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# United States Patent [19]

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**Kirouac et al.**

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[54] **METHOD AND APPARATUS FOR UPDATING SOFTWARE AT REMOTE LOCATIONS**

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[21] Appl. No.: **227,799**

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[51] Int. Cl.<sup>5</sup> ..... **G06F 7/00; G06F 9/00;**  
**G06F 13/00**

[52] U.S. Cl. .... **395/600; 395/650;**  
**395/200; 364/DIG. 1; 364/DIG. 2**

[58] Field of Search ..... **364/300, 200 MS File,**  
**364/900 MS File; 395/600, 650, 200**

[56] **References Cited**

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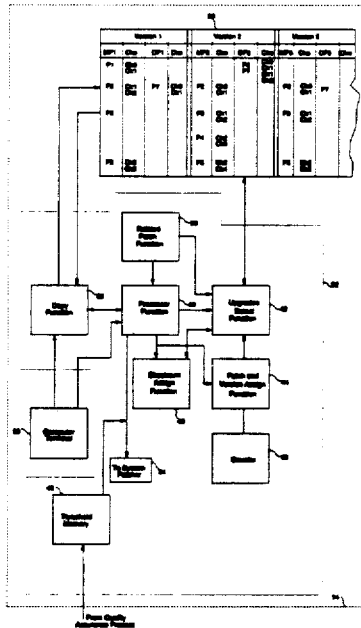
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*Attorney, Agent, or Firm*—Nixon & Vanderhye

[57] **ABSTRACT**

A method and system are provided for updating the software used in remote computer systems from a central computer system. The method includes storing in the central computer system, copies of the software executable used in each remote computer system. When the copies of the software in the central computer system are upgraded, for example, to correct the software, to add new facilities, to change user interfaces, to make cosmetic changes, to improve performance, etc., each change made to the software is monitored and stored. The remote computer systems are permitted access to the central computer system via communication links and the software in the remote computer systems and the corresponding software in the central computer system are compared. All of the changes that have been made to the software at the central computer system which have not been made to the corresponding software at the remote computer system accessing the central computer are detected. The detected changes are then transmitted to the remote computer system and applied to the software therein in order to upgrade the software in the remote computer system. The upgraded software in the remote computer system is examined to ensure that the software has been changed correctly. The method allows the software at the remote computer systems to be upgraded even while the software at the remote site is being used. The system and method also allow the software used in the remote computer systems to be upgraded when the remote computer systems use different versions of the software and allow the software to be upgraded in a variety of hardware environments and operating systems.

