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Ross

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(54) **ROLE-BASED NETWORK TRAFFIC-FLOW RATE CONTROL**

2005/0157647 A1* 7/2005 Sterne et al. 370/235
2006/0023709 A1* 2/2006 Hall et al. 370/389
2006/0218302 A1* 9/2006 Chia et al. 709/245

(75) Inventor: **Alan D. Ross**, Shingle Springs, CA (US)

OTHER PUBLICATIONS

(73) Assignee: **Intel Corporation**, Santa Clara, CA (US)

Matthew M. Williamson, et al., "Virus Throttling", *Virus Bulletin*, Mar. 2003, pp. 8-11, Virus Bulletin Ltd., Oxfordshire, England.

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 876 days.

Matthew M. Williamson, et al., "Virus Throttling for Instant Messaging", *Virus Bulletin Conference*, Sep. 2004, Chicago, Illinois, pp. 1-9, Hewlett-Packard Company.

(21) Appl. No.: **10/951,393**

Jamie Twycross et al., "Implementing and Testing a Virus Throttle", *Proceedings 12th USENIX Security Symposium*, Aug. 4-8, 2003, Washington, DC, 11 pages, Hewlett-Packard Company.

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Matthew M. Williamson, et al., "Design, Implementation and Test of an Email Virus Throttle", Jun. 2003, pp. 1-9, Hewlett Packard Company.

(65) **Prior Publication Data**

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Matthew M. Williamson, et al., "Throttling Viruses: Restricting Propagation to Defeat Malicious Mobile Code", Jun. 2002, pp. 1-6, Hewlett-Packard Company.

(51) **Int. Cl.**
G01R 31/08 (2006.01)

Matthew M. Williamson, et al., "Throttling Viruses: Restricting Propagation to Defeat Malicious Mobile Code", *ACSAC Conference*, Dec. 2002, Las Vegas, Nevada, pp. 1-8, Hewlett Packard Company.

(52) **U.S. Cl.** **370/232; 370/230; 370/235; 370/229**

* cited by examiner

(58) **Field of Classification Search** **370/230, 370/232, 235; 709/229**

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See application file for complete search history.

