



US007561515B2

(12) **United States Patent**
Ross

(10) **Patent No.:** **US 7,561,515 B2**
(45) **Date of Patent:** **Jul. 14, 2009**

(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.

(22) Filed: **Sep. 27, 2004**

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**

US 2006/0072451 A1 Apr. 6, 2006

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**

See application file for complete search history.

Primary Examiner—Ricky Ngo

Assistant Examiner—Kibrom T Hailu

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

(56) **References Cited**

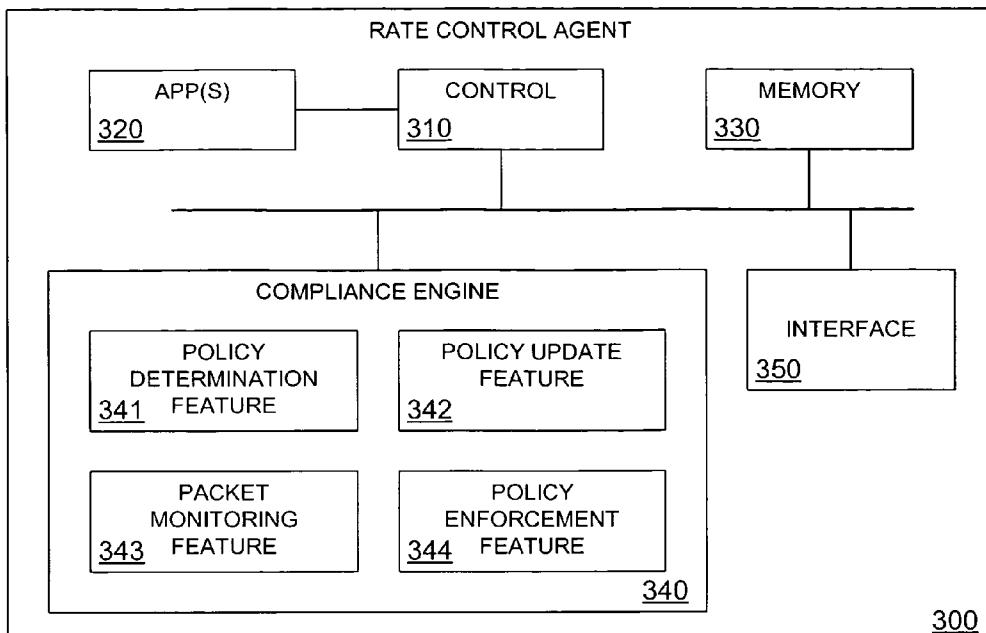
(57) **ABSTRACT**

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



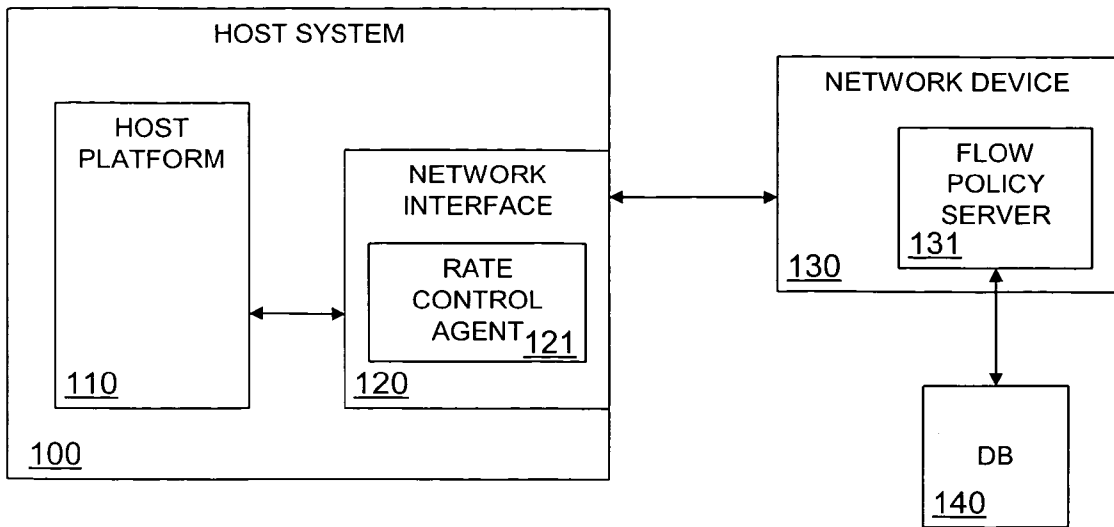


FIG. 1

