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(12) **United States Patent**
Bennett

(10) **Patent No.:** **US 7,336,621 B2**
(45) **Date of Patent:** **Feb. 26, 2008**

(54) **METHOD AND APPARATUS FOR TESTING AN IP NETWORK**

(58) **Field of Classification Search** None
See application file for complete search history.

(75) **Inventor:** **Jon Claude Russell Bennett**, Sudbury, MA (US)

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(73) **Assignee:** **General Instrument Corporation**,
Horsham, PA (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 848 days.

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(21) **Appl. No.:** **10/648,724**

Primary Examiner—Huy D. Vu

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Assistant Examiner—Clemence Han

(65) **Prior Publication Data**

(74) *Attorney, Agent, or Firm*—Larry T. Cullen

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(57) **ABSTRACT**

Related U.S. Application Data

The practice and need for active network measurement is well established, however, current tools are not well suited to this task, mostly because the protocols which they employ have not been designed for measurement of the modern Internet. The IP Measurement Protocol (IPMP) is based on packet-probes, and is designed to allow routers to participate in measurements by the insertion of path information as the probe passes between a pair of hosts.

(60) **Provisional application No.** 60/421,303, filed on Oct. 25, 2002.

(51) **Int. Cl.**
H04L 12/26 (2006.01)
H04L 12/28 (2006.01)

