US006029175A

United States Patent [19]

Chow et al.

[11] Patent Number: 6,029,175

[45] Date of Patent: Feb. 22, 2000

[54] **AUTOMATIC RETRIEVAL OF CHANGED FILES BY A NETWORK SOFTWARE AGENT**

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[21] Appl. No.: **08/664,323**

[22] Filed: **Jun. 7, 1996**

Related U.S. Application Data

[60] Provisional application No. 60/005,896, Oct. 26, 1995.

[51] **Int. Cl.^{7}** **G06F 17/30**

[52] **U.S. Cl.** **707/104**; 707/200; 707/201; 707/203; 707/10; 709/202; 709/203

[58] **Field of Search** 707/104, 1, 10, 707/200, 201, 203; 395/200.33, 200.32, 200.34, 200.35; 709/202, 203, 219

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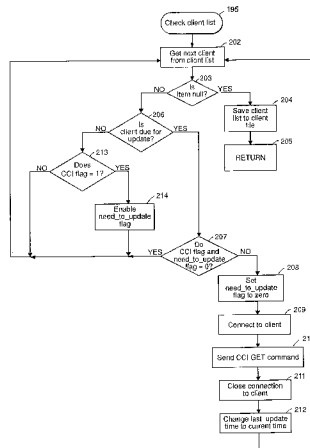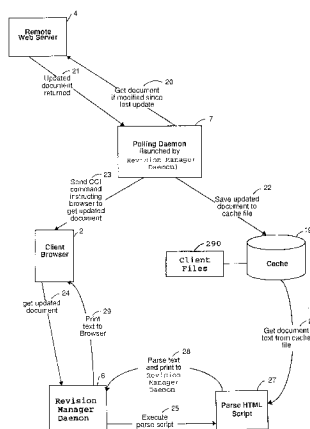
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[57] **ABSTRACT**

An intelligent network agent intercepts transactions between clients and servers to perform Distributed Information Logistics Services (DILS) functions such as automatically retrieving updated files from remote servers and delivering them to local client programs. For example, HTTP clients and HTTPD servers are connectionless and stateless, thus there is no way for a server to update a browser automatically when an HTML document is changed. The invention provides a method to update any number of clients from any number of servers without making any changes to currently existing HTTP clients or HTTPD servers. Furthermore, the invention can provide various other DILS services for clients to reduce latency and communication costs for members of a group with interests in similar objects. For example, the intelligent network agent maintains a cache of objects of interest to the group of clients, a log of changes to the objects, a list of the clients interested in the objects, a list of significant change detection methods for the objects, a list of search specifications for the objects, lists of client notification methods, and lists of general interest specifications for the clients.

96 Claims, 43 Drawing Sheets

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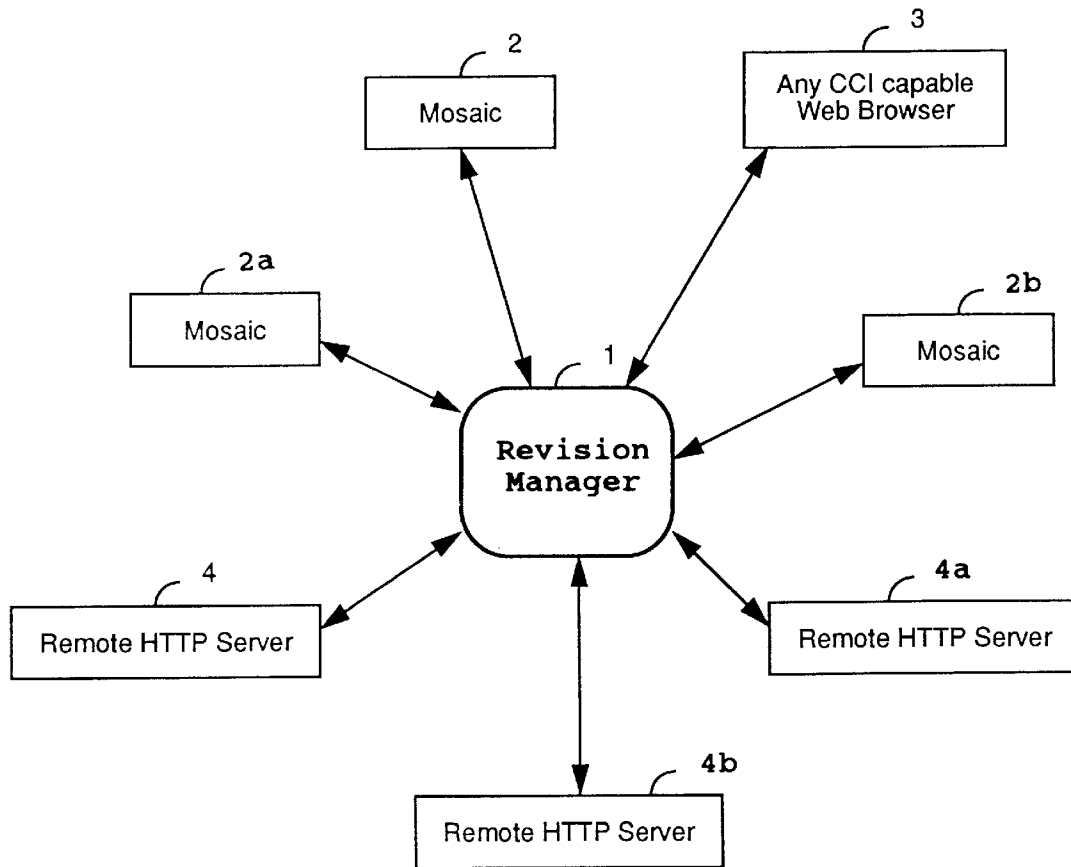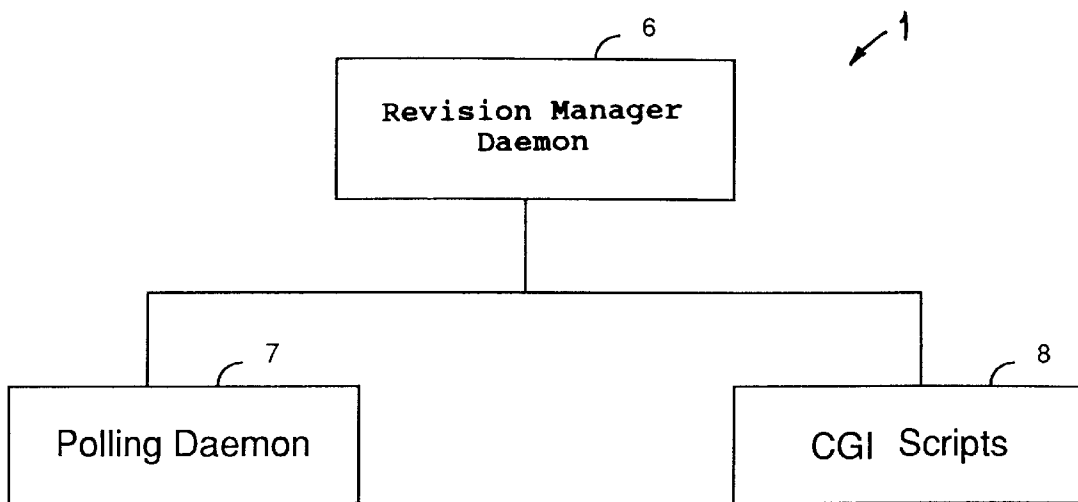
FIG. 1

FIG. 2

DOCKET ALARM

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