(74) *Attorney, Agent, or Firm*—Blakely, Sokoloff, Taylor & Zafman LLP

(56) **References Cited**

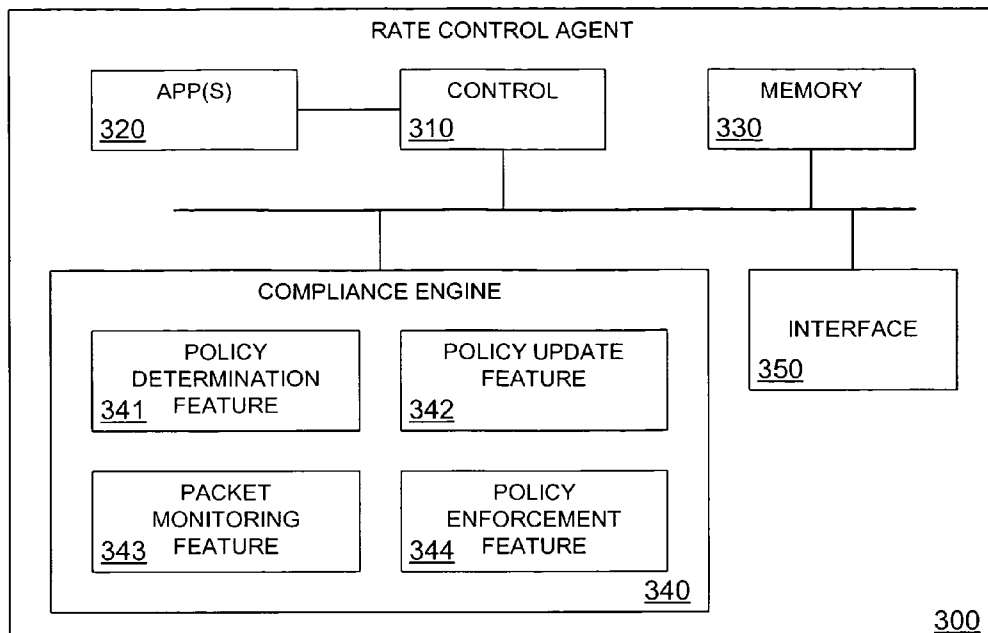
(57) **ABSTRACT**

U.S. PATENT DOCUMENTS

5,950,195 A * 9/1999 Stockwell et al. 707/4
5,968,176 A 10/1999 Nessel et al.
7,343,485 B1 * 3/2008 Huang et al. 713/153
2003/0191853 A1* 10/2003 Ono 709/232
2004/0028059 A1* 2/2004 Josyula et al. 370/396
2004/0039924 A1 2/2004 Baldwin et al.
2005/0027837 A1* 2/2005 Roese et al. 709/223

Traffic flow rate control in a network device. Traffic flow may be permitted/restricted based on the role of a device in a network. The traffic flow may be limited on the basis of packets per time period, the limits to be applied on a per-protocol, per-port, and/or per-packet basis.