(52) **U.S. Cl.** 370/252; 370/389

16 Claims, 12 Drawing Sheets

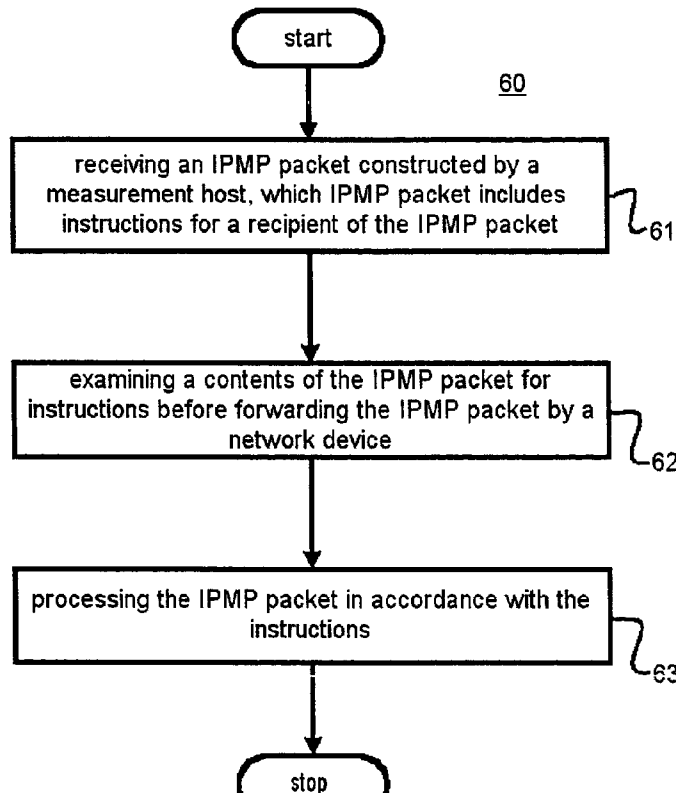


FIG 1

