

(12) **United States Patent**
Hoke et al.

(10) **Patent No.:** **US 6,701,437 B1**
(45) **Date of Patent:** **Mar. 2, 2004**

(54) **METHOD AND APPARATUS FOR PROCESSING COMMUNICATIONS IN A VIRTUAL PRIVATE NETWORK**

6,353,614 B1 * 3/2002 Borella et al. 370/389

OTHER PUBLICATIONS

(75) Inventors: **Mark R. Hoke**, San Jose, CA (US);
Leslie J. Arrow, Mountain View, CA (US)

Ferguson et al, "What is a VPN?", Apr. 1998, Revision 1, p. 1-22.*

(73) Assignee: **VPNet Technologies, Inc.**, San Jose, CA (US)

Microsoft Press Computer Dictionary, 1997, Third Edition, p. 86, 498.*

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

"Ravlin 4, Wireline Performance Encryption Speeds of 4 MBPS" 1997, RedCreek Communications, Inc., p. 1-2.*

"Microsoft Press Computer Dictionary" Microsoft Press, 3rd Edition, p. 348.*

"Virtual Private Networks Resource Guide" 1997, Ascend Communications, Inc., p. 1-60.*

(21) Appl. No.: **09/188,867**

Airamo, "Virtual Private Networks" Nov. 28, 1997, Department of Computer Science Helsinki University of Technology, p. 1-9.*

(22) Filed: **Nov. 9, 1998**

* cited by examiner

Related U.S. Application Data

Primary Examiner—Ayaz Sheikh

Assistant Examiner—Christopher Revak

(63) Continuation-in-part of application No. 09/062,507, filed on Apr. 17, 1998, now Pat. No. 6,226,751.

(74) *Attorney, Agent, or Firm*—Park, Vaughan & Fleming LLP

(51) **Int. Cl.**⁷ **H04L 9/00**

(57) **ABSTRACT**

(52) **U.S. Cl.** **713/201; 709/245; 709/249**

One embodiment of the present invention provides a computer system for processing communications in a virtual private network. The computer system operates in a selective mode, in which only communications transiting the virtual private network are processed according to specified virtual private network parameters, such as encryption, compression and authentication algorithms. Virtual private network communications passing between a public network and a private network are thus received and processed according to the algorithms, while other communications bypass the computer system. Multiple private networks may be served by a single computer system.

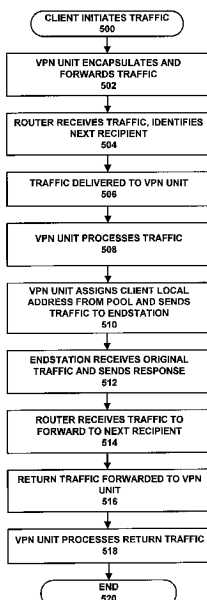
(58) **Field of Search** 713/201, 200, 713/162, 153, 154; 370/351; 709/220, 227, 228, 230, 232, 238, 245, 249

(56) **References Cited**

U.S. PATENT DOCUMENTS

- 5,835,726 A * 11/1998 Shwed et al. 709/229
- 5,950,195 A * 9/1999 Stockwell et al. 707/4
- 6,079,020 A * 6/2000 Liu 713/201
- 6,154,839 A * 11/2000 Arrow et al. 713/154
- 6,173,399 B1 * 1/2001 Gilbrech 713/153
- 6,175,917 B1 * 1/2001 Arrow et al. 713/1
- 6,182,226 B1 * 1/2001 Reid et al. 713/201
- 6,226,751 B1 * 5/2001 Arrow et al. 713/201