17 Claims, 4 Drawing Sheets



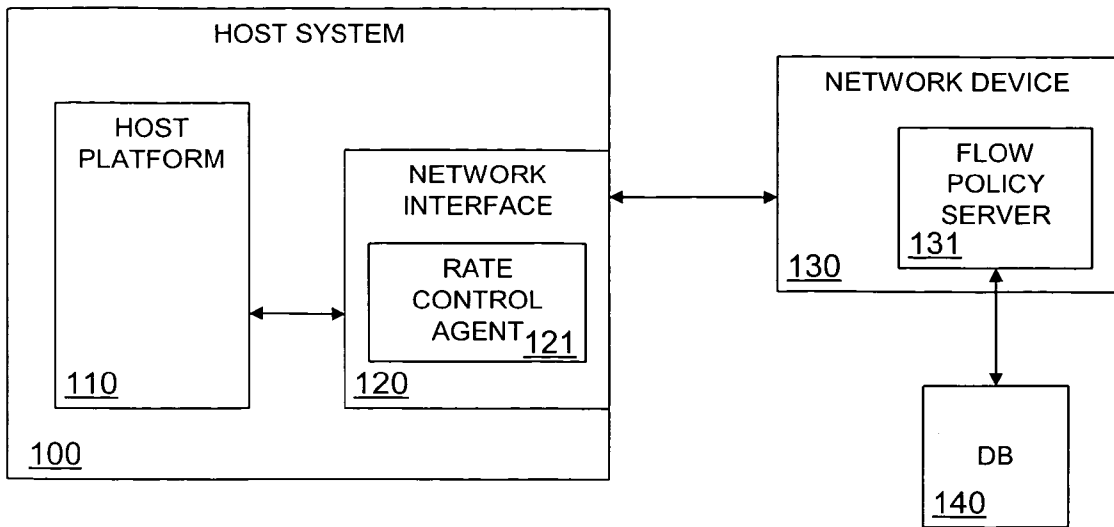


FIG. 1

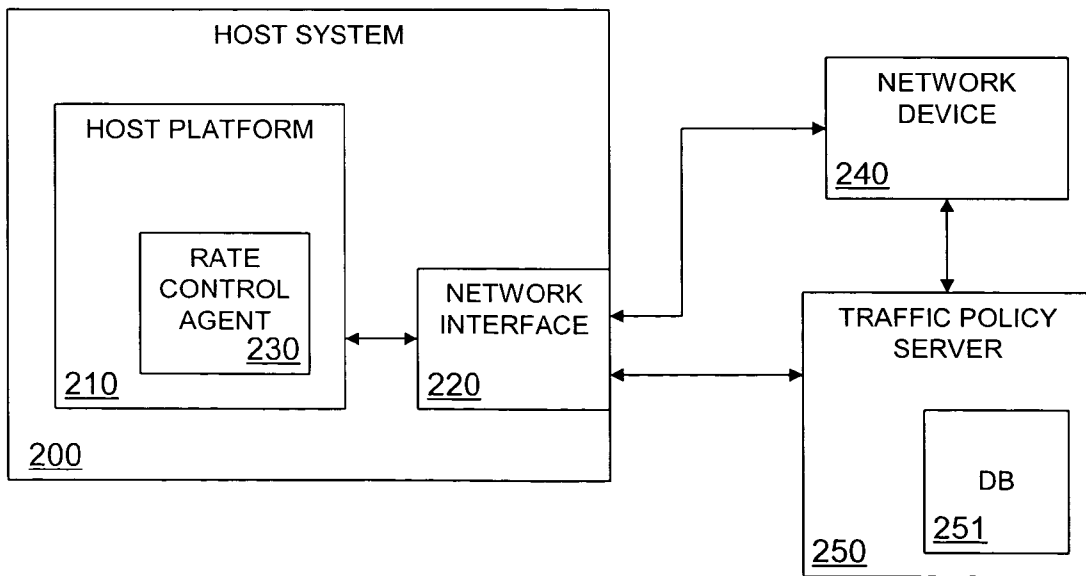