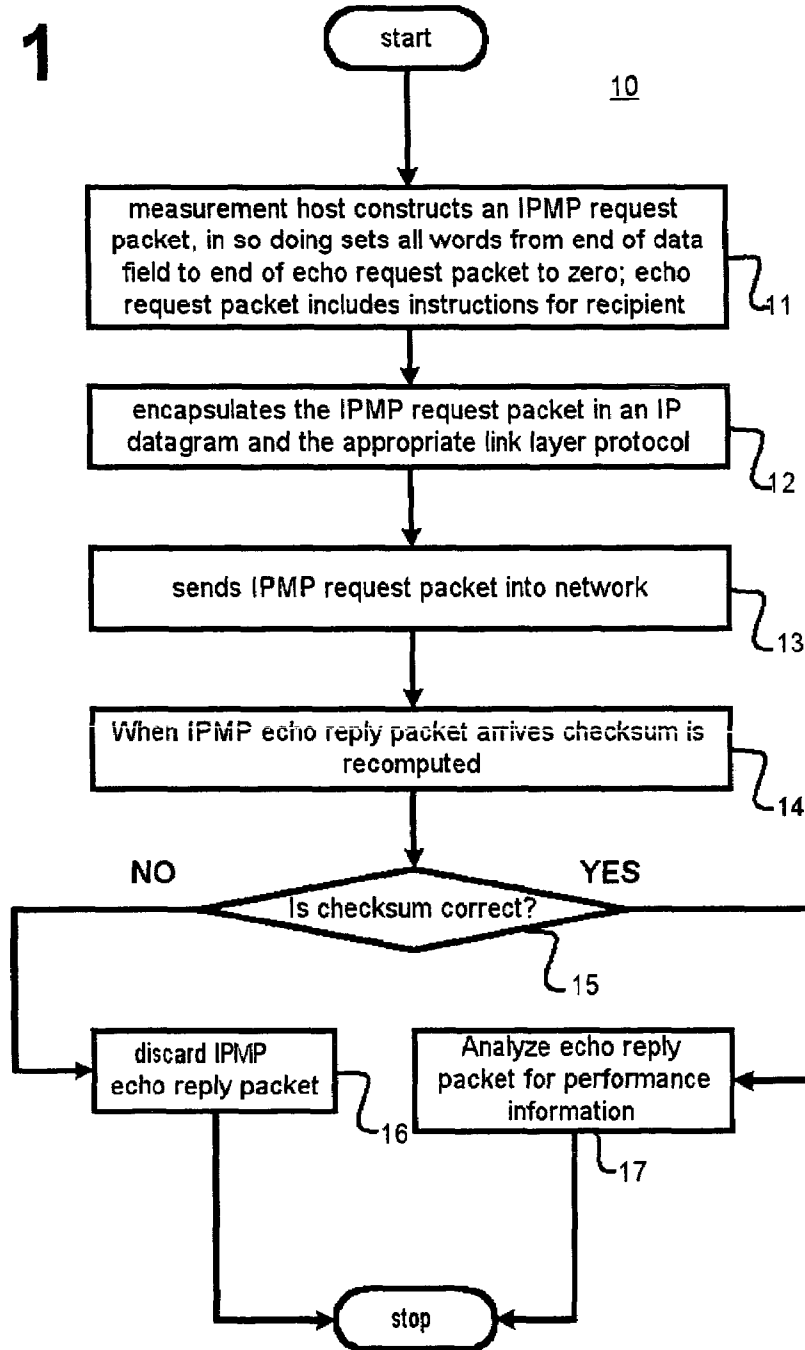


FIG 2

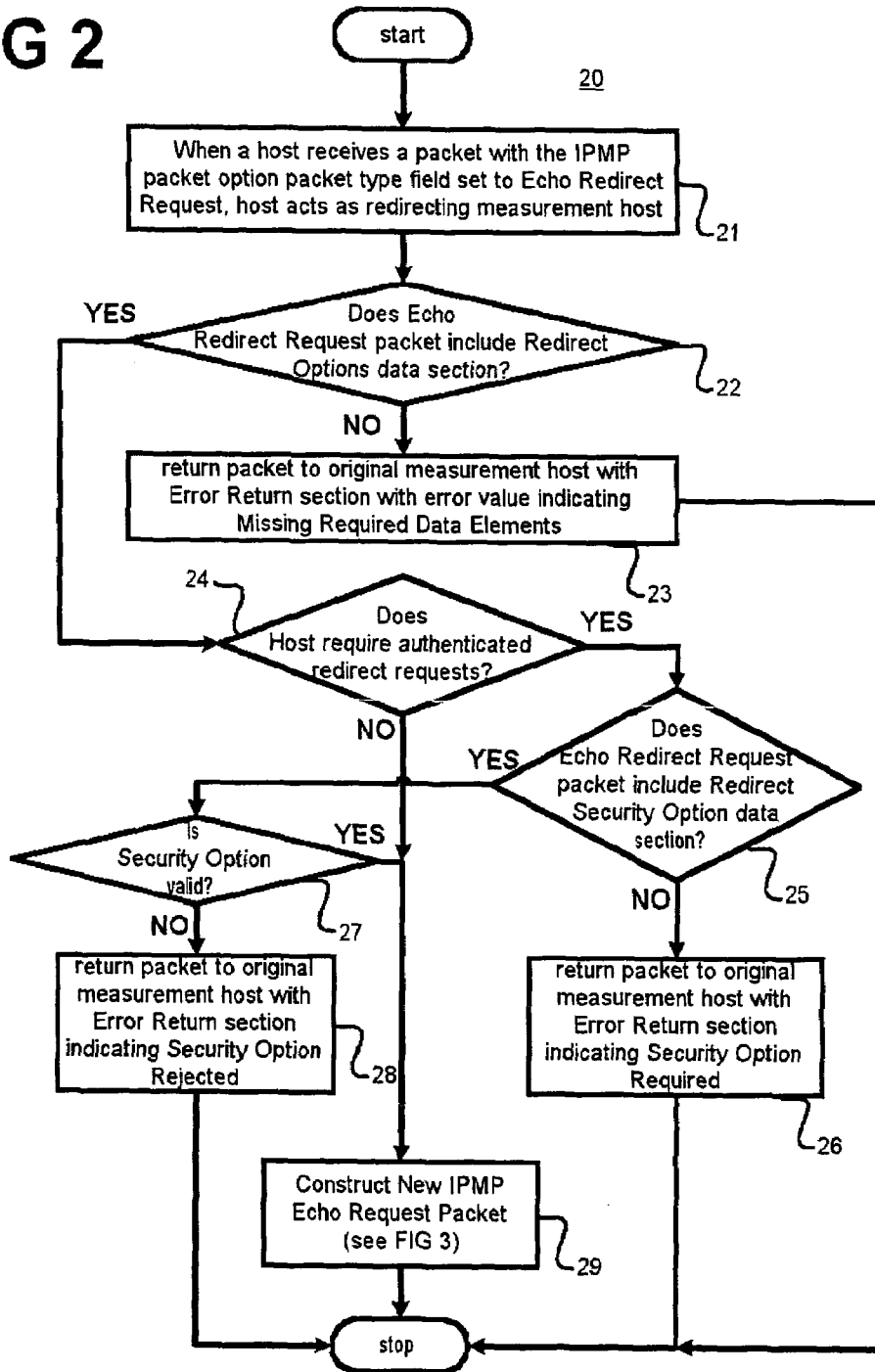


FIG 3

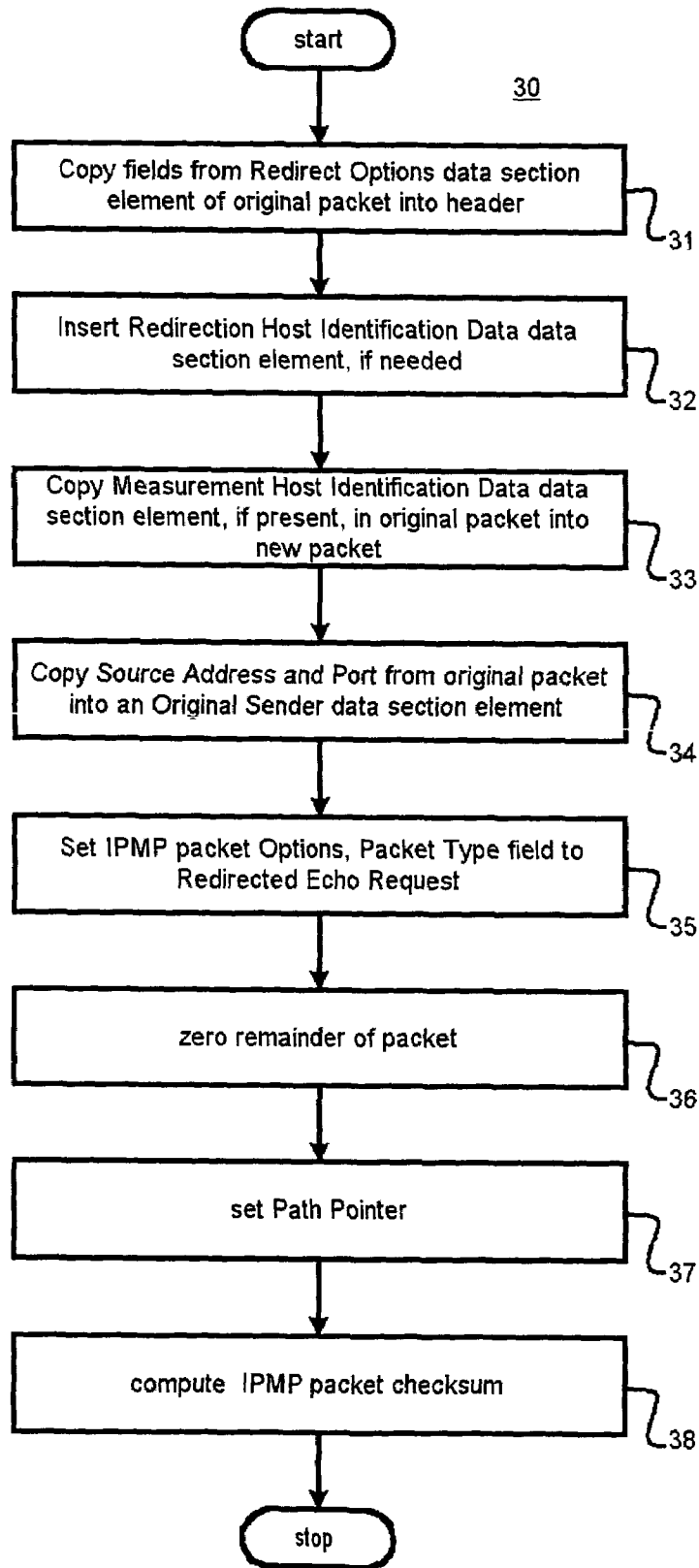