**32 Claims, 7 Drawing Sheets**



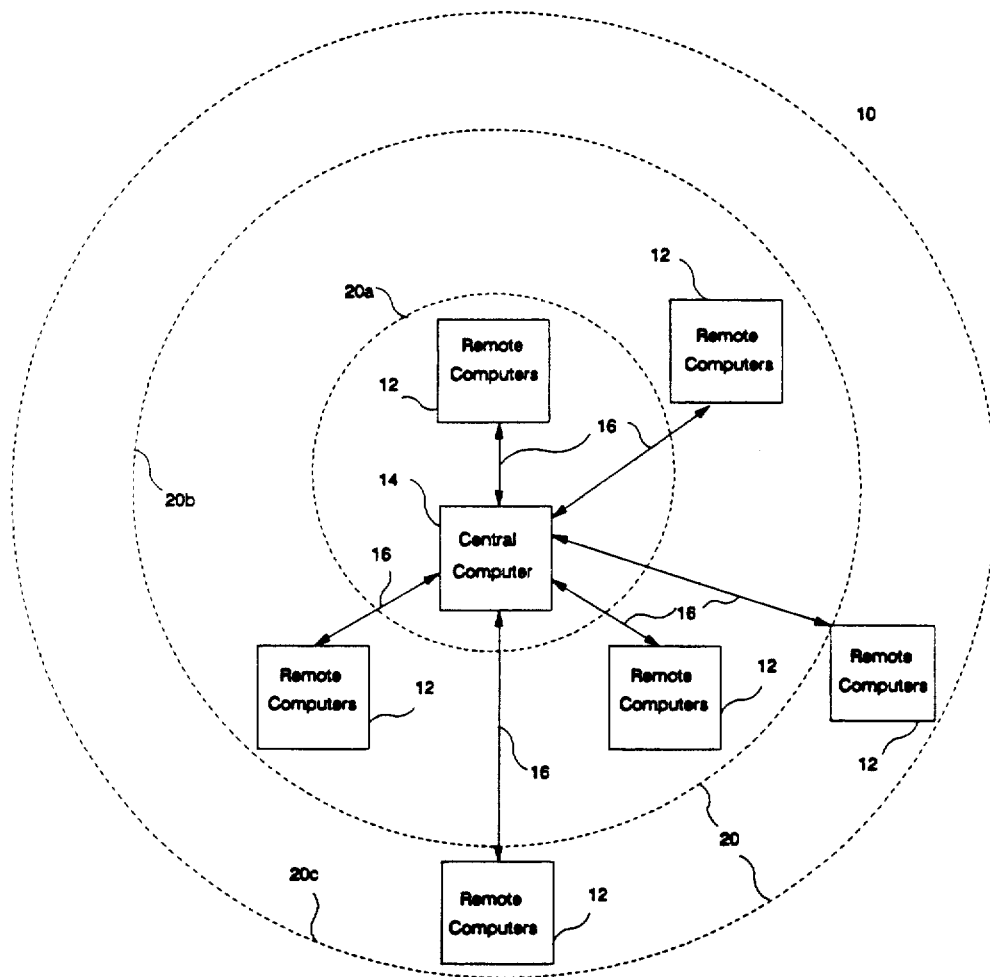


Figure 1