FIG. 2

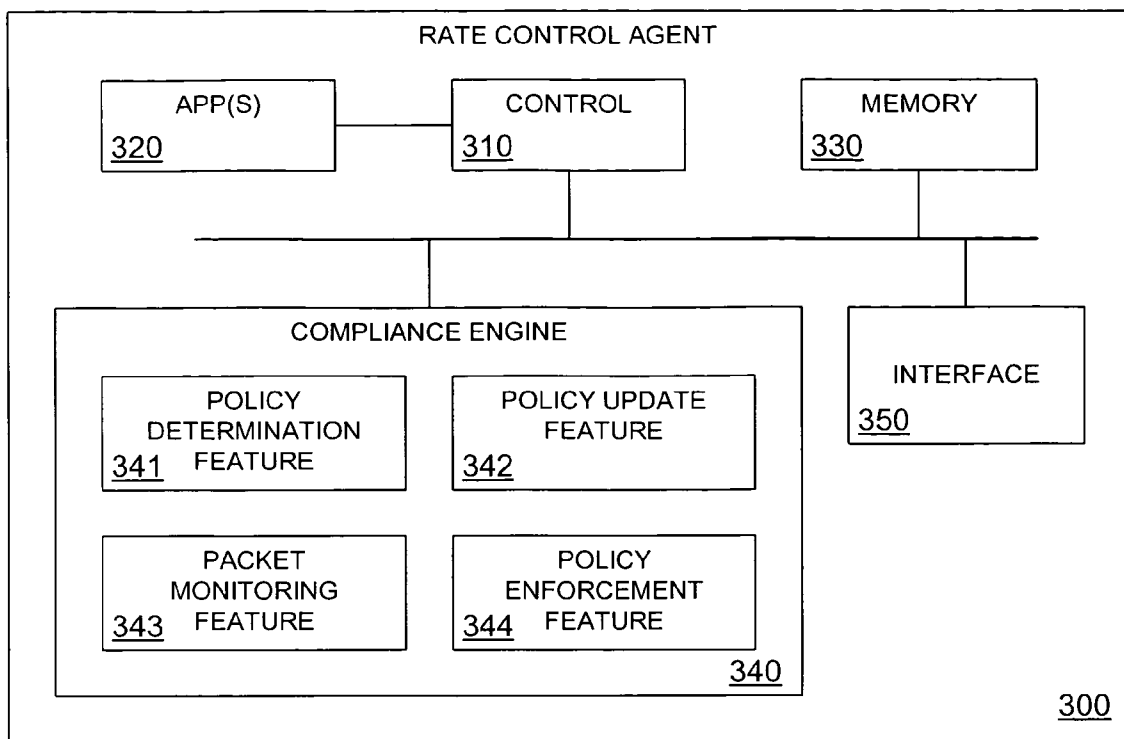


FIG. 3

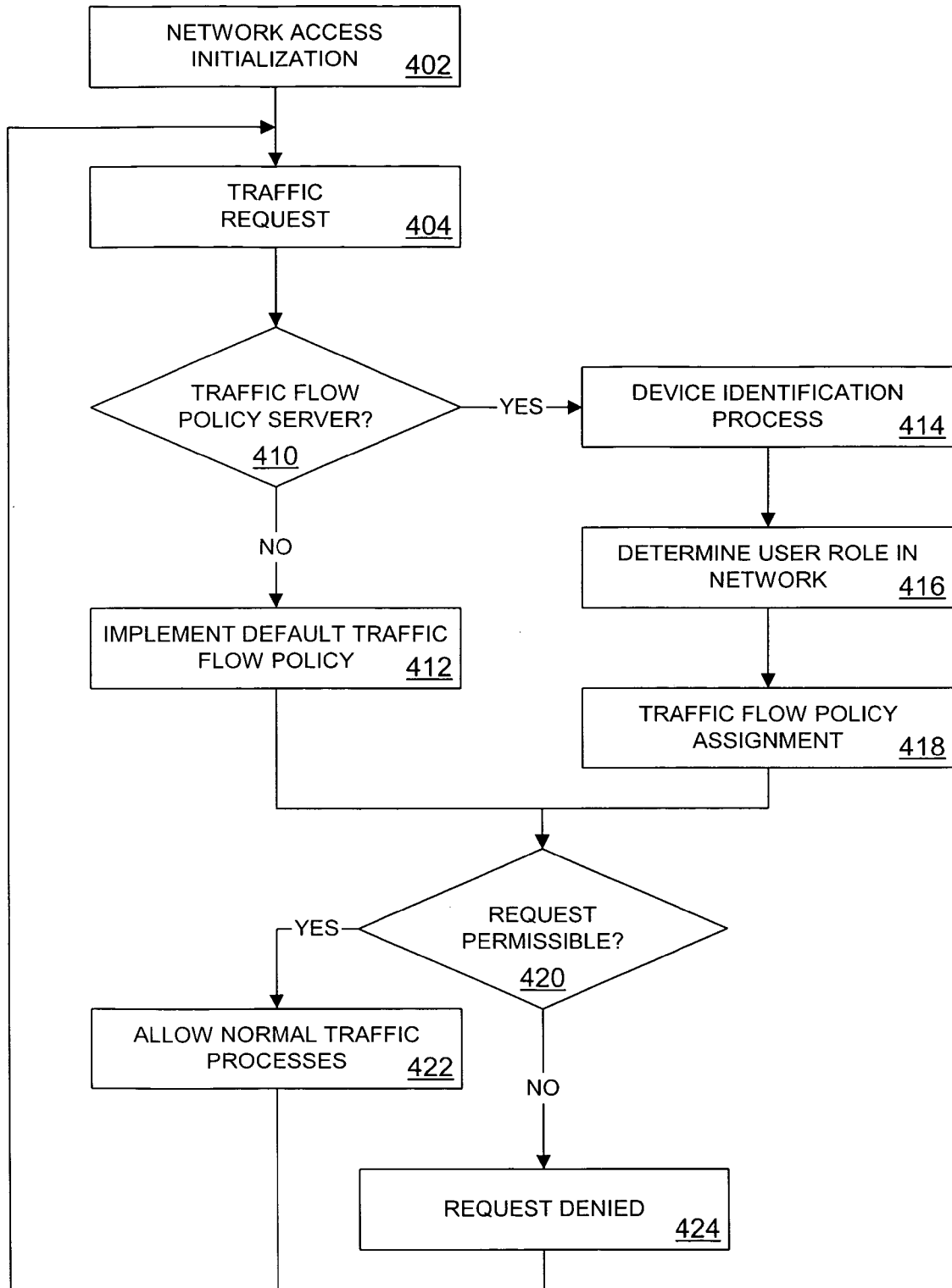


