

EXHIBIT 2



US007486684B2

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

(10) **Patent No.:** **US 7,486,684 B2**
(45) **Date of Patent:** **Feb. 3, 2009**

(54) **METHOD AND APPARATUS FOR ESTABLISHMENT AND MANAGEMENT OF VOICE-OVER IP VIRTUAL PRIVATE NETWORKS IN IP-BASED COMMUNICATION SYSTEMS**

(75) Inventors: **Thomas P. Chu**, Englishtown, NJ (US); **Martin Joel Glapa**, Golden, CO (US); **Francis Robert Magee**, Lincroft, NJ (US); **Steven H. Richman**, Highland Park, NJ (US)

(73) Assignee: **Alcatel-Lucent USA Inc.**, Murray Hill, NJ (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 976 days.

(21) Appl. No.: **10/674,885**

(22) Filed: **Sep. 30, 2003**

(65) **Prior Publication Data**

US 2005/0068942 A1 Mar. 31, 2005

(51) **Int. Cl.**

H04L 12/56 (2006.01)

H04J 1/16 (2006.01)

(52) **U.S. Cl.** **370/401; 370/352; 379/88.17**

(58) **Field of Classification Search** **370/352-356, 370/400, 401, 466, 467, 230, 389, 392; 709/231; 379/88.17**

See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

7,369,556 B1 *	5/2008	Rekhter et al.	370/392
2002/0150083 A1 *	10/2002	Fangman et al.	370/352
2002/0169887 A1 *	11/2002	MeLampy et al.	709/231
2003/0076815 A1 *	4/2003	Miller et al.	370/352
2003/0117954 A1 *	6/2003	De Neve et al.	370/230

OTHER PUBLICATIONS

Network Working Group, Request for Comments: 2685, Category: Standards Track, B. Fox, Lucent Technologies, B. Gleeson, Nortel Networks, Sep. 1999, Virtual Private Networks Identifier; <http://www.ietf.org/rfc/rfc2685.txt?number=2685>.

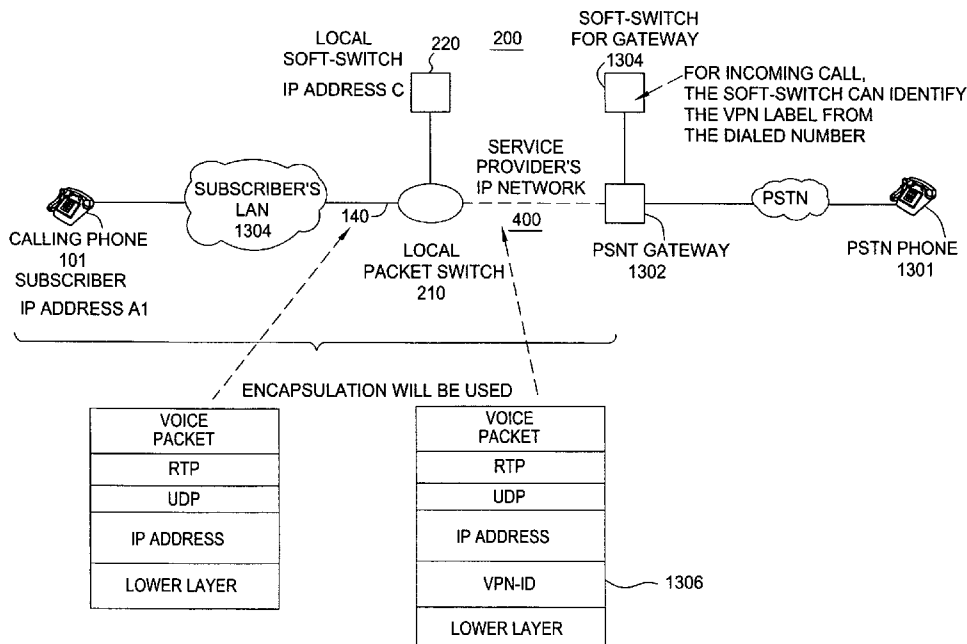
* cited by examiner

Primary Examiner—John Pezzlo

(57) **ABSTRACT**

Establishing voice calls in an IP based VPN includes determining the relative location of a terminating point with respect to an originating point of a new communication containing the voice data, determining one or more IP addresses to egress the communication from the originating point to the terminating point, creating a VPN identifier in the new communication, passing the new communication to the terminating point and removing the VPN identifier from the new communication. The VPN identifier can be an extra field added to an encapsulation coding scheme of the voice data.

