

(54) **ACCESS CONTROL FOR NETWORKS**

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(52) **U.S. Cl.** **709/225; 709/232; 713/201**

(58) **Field of Search** **709/225, 232, 709/229, 220, 217, 250; 713/201**

(56) **References Cited**

U.S. PATENT DOCUMENTS

5,606,668	2/1997	Shwed	395/200
5,896,499	* 4/1999	McKelvey	395/187.01
5,898,830	* 4/1999	Wesinger, Jr. et al.	395/187.01
5,951,651	* 9/1999	Lakshman et al.	709/239
6,009,475	* 12/1999	Shrader	709/249
6,052,788	* 8/2000	Wesinger, Jr. et al.	713/201
6,088,796	* 7/2000	Cianfrocca et al.	713/152
6,098,172	* 8/2000	Coss et al.	713/201
6,141,755	* 10/2000	Dowd et al.	713/200

OTHER PUBLICATIONS

Presentation to Customers (described in attached IDS) Beginning Jul. 17, 1997.

Press Release of Cisco Systems, Inc.; www.cisco.com/warp/public/146/1977.html; Oct. 20, 1997.

World Wide Web Page of Check Point Software Technologies, Ltd.; www.checkpoint.com/products/technology/stateful 1.html; downloaded Sep. 18, 1998.

* cited by examiner

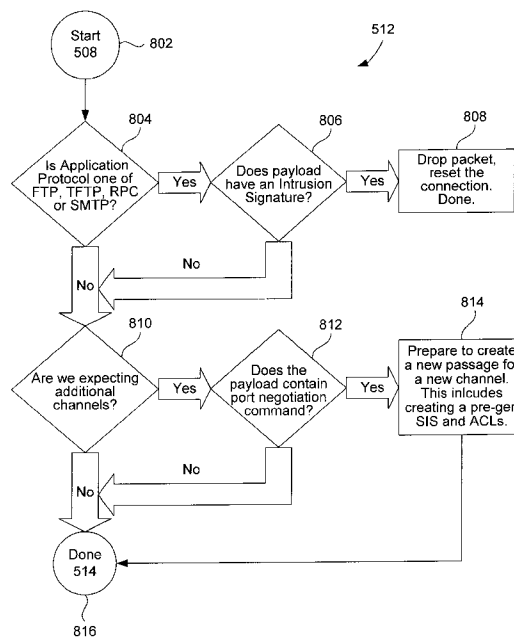
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(57) **ABSTRACT**

An access control system (a firewall) controls traffic to and from a local network. The system is implemented on a dedicated network device such as a router positioned between a local network and an external network, usually the Internet, or between one or more local networks. In this procedure, access control items are dynamically generated and removed based upon the context of an application conversation. Specifically, the system dynamically allocates channels through the firewall based upon its knowledge of the type of applications and protocol (context) employed in the conversation involving a node on the local network. Further, the system may selectively examine packet payloads to determine when new channels are about to be opened. In one example, the firewall employs different rules for handling SMTP (e-mail using a single channel having a well-known port number) sessions, FTP sessions (file transfer using a single control channel having a well known port number and using one or more data channels having arbitrary port numbers), and H.323 (video conferencing using multiple control channels and multiple data channels, which use arbitrary port numbers) sessions.