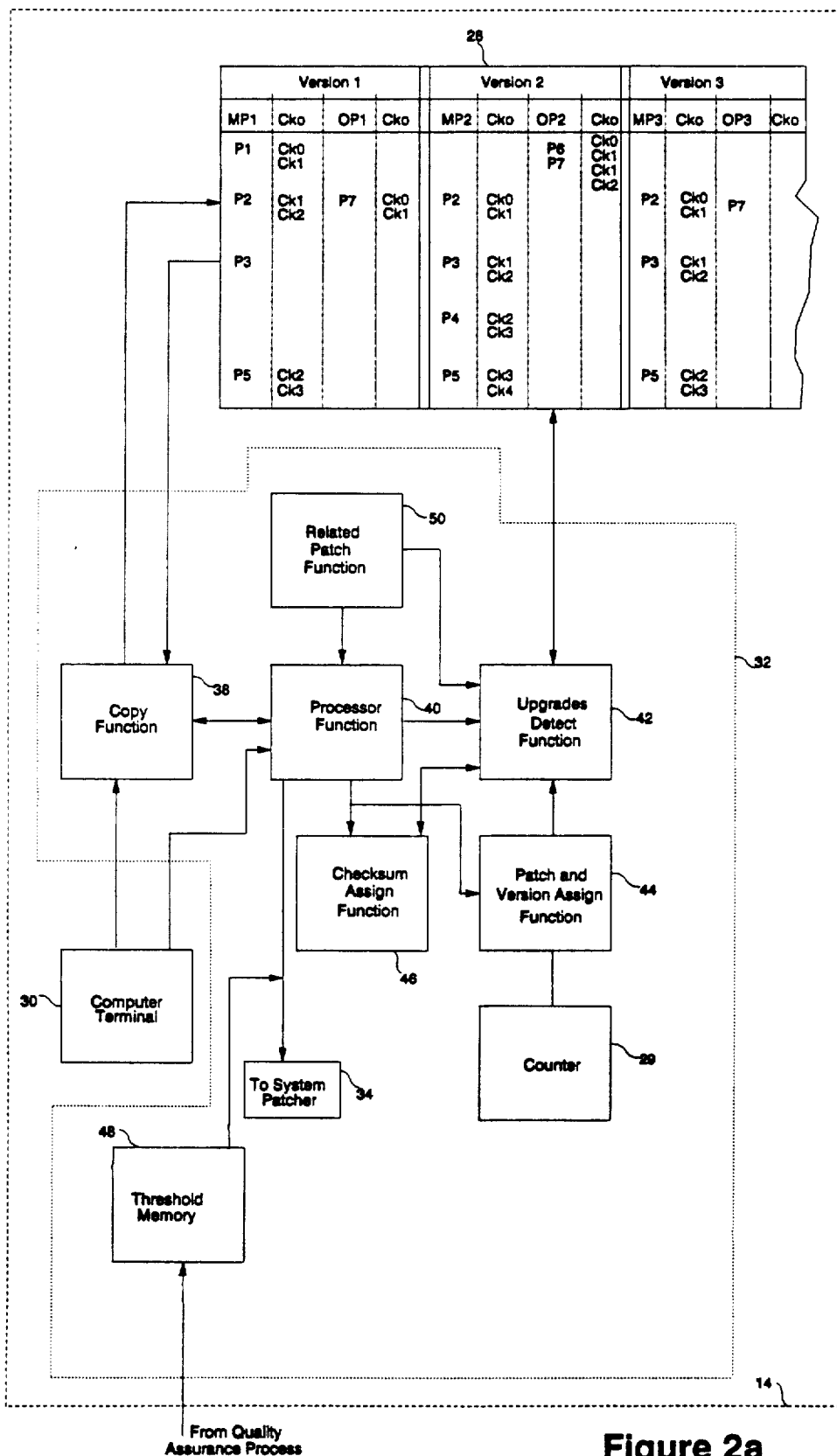


Figure 2a

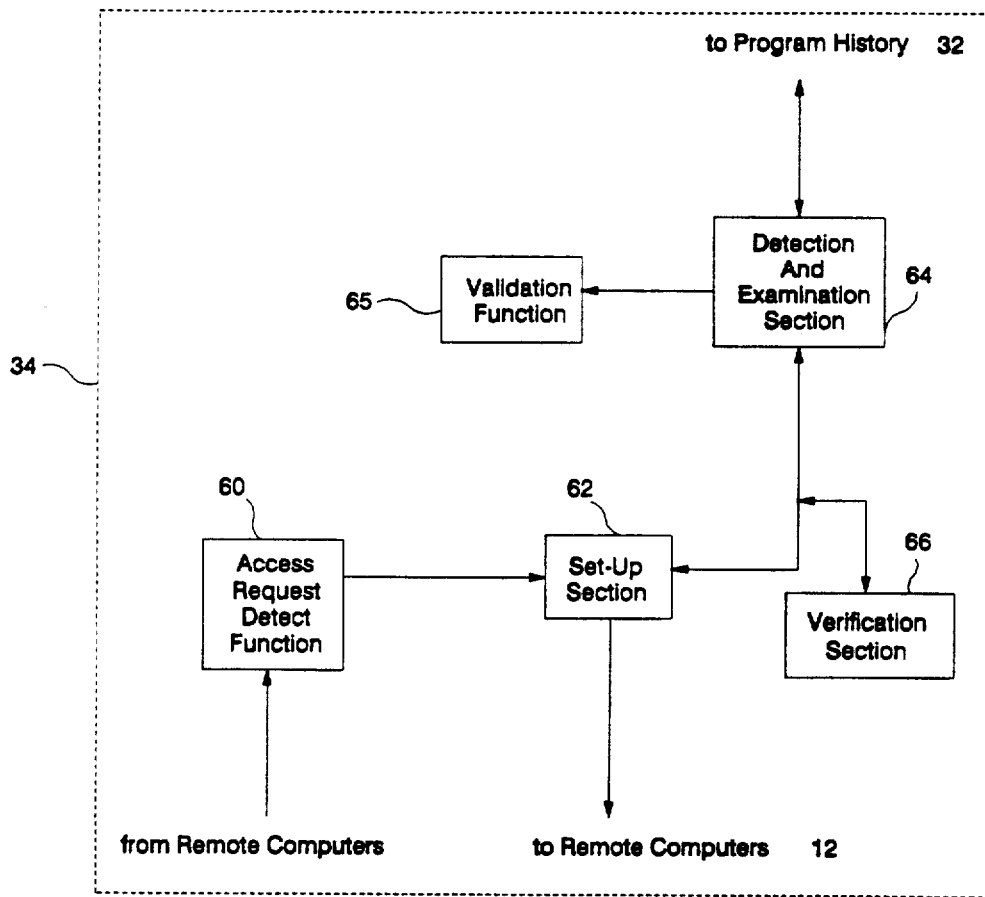