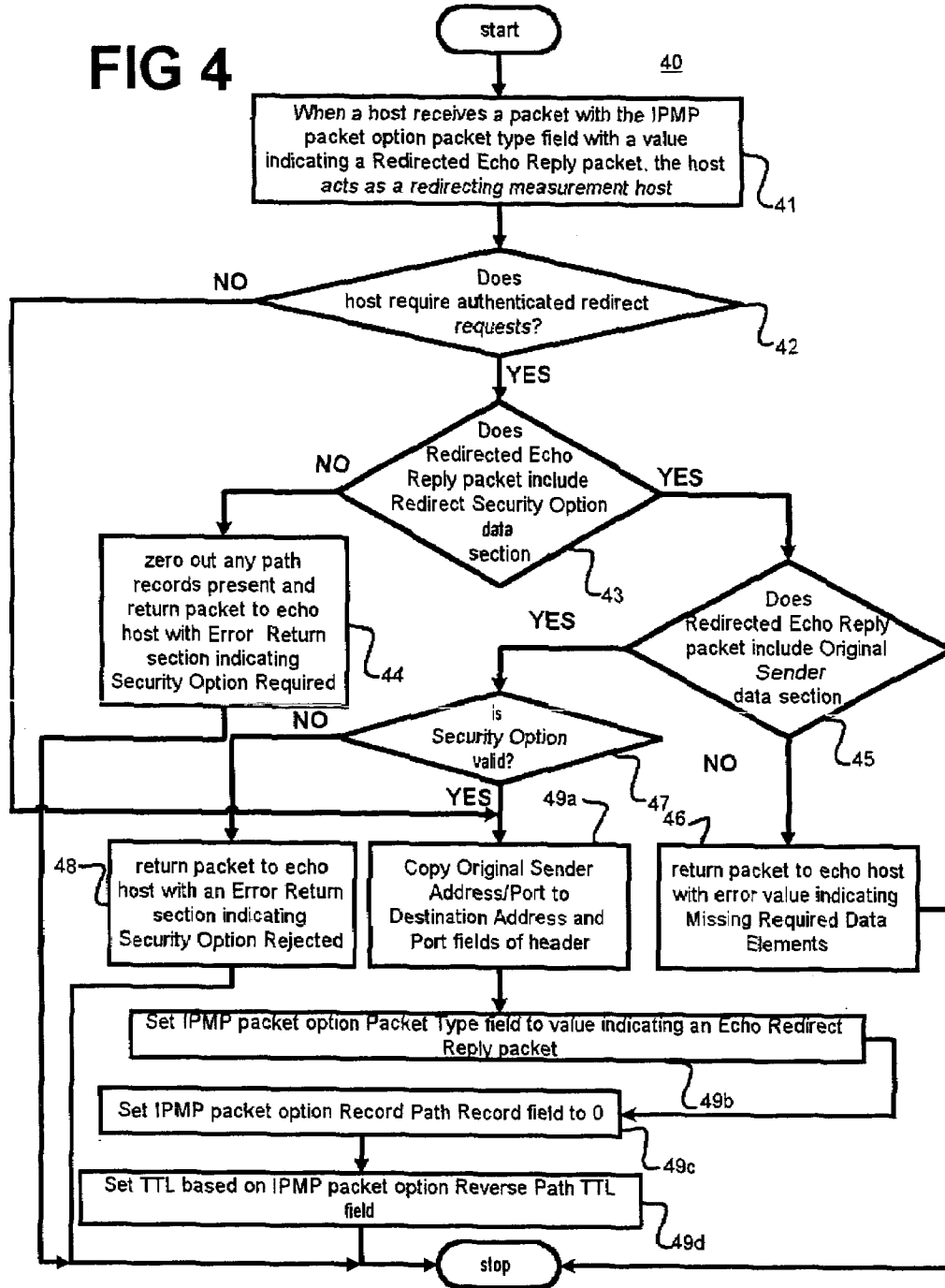


FIG 4



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