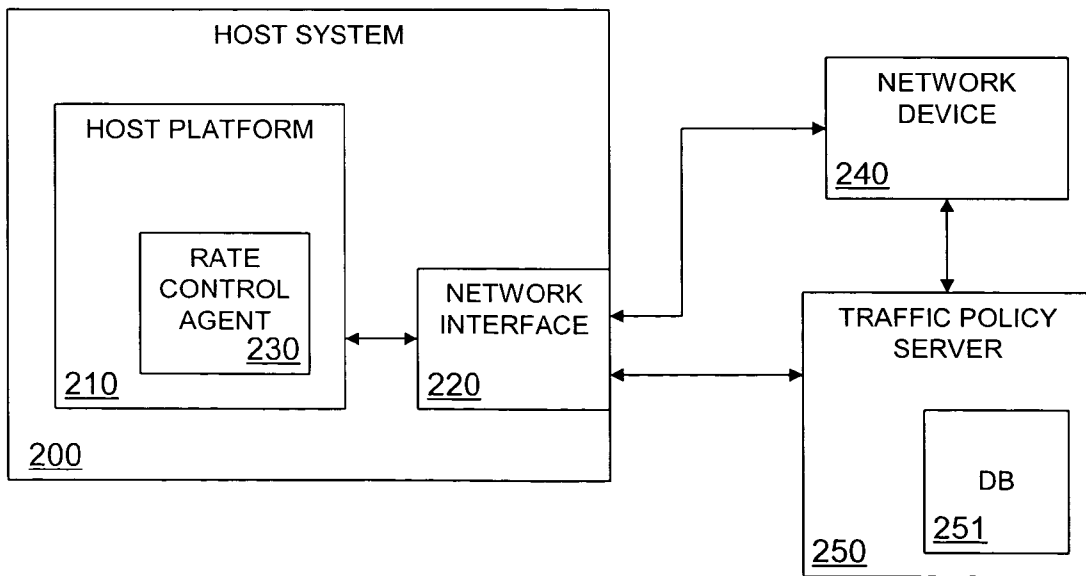


FIG. 2

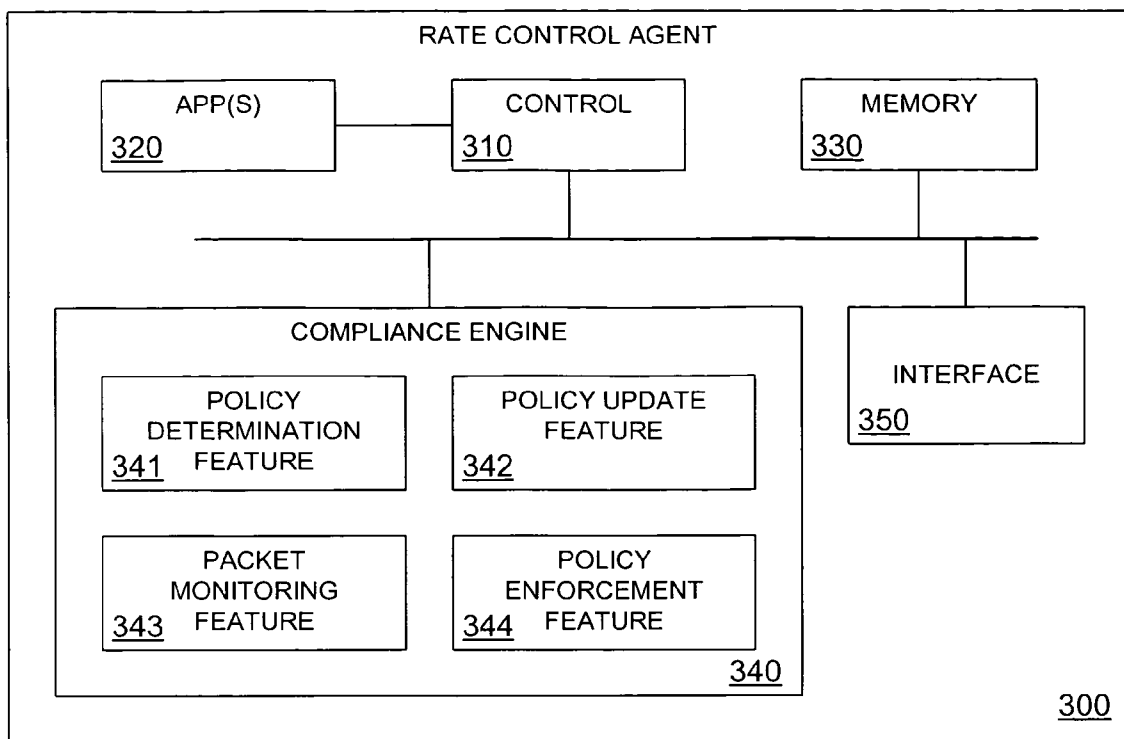


FIG. 3

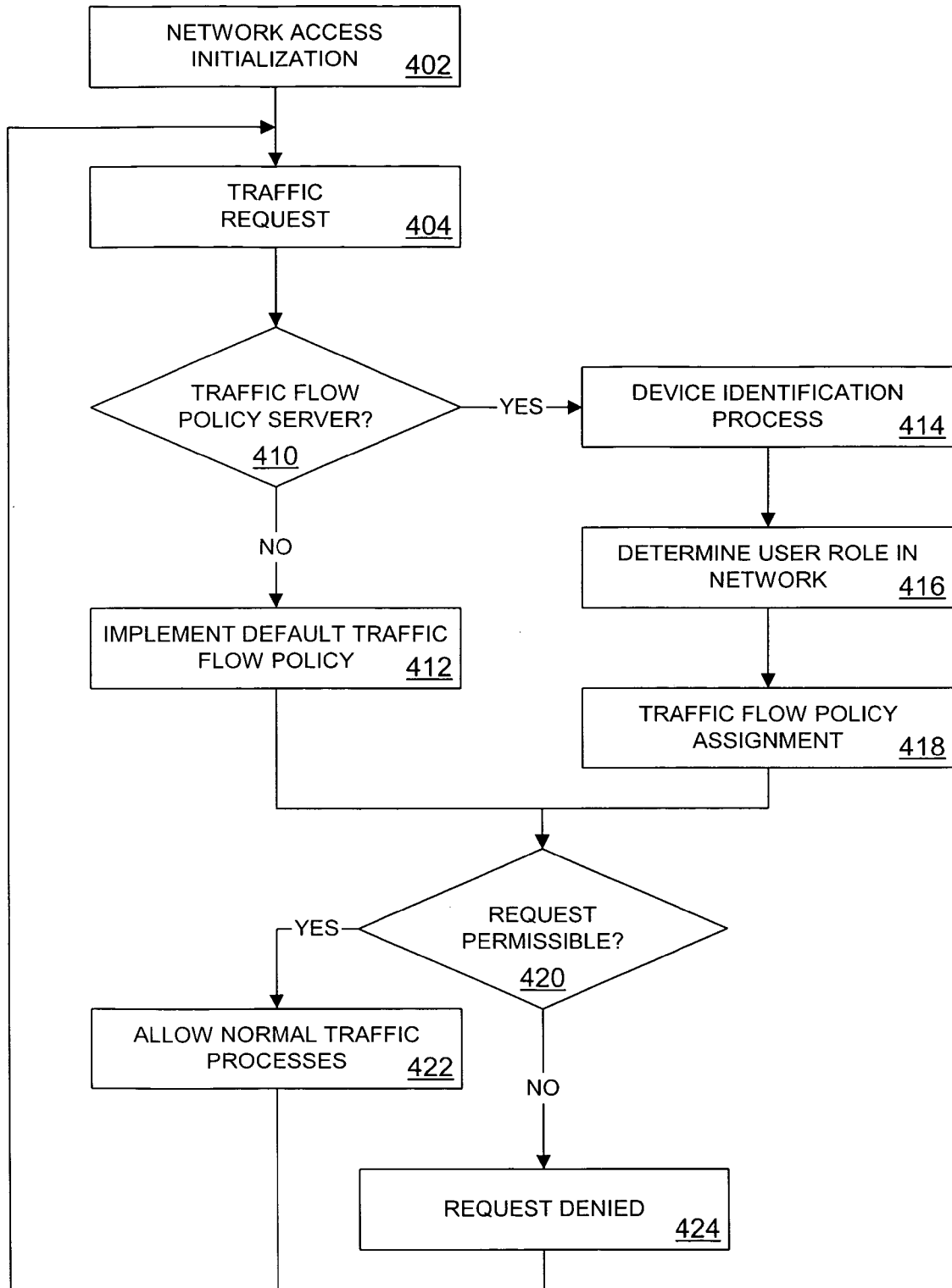


FIG. 4

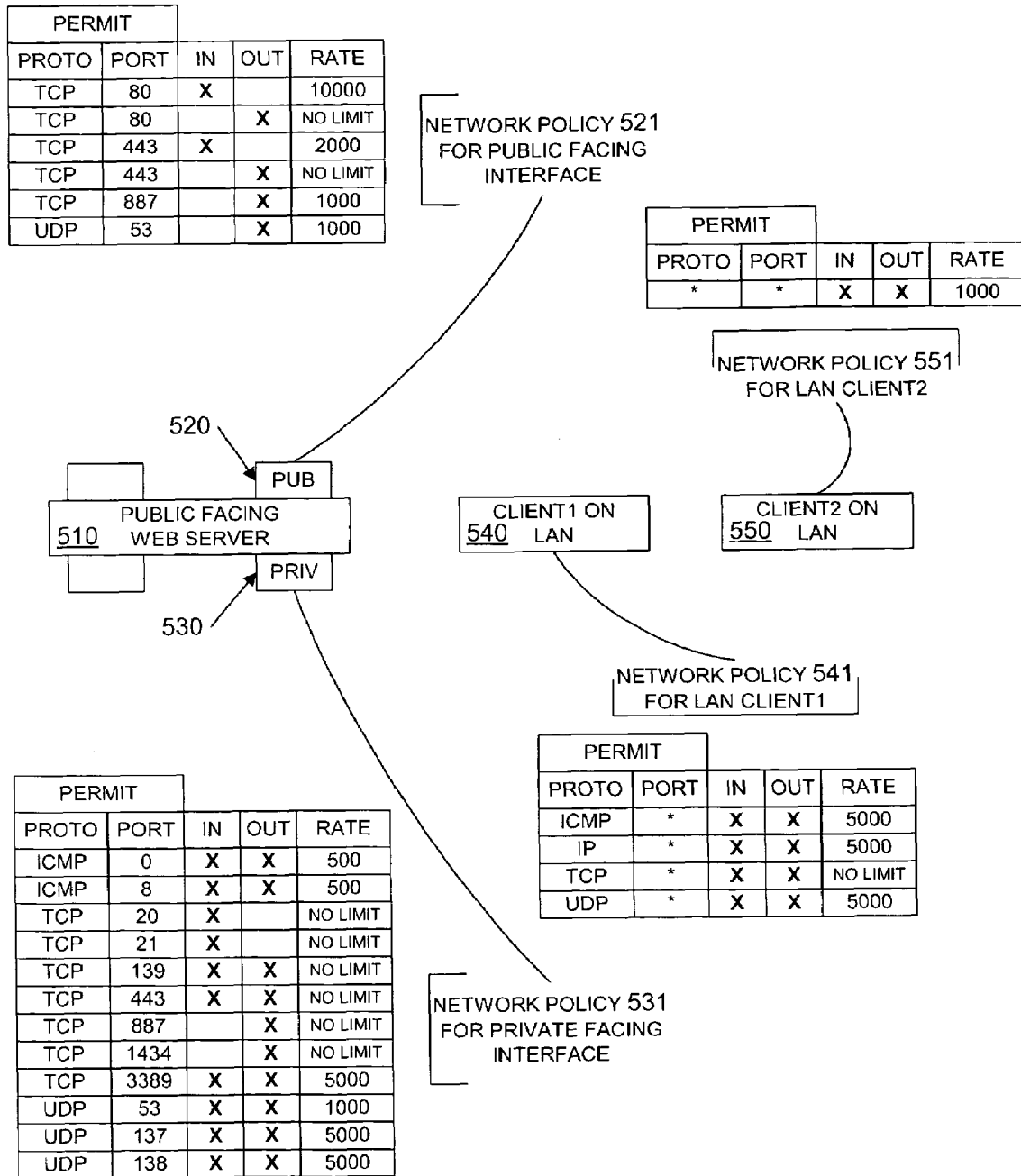


FIG. 5

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.