37 Claims, 11 Drawing Sheets



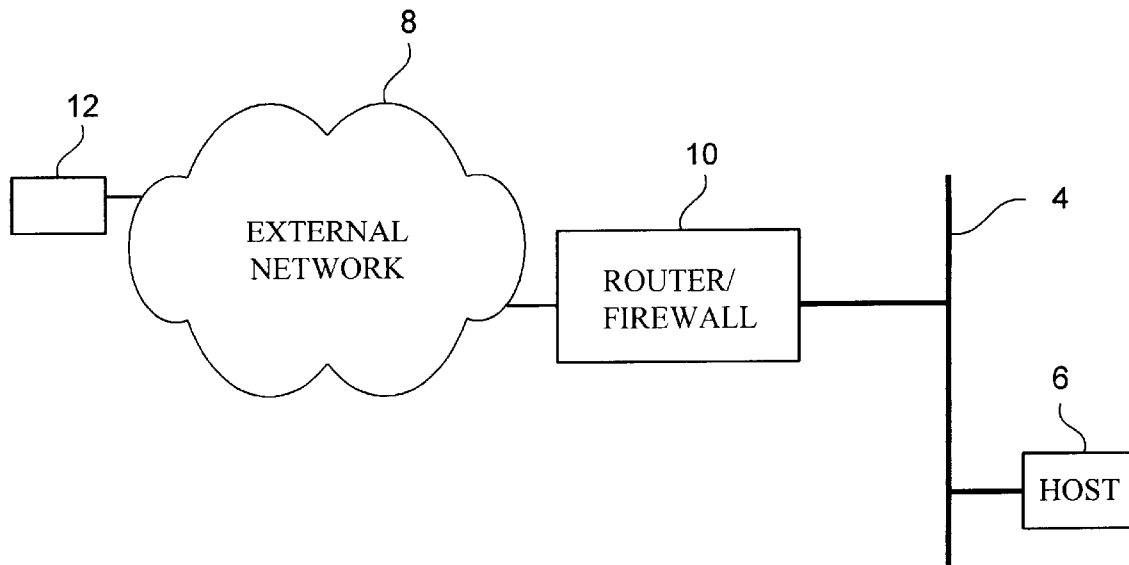


Figure 1