16 Claims, 16 Drawing Sheets



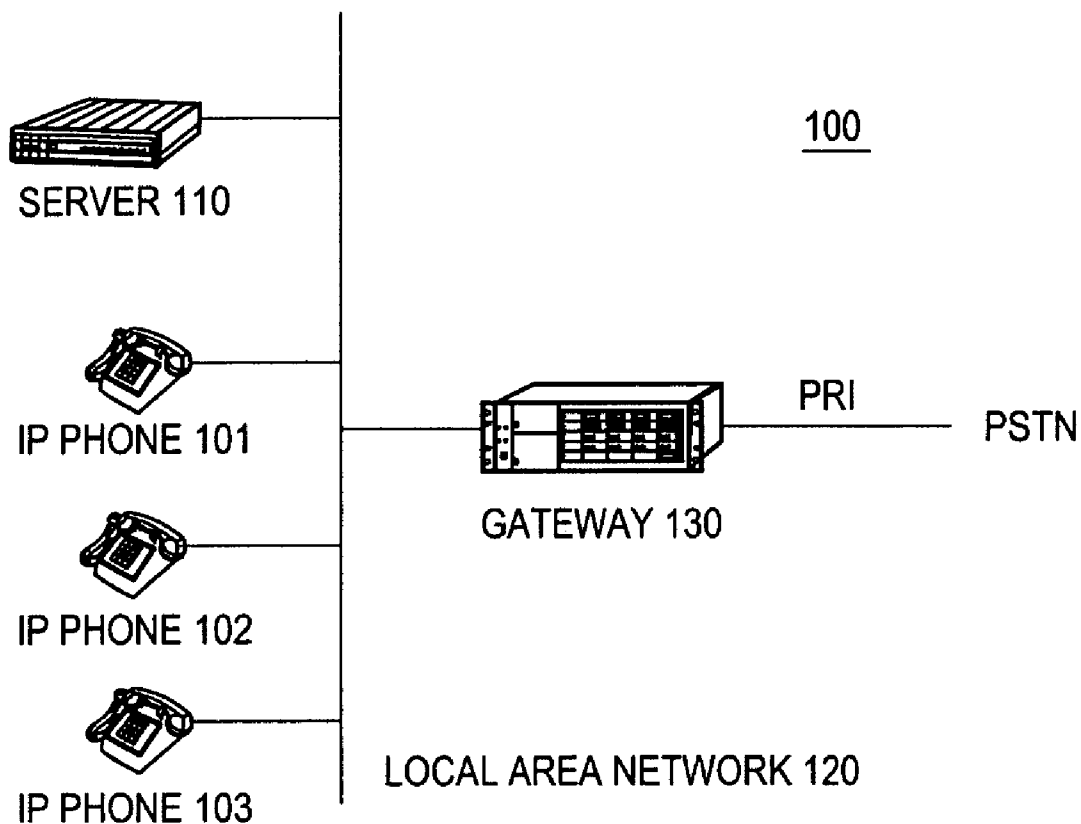


FIG. 1
(PRIOR ART)