33 Claims, 8 Drawing Sheets



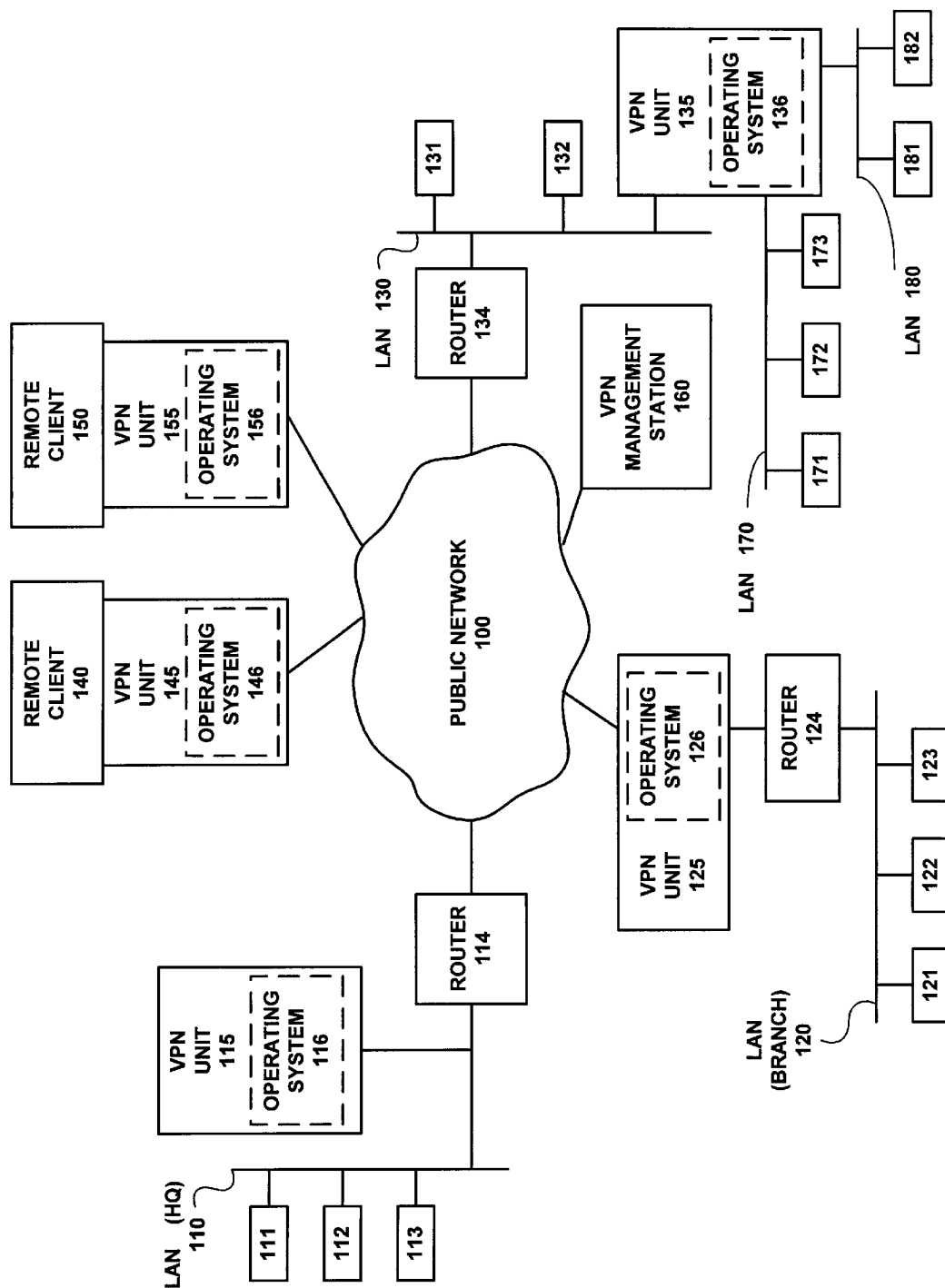


FIG. 1