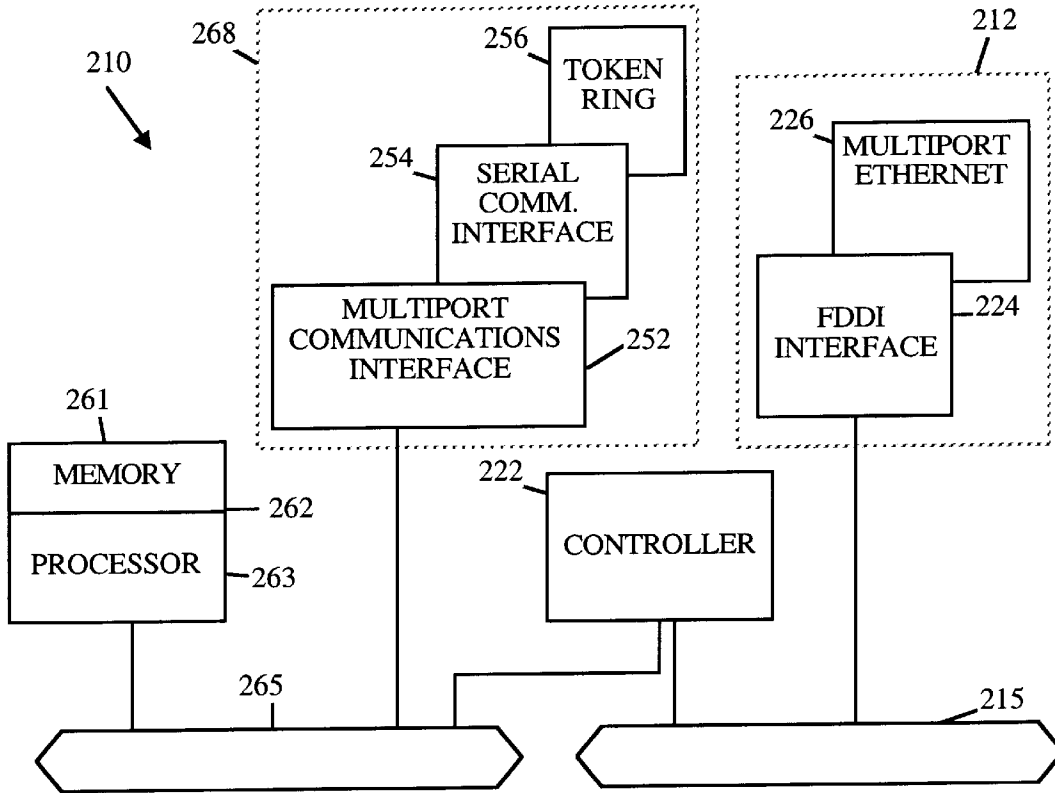


Figure 2

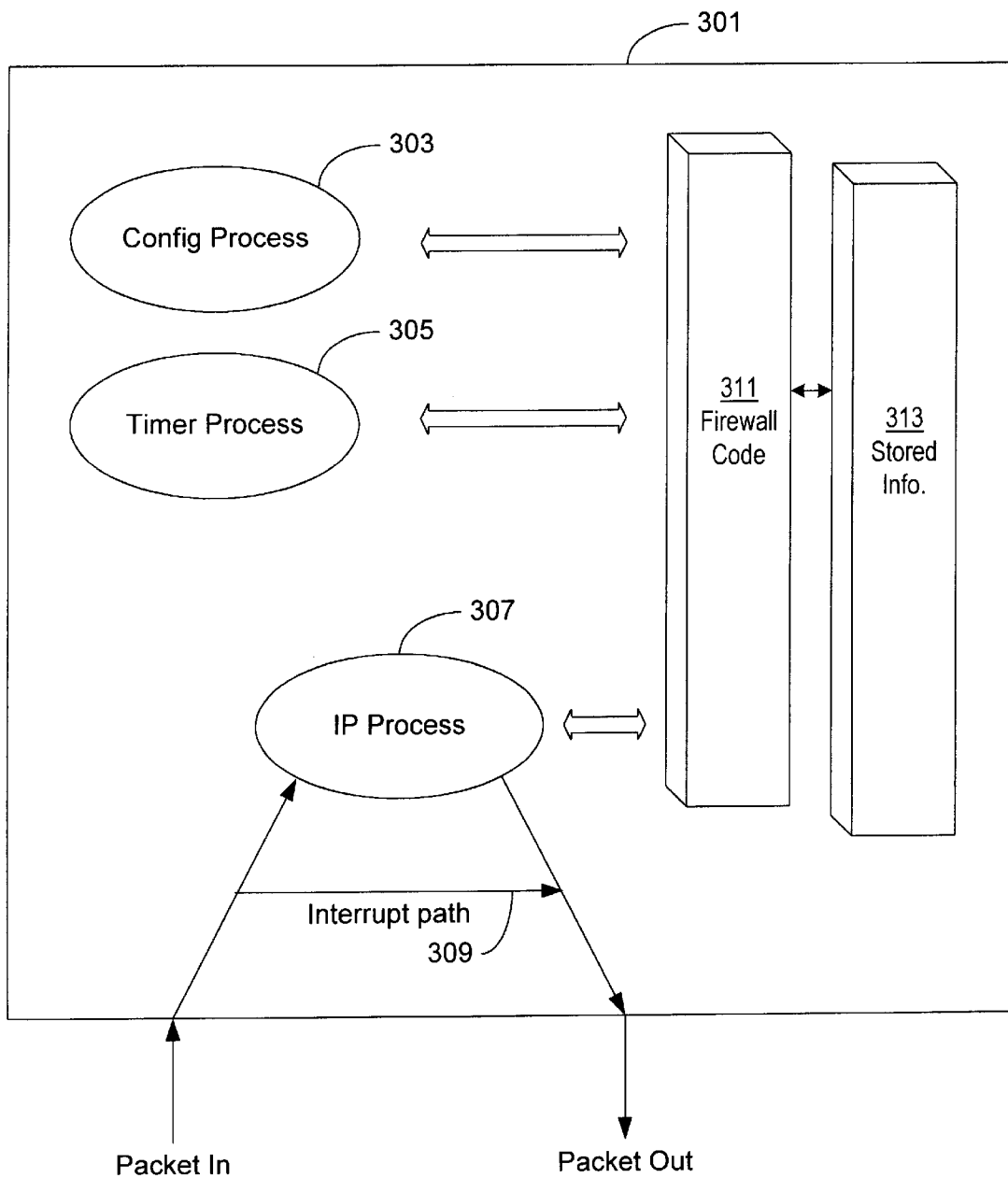


Figure 3

