

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

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

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

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

\* cited by examiner

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

**Related U.S. Application Data**

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

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

(51) **Int. Cl.**<sup>7</sup> ..... **H04L 9/00**

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

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

(57) **ABSTRACT**

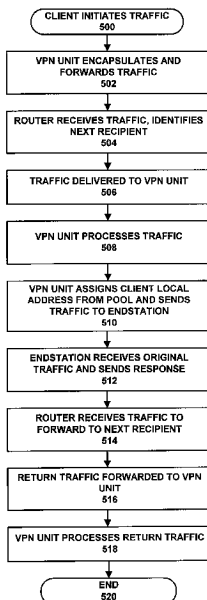
One embodiment of the present invention provides a computer system for processing communications in a virtual private network. The computer system operates in a selective mode, in which only communications transiting the virtual private network are processed according to specified virtual private network 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.

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**33 Claims, 8 Drawing Sheets**



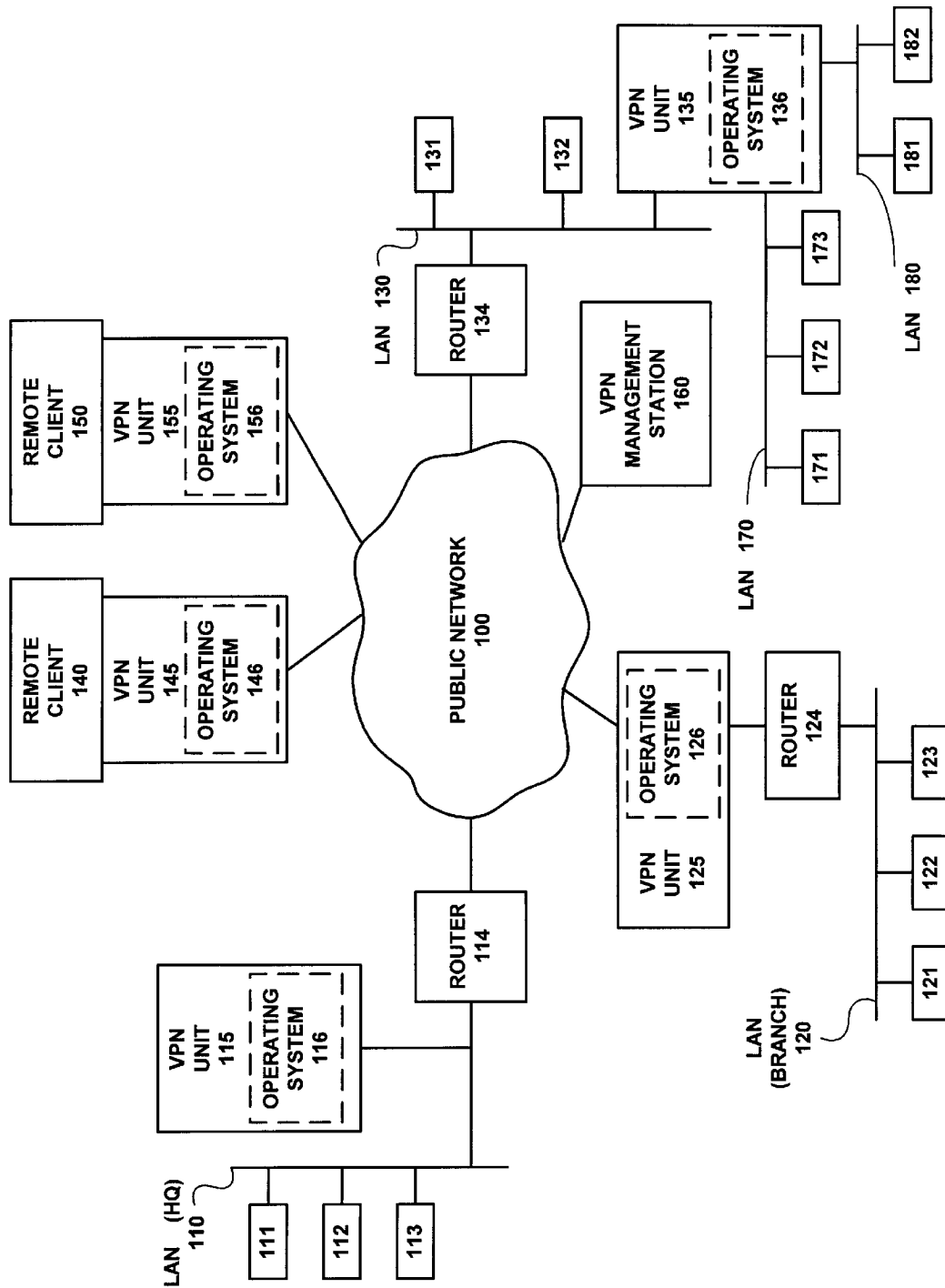


FIG. 1

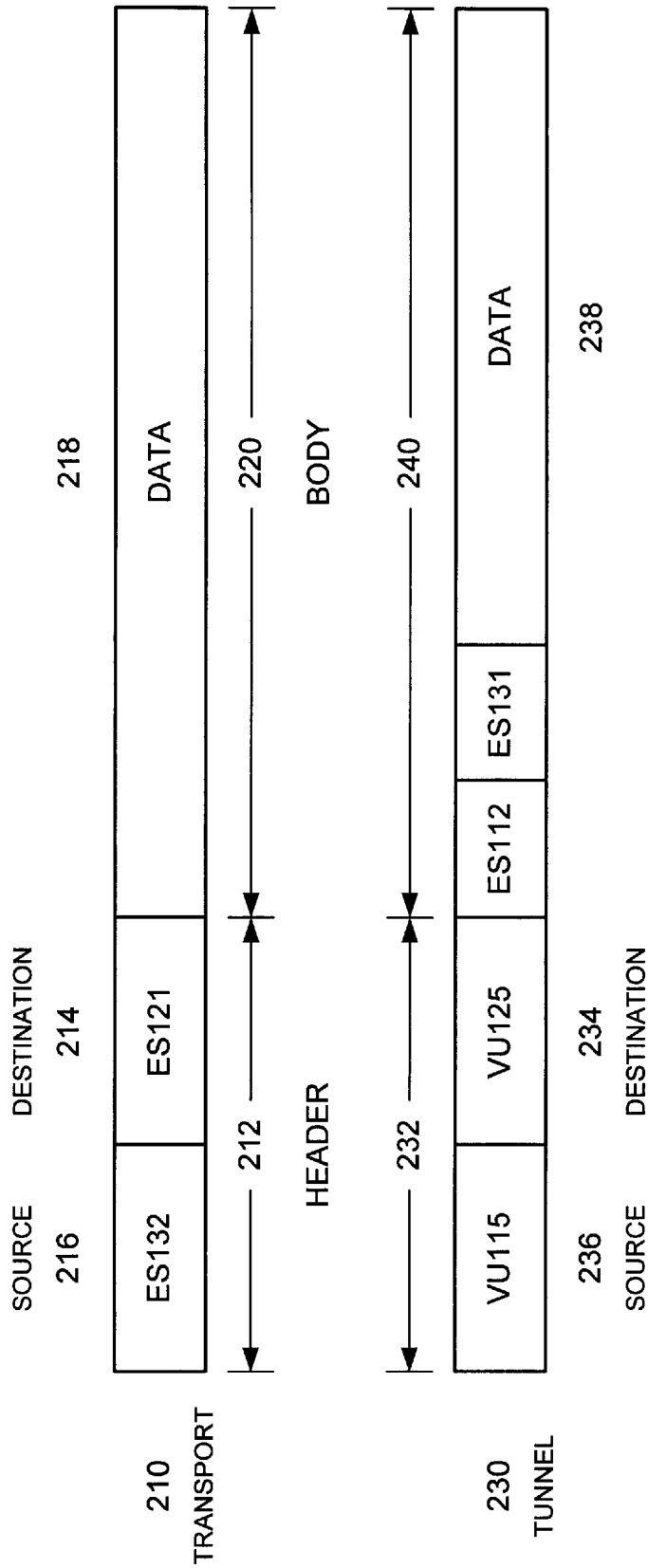


FIG. 2

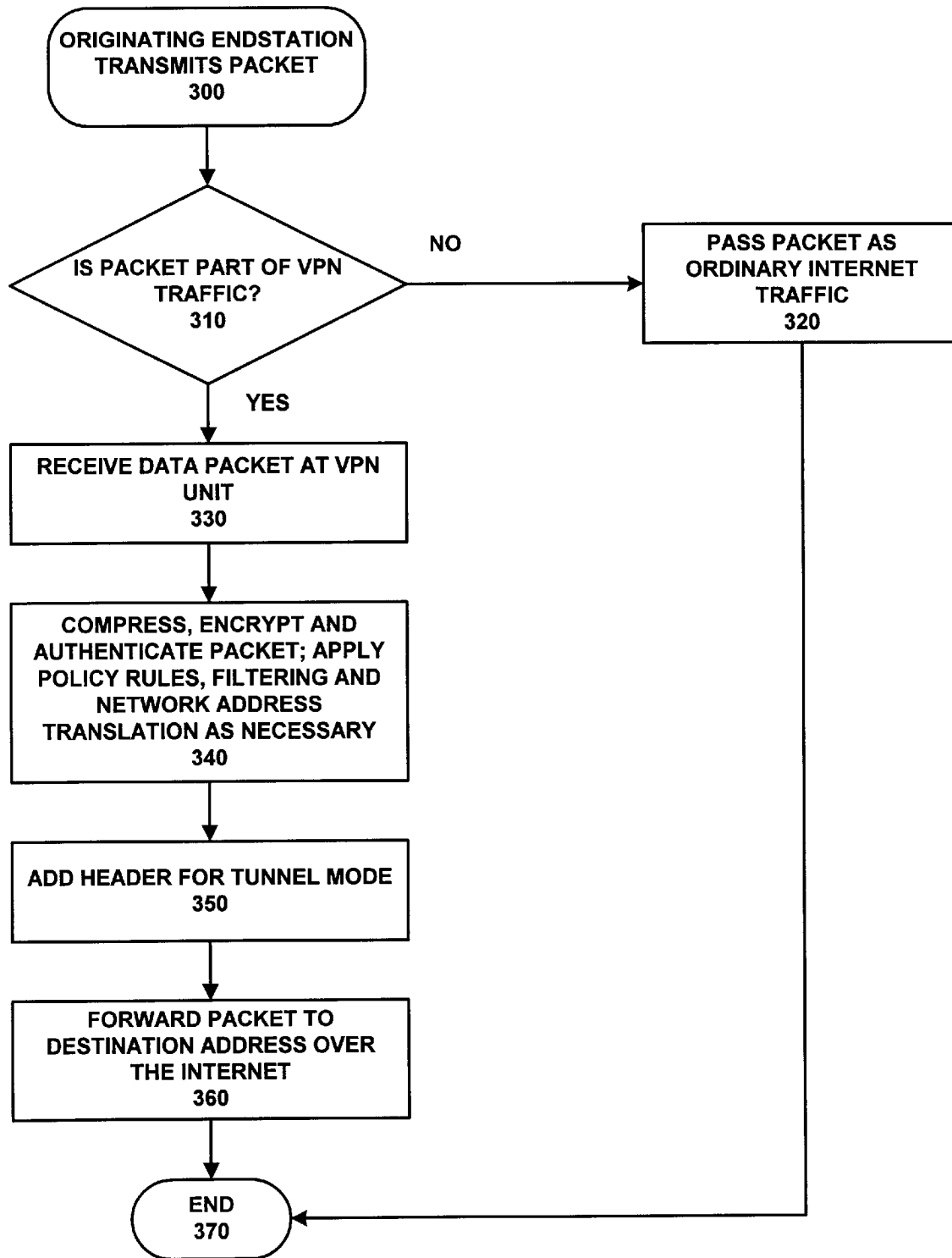


FIG. 3

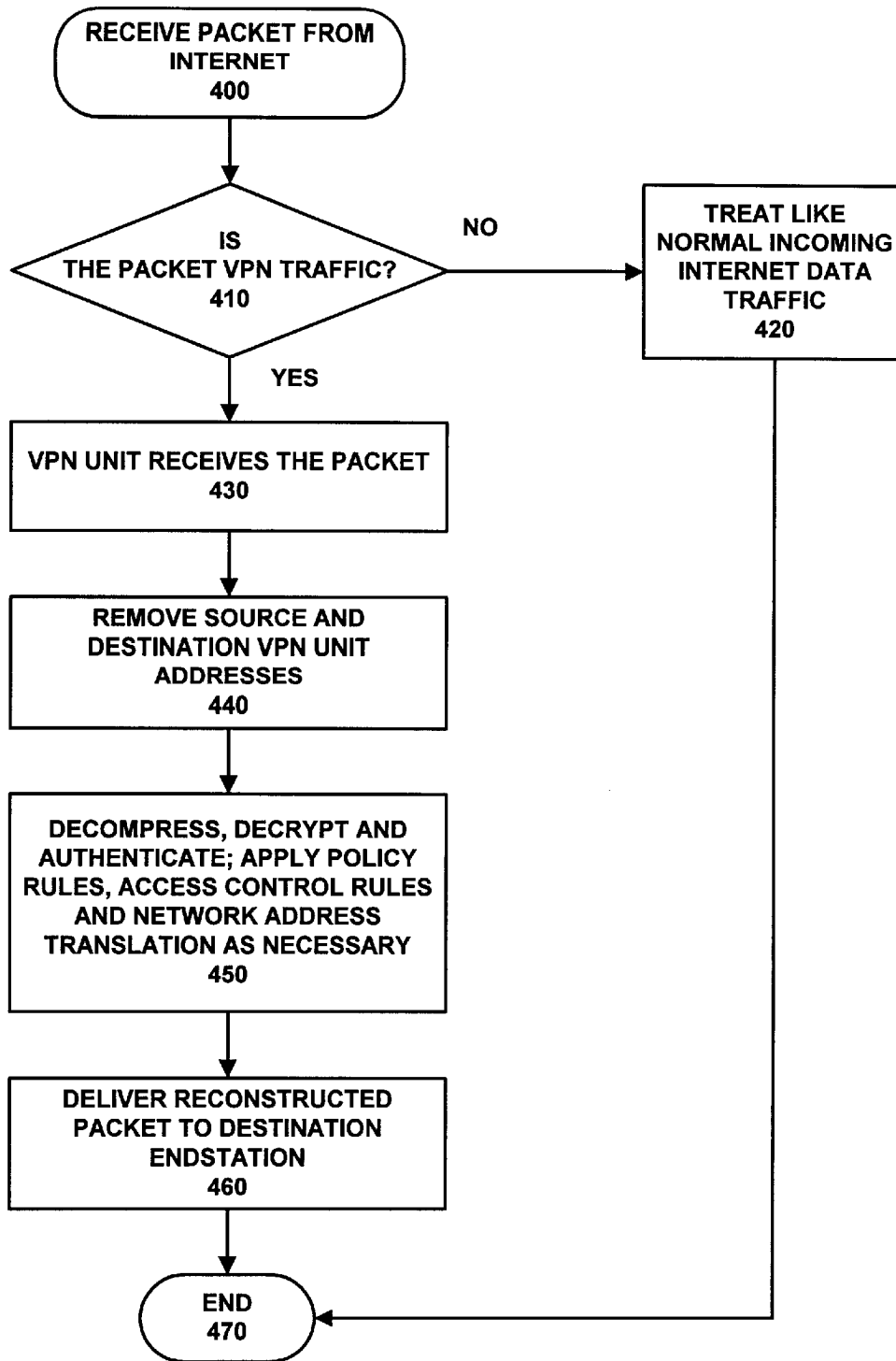


FIG. 4

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