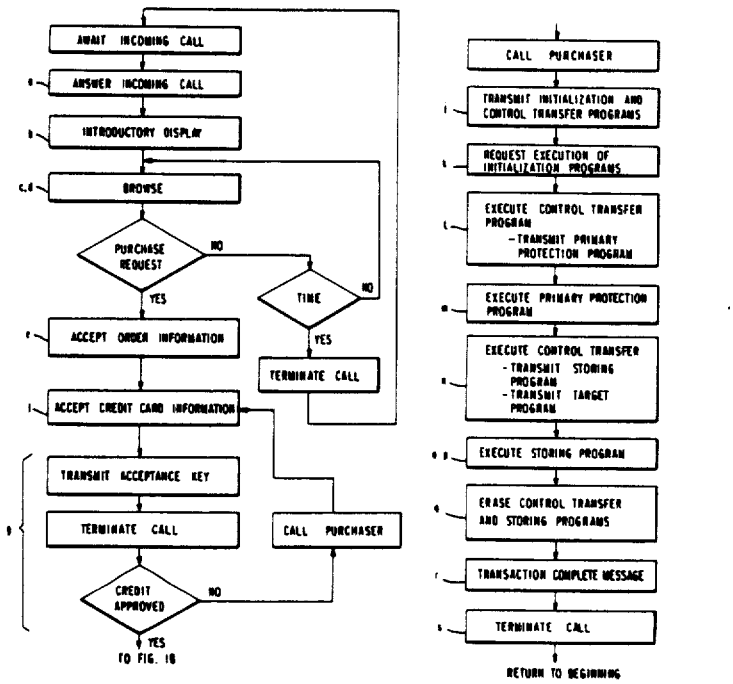


FIG. 1A

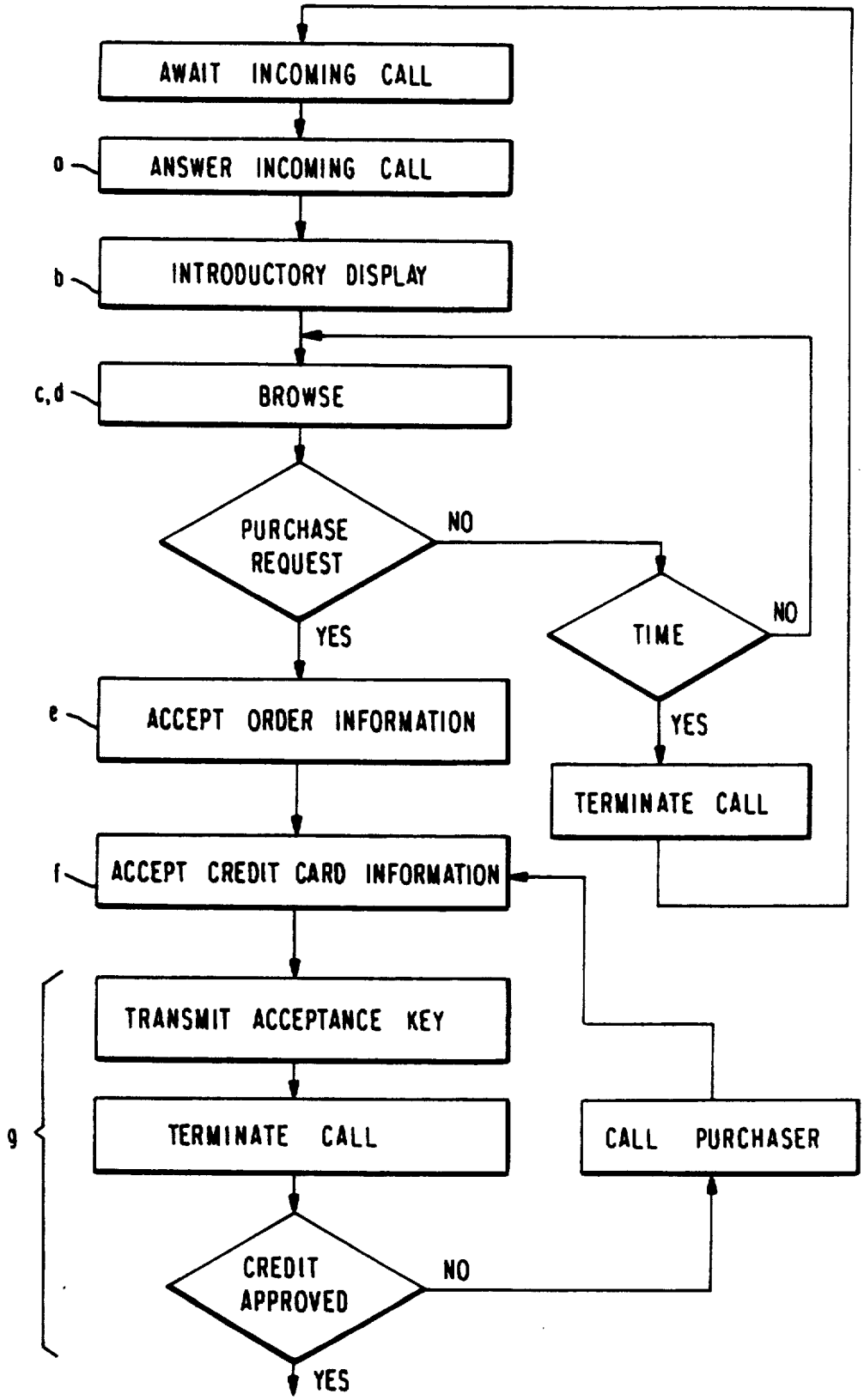


FIG. 1B

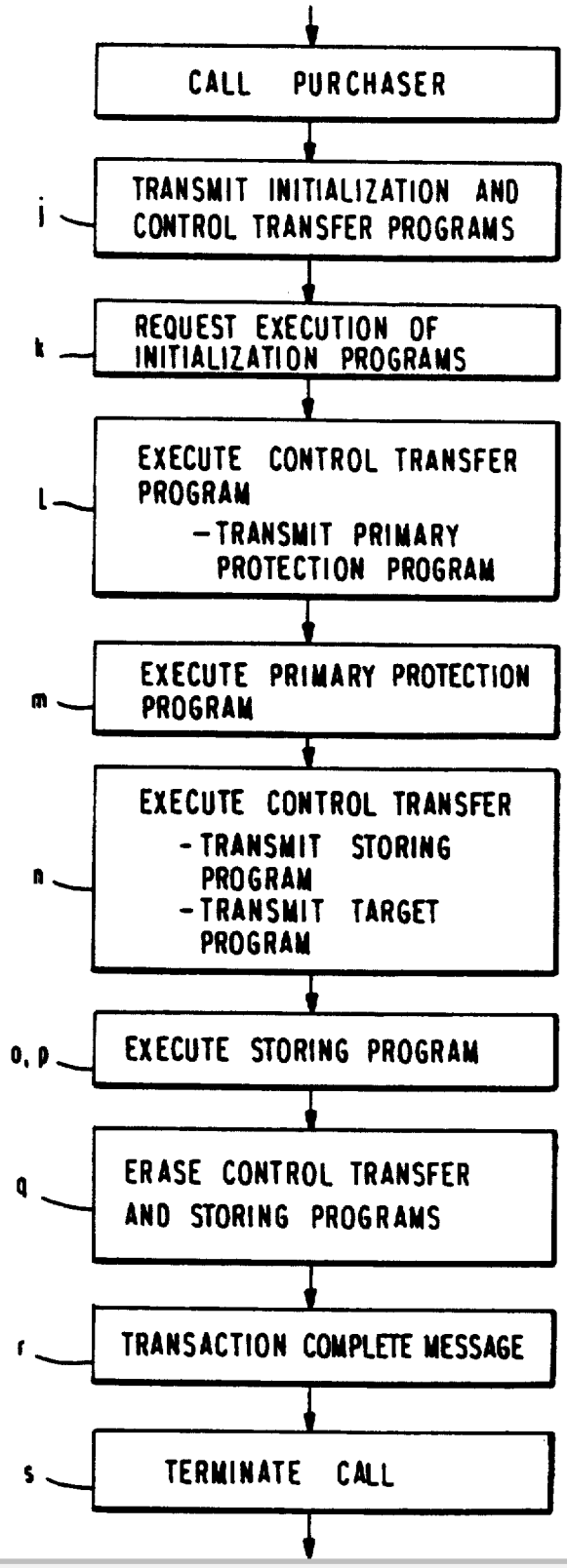
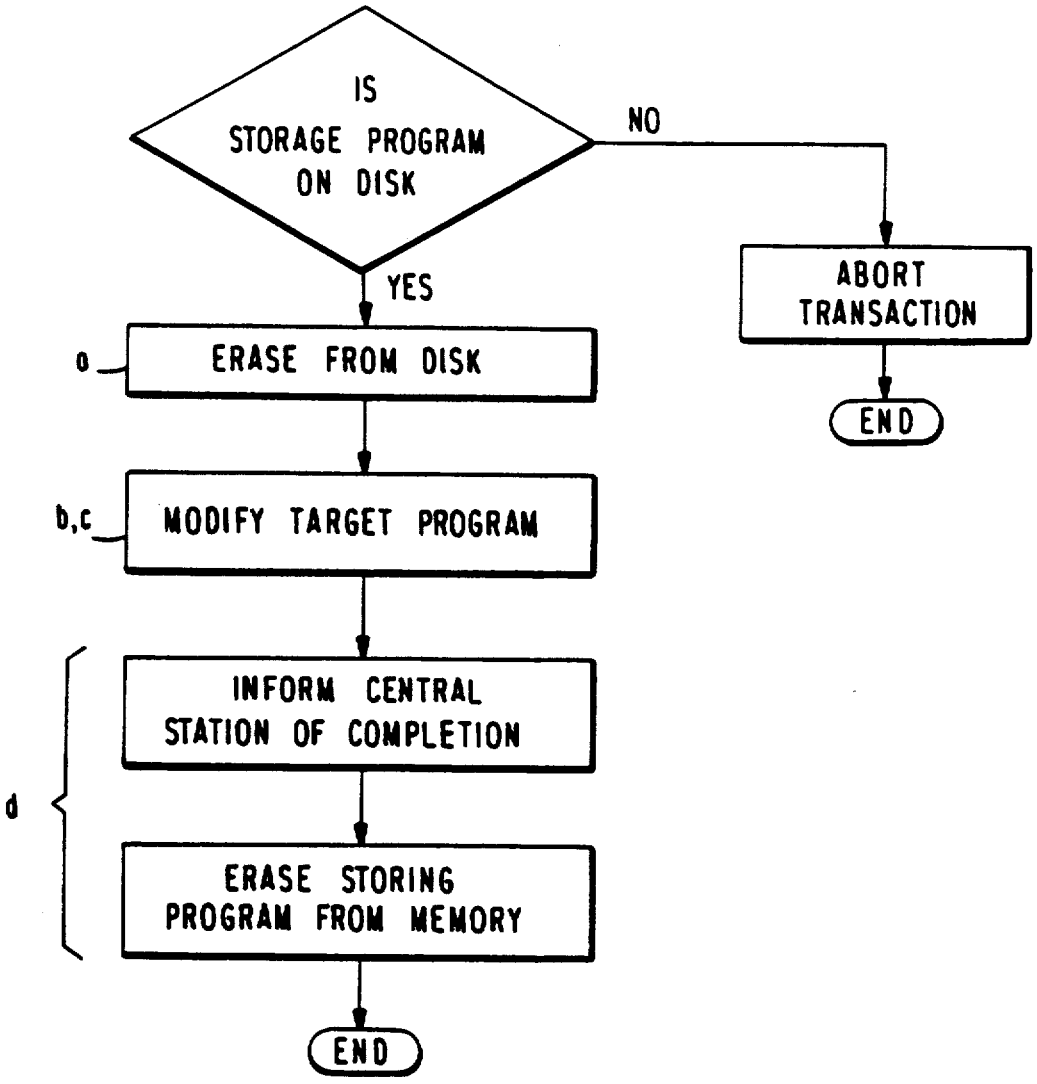


FIG. 2



SOFTWARE DISTRIBUTION SYSTEM

BACKGROUND OF THE INVENTION

The present invention is directed to the sale of computer software and more particularly to a technique for the sale and distribution of software via telephone.

The sale and distribution of software designed for general use is predicated on the assumption that the seller only wishes to sell the right to use the software. The seller specifically does not wish the purchaser to distribute the software to other users. Various methods are employed to accomplish this goal. Since the most common method of distribution is via floppy disk, the purchaser is often restricted by various techniques from either duplicating the floppies or in some cases from using the same floppies on different computers. This results in undesirable side effects.