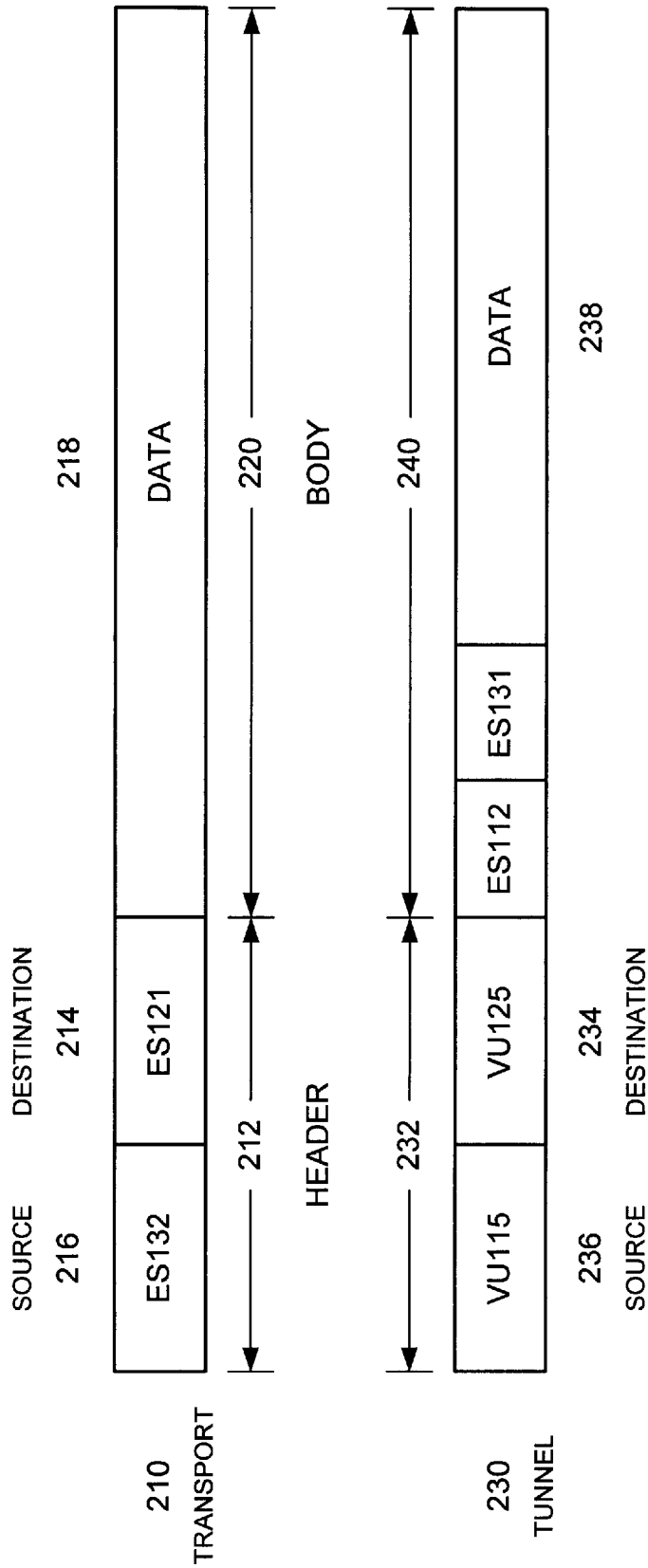


FIG. 2

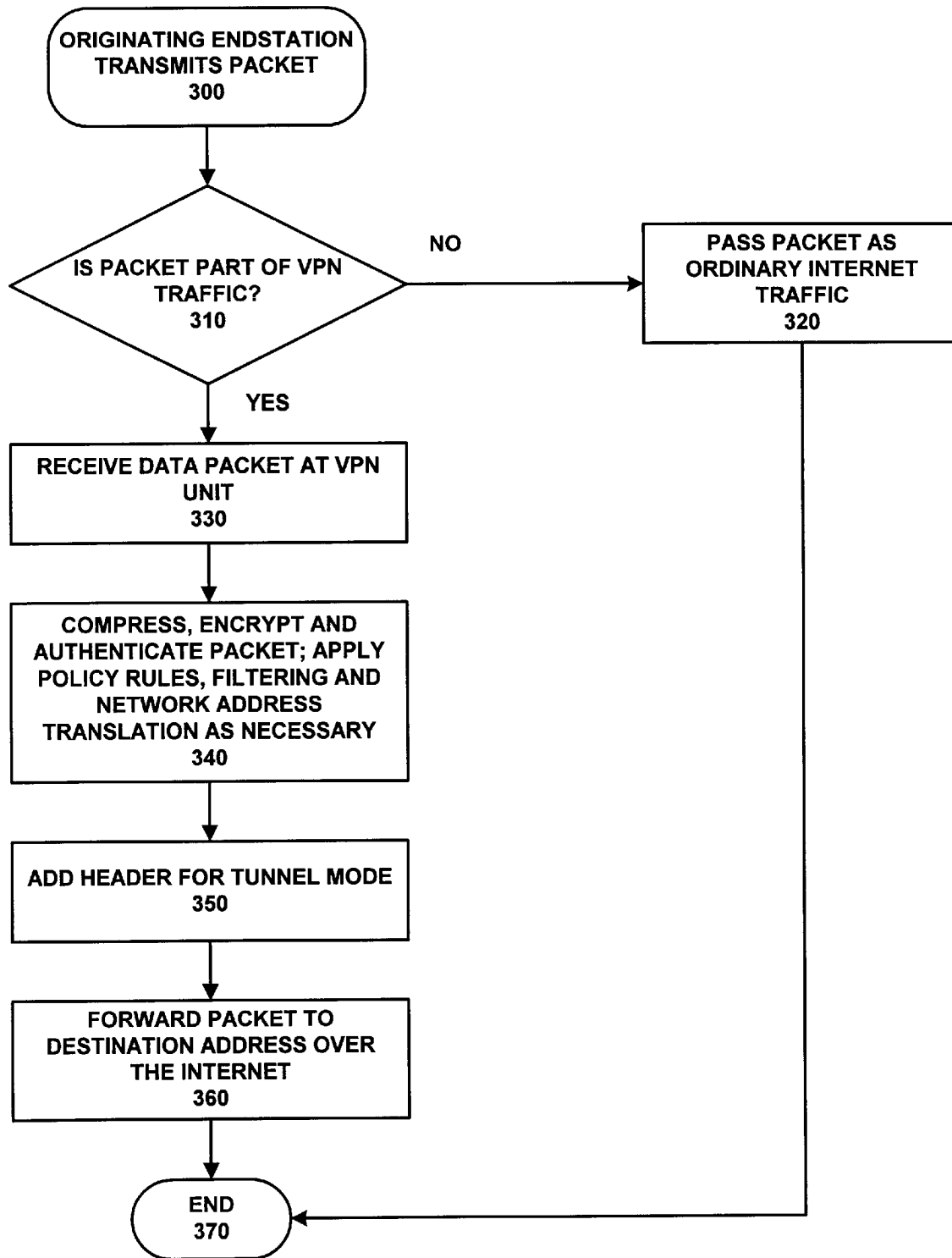


FIG. 3