FIG. 4

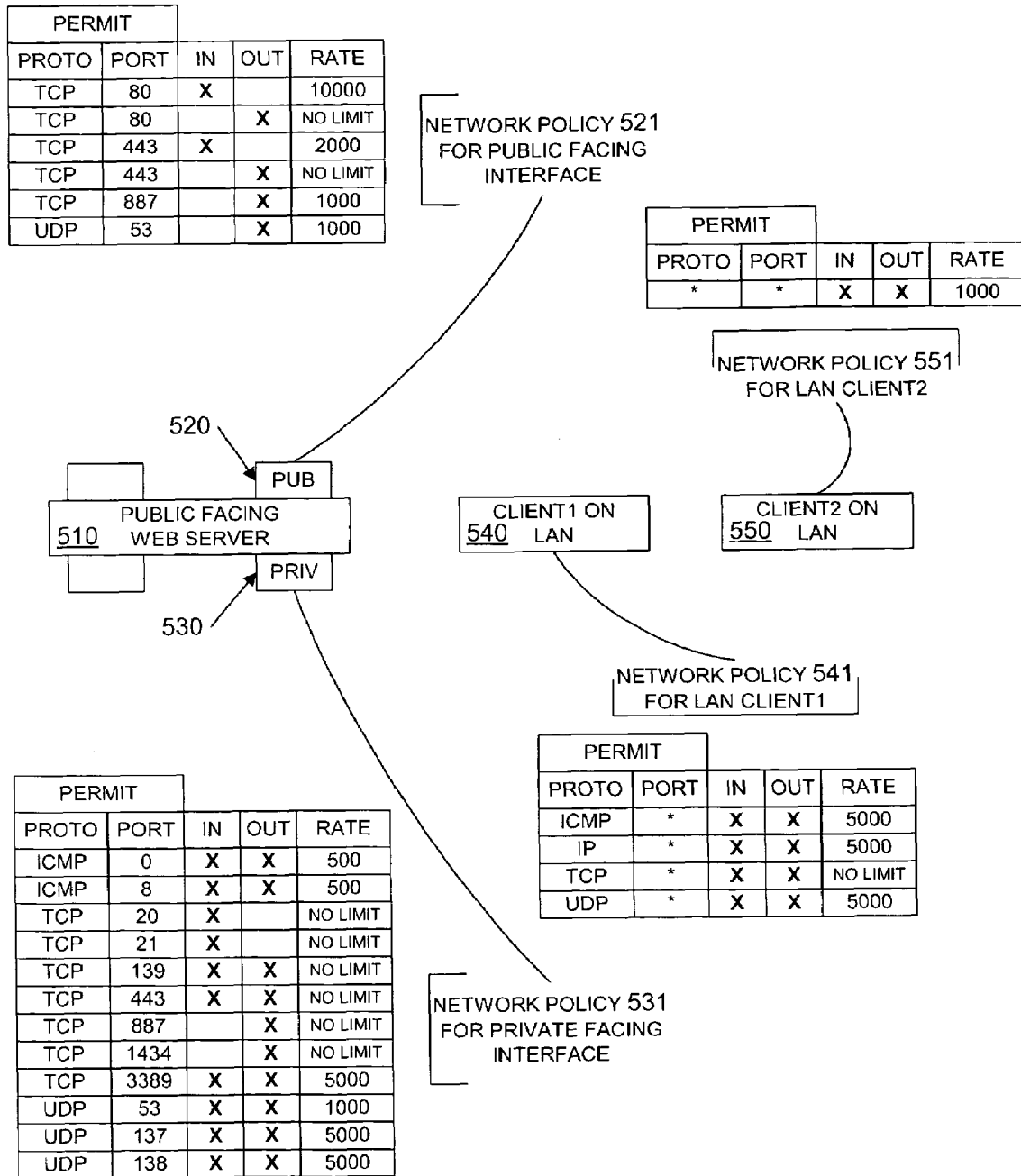


FIG. 5

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