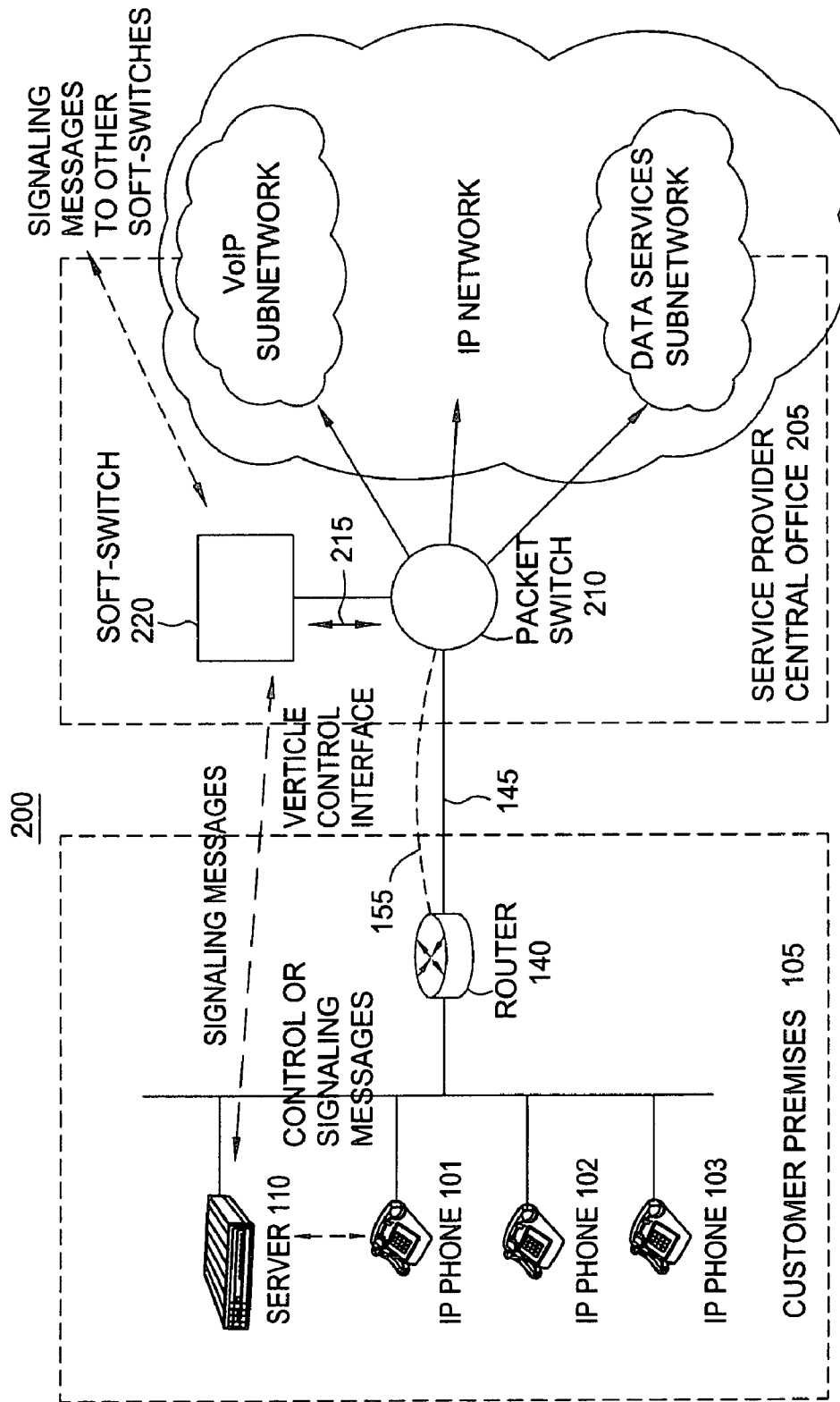


FIG. 2

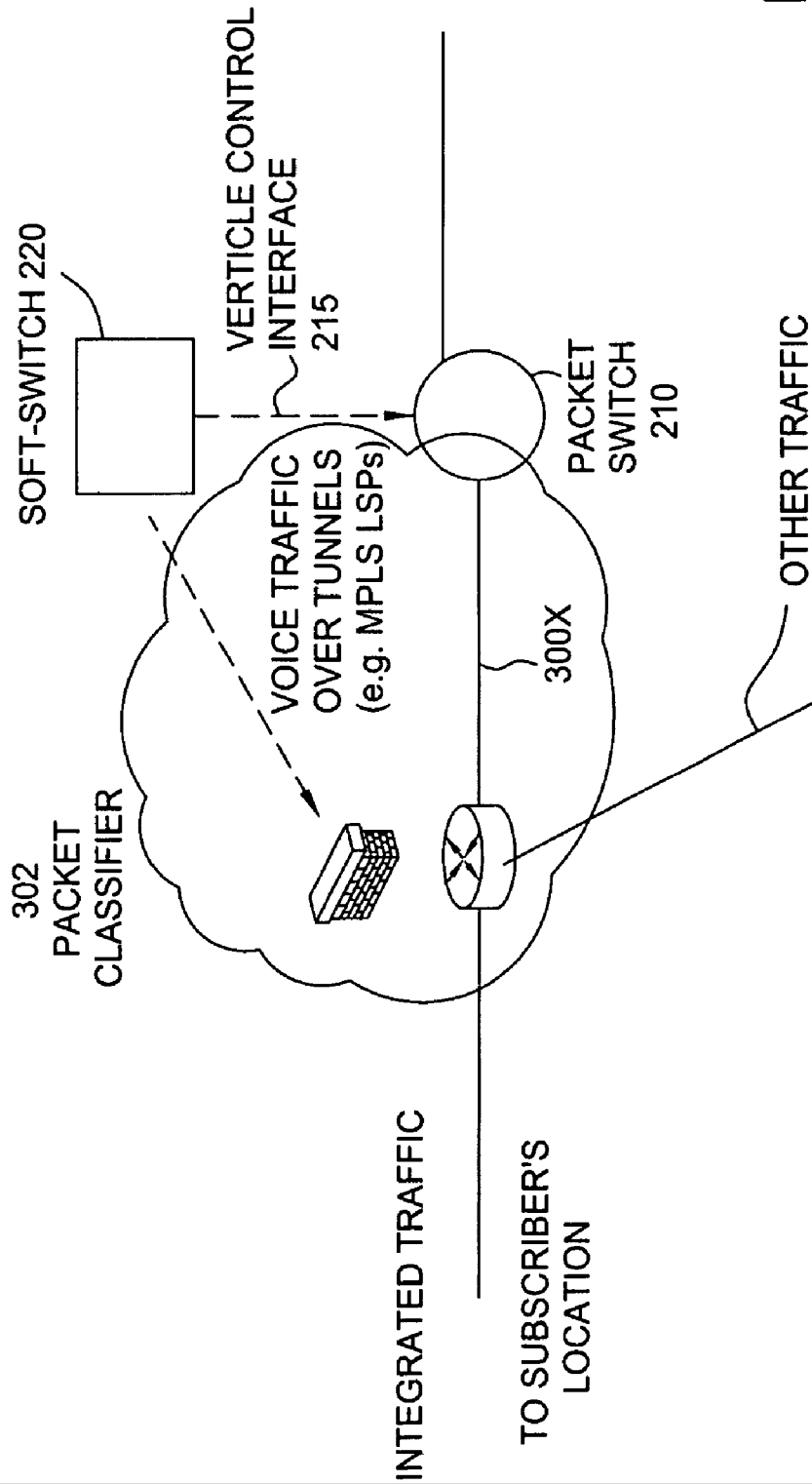


FIG. 3

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.