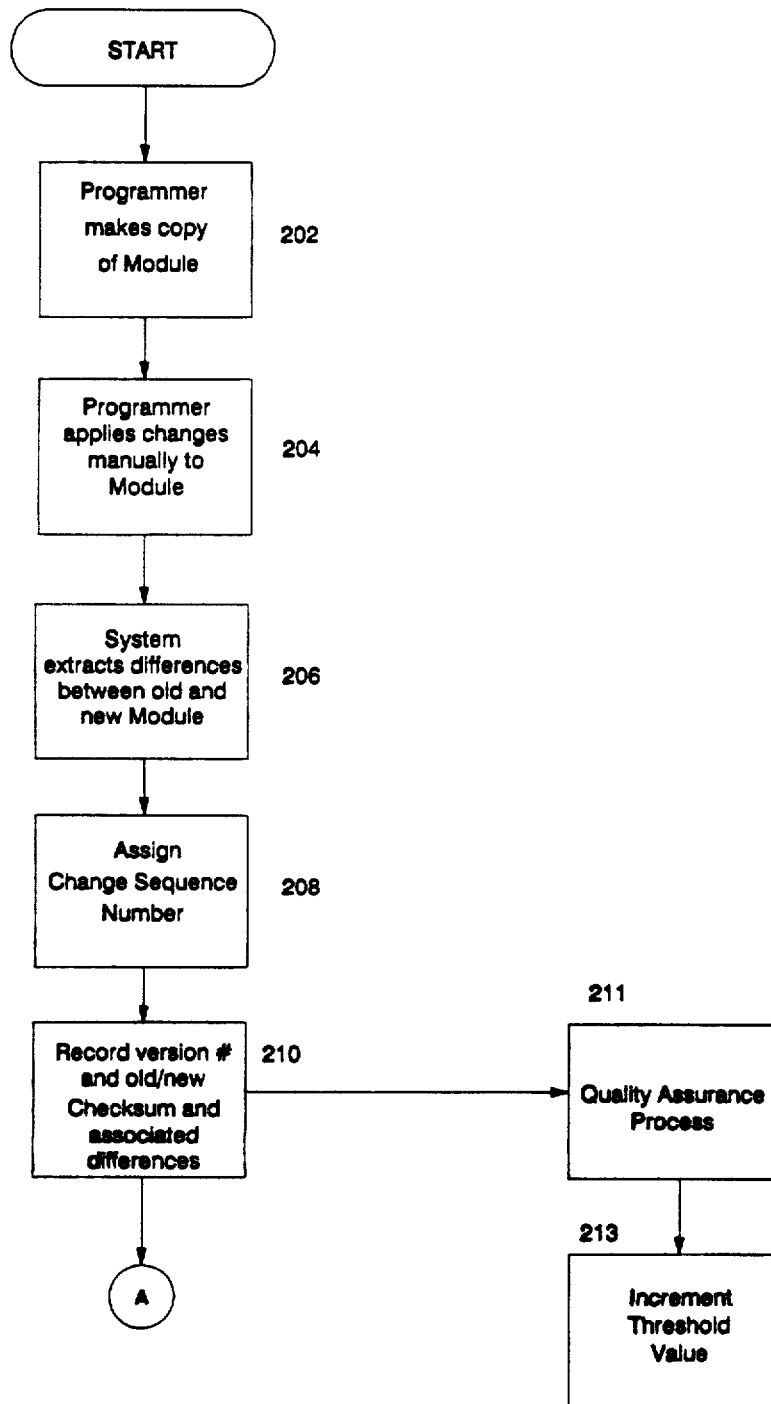


Figure 2b

Figure 3a



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