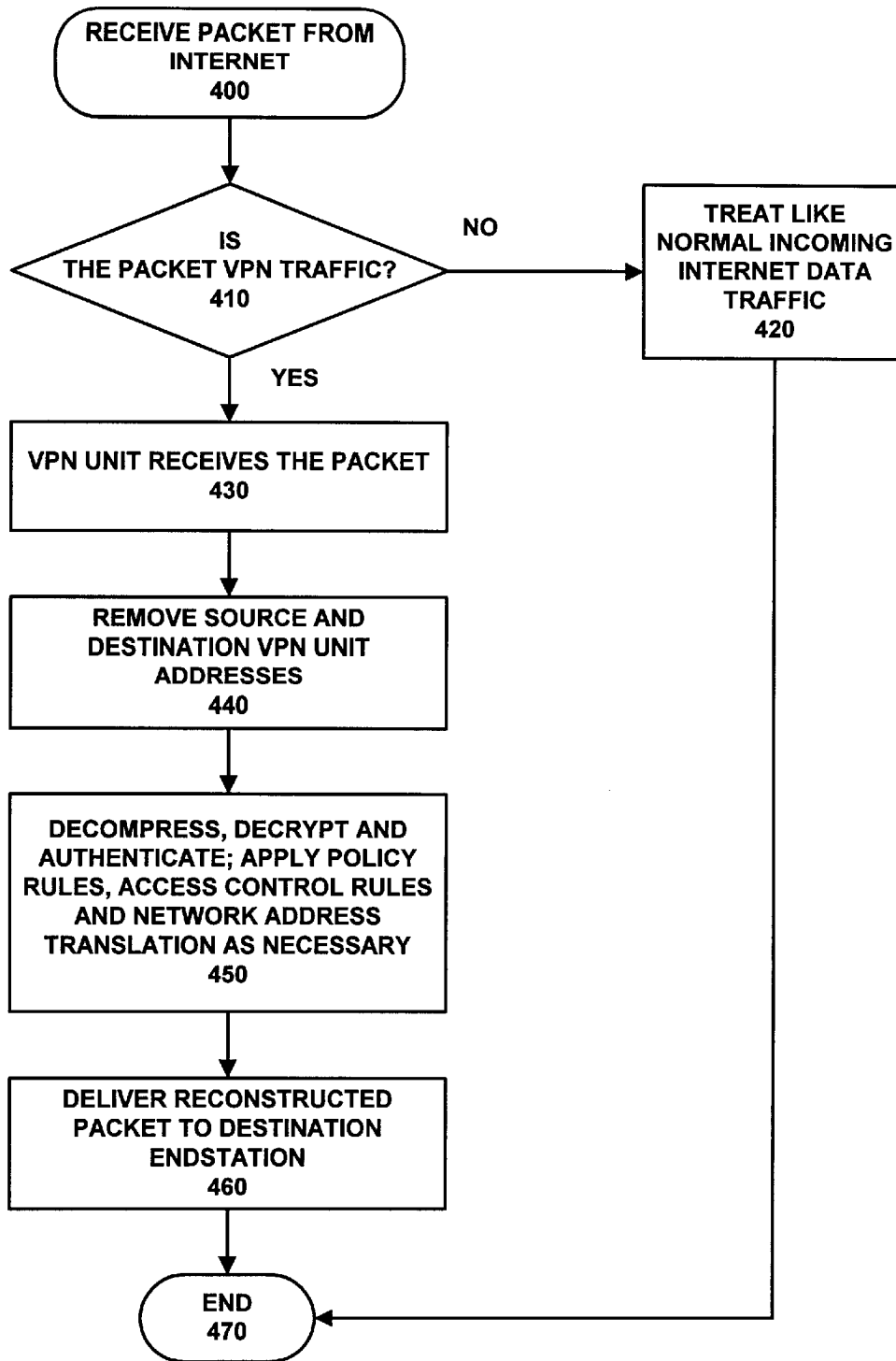


FIG. 4

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.