In the personal computer environment, protection schemes designed to prevent the purchaser from copying the software usually prevent the purchaser from storing the software on hard disk, which would be most convenient. Furthermore, since the software cannot be copied if the floppy disk containing the software is damaged, it must be replaced by the seller. This is often time consuming and always inconvenient. Some sellers have gone to the trouble of including a back up copy of the software along with the original to lessen the inconvenience. Although this is effective in providing a back-up copy, it defeats the seller's desire to prevent proliferation of the software.

Some sellers of general purpose software have avoided software copy protection schemes, instead relying on the honesty of the purchaser, the fact that the documentation can be made difficult to duplicate, and a license agreement which the purchaser is required to honor. The license agreement typically makes it illegal to copy the software or proliferate it by any other means. License agreements are virtually always required by the seller as part of the purchase agreement, regardless of whether the software is protected or not.

Lack of copy protection introduces yet another complexity in the sale and distribution of software. Because software is expensive to purchase, potential buyers would like to examine the software prior to purchase to insure it will perform as expected. Should the software not be copy protected, the seller would not be able to loan the software to a potential purchaser for fear that, if they did like it, they would simply copy it. Thus, non-protected software can only be demonstrated at the seller's location. This can be inconvenient to the potential purchaser who may want a number of people to review the software prior to purchase.

Until now, general purpose software for sale has been primarily distributed on floppy disks, since floppy disks can be readily protected. Software distributed via telephone lines has been typically public domain where protection is not an issue.

There is a need for a technique which will permit copy protection of software distributed by telephone. There is also a need for a technique of efficiently distributing software by telephone, whether the software is copy protected or not.

OBJECTS OF THE INVENTION

It is an object of this invention to provide a means for distributing software via standard telephone lines for transferring the software from the seller to the purchaser.

Another object of this invention is to permit the purchaser to rent the protected software for a period of time after which it will self destruct.

Another object of this invention is to permit the purchaser to rent the protected software for a specific number of runs which would be useful, e.g., if the software were a game.

Another object of this invention is to enable any standard software program to be easily altered to accommodate the means for distribution and protection.

Another object of this invention is to provide a simple and rapid means for replacing protected software that has been rendered unusable by virtue of disk damage or inadvertent erasure.

Another object of this invention is to provide a system which has an inherent low cost and simple method of handling software maintenance and updates.

SUMMARY OF THE INVENTION

The invention includes both hardware and software located on the premises of the seller. The hardware in its simplest form comprises a computer with a modem attached to an ordinary telephone line. In a large installation, the seller's computer might be a main frame with many telephone lines and modems. Whatever the size of the installation, the computer and modems are preferably able to support both incoming and outgoing phone calls as well as a variety of baud rates. The computer also contains sufficient memory and disk space to accommodate a library of the software programs available for lease or sale, an index file to permit buyers to browse through the names, brief descriptions and prices for leasing or purchasing of the available software, and the software necessary to perform the requisite tasks.

The requisite tasks of the software include answering phone calls, requesting information from callers, permitting the callers to browse through a catalog of available software, placing phone calls to verify credit card information and purchaser's phone number, transmitting requested software and special programs, and activating the special programs that protect the transmitted software from being proliferated. In addition, certain accounting functions are required of the software to ensure that proper billing and record keeping takes place.

In a preferred embodiment of the invention, the caller is allowed to browse through the available software for some period of time after which he must either request to place an order or hang up. When an order is placed, the caller gives credit card and other payment information, as well as his phone number and the program to be purchased. During this initial call, an acceptance number is transmitted to the purchaser. The central computer hangs up and verifies the credit card information, and then calls the purchaser. At this point, the purchaser must transmit the acceptance number in order to proceed. The central station then transmits to the purchaser an Initialization Program as well as a Control Transfer Program, and then asks the purchaser to execute the Initialization Program, the function of which is to turn control of the purchaser's computer over to the central station via the modem port.

Having taken control of the purchaser's computer, the central station then instructs the purchaser's computer to load and execute the Control Transfer Program

DOCKET ALARM

Explore Litigation Insights

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

Real-Time Litigation Alerts

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

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

Advanced Docket Research

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

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

Analytics At Your Fingertips

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

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

API

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

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

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

FINANCIAL INSTITUTIONS
Litigation and bankruptcy checks for companies and debtors.

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