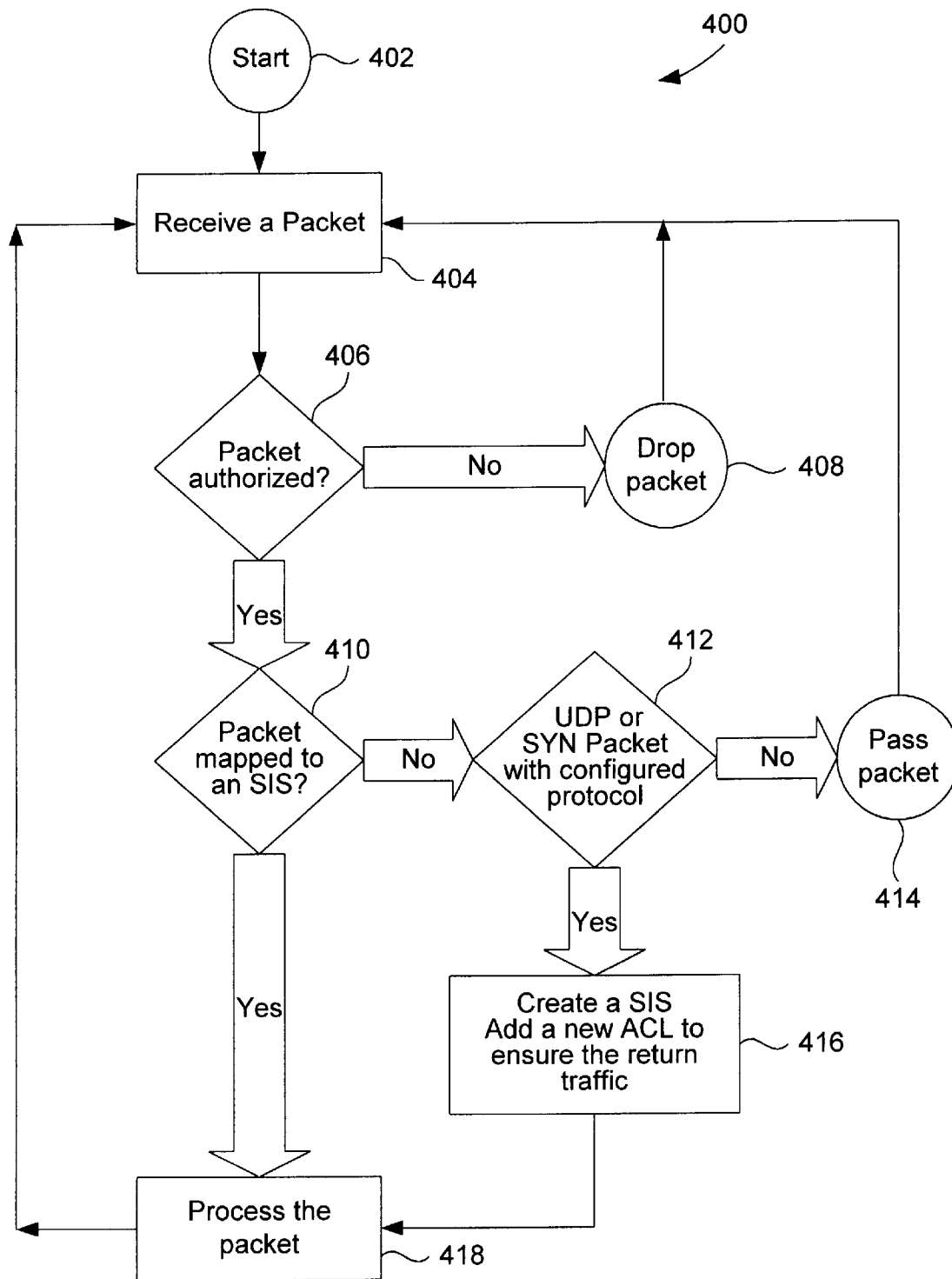


Figure 4

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