



US006546003B1

(12) **United States Patent**
Farris

(10) **Patent No.:** **US 6,546,003 B1**

(45) **Date of Patent:** **Apr. 8, 2003**

(54) **TELECOMMUNICATIONS SYSTEM**

5,661,790 A * 8/1997 Hsu 379/209
5,724,355 A 3/1998 Bruno et al.
5,726,984 A 3/1998 Kubler et al.

(75) Inventor: **Robert D. Farris**, Sterling, VA (US)

* cited by examiner

(73) Assignee: **Verizon Services Corp.**, Arlington, VA (US)

Primary Examiner—Huy D. Vu
Assistant Examiner—Toan D. Nguyen

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

(74) *Attorney, Agent, or Firm*—Leonard Suchyta; Loren Swingle; Rader, Fishman & Grauer PLLC

(21) Appl. No.: **08/753,197**

(57) **ABSTRACT**

(22) Filed: **Nov. 21, 1996**

A public switched telephone network utilizing program controlled switching systems controlled by common channel interoffice signaling (CCIS) and preferably an advanced intelligent network (AIN) CCIS network is arranged in an architecture to provide a methodology for facilitating telephone use of the Internet by customers on an impromptu basis. The system permits a caller to set-up and carry out a telephone call over the Internet from telephone station to telephone station without access to computer equipment and without the necessity of maintaining a subscription to any Internet service. Billing may be accomplished on a per call basis. It is a particular feature of the invention that directory assistance is offered to callers, with or without call completion at the option of the caller. Such assistance is rendered through the use of procedures presently familiar to the caller from usage of the public switched telephone network. The system utilizes existing common channel signaling facilities along with Internet signaling and voice switching to permit the use of existing public switched telephone network plant for providing the directory assistance and call completion through a new methodology. A centralized directory number database may be provided according to one embodiment of the invention. Alternatively and preferably use is made of existing databases through interconnection or action to permit accessing of multiple databases in a hierarchical manner.

(51) **Int. Cl.**⁷ **H04L 12/56**; H04L 12/66

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

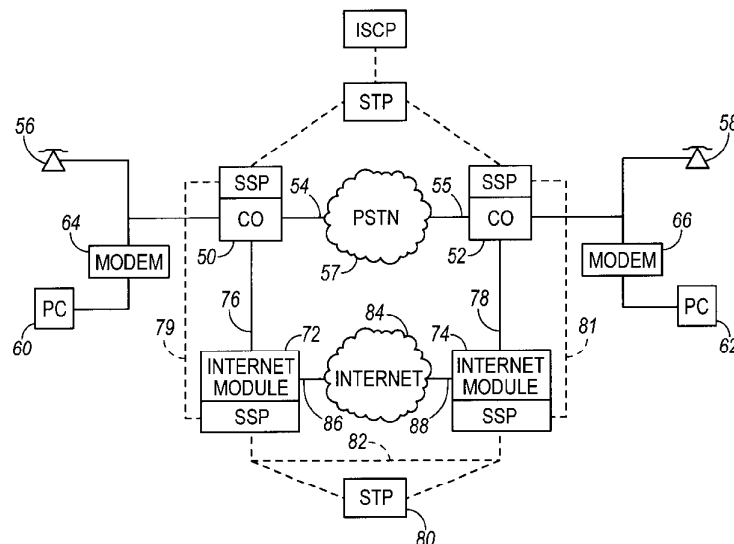
(58) **Field of Search** 370/400, 401, 370/402, 352, 353, 354, 355, 356; 379/43, 209, 88.17, 88.18, 88.19, 88.21, 201, 210, 213, 214, 69, 70, 84, 260, 261, 262, 263, 264, 265, 266, 267

(56) **References Cited**

U.S. PATENT DOCUMENTS

4,872,160 A	10/1989	Hemmady et al.	
4,958,341 A	9/1990	Hemmady et al.	
4,959,855 A	* 9/1990	Daudelin	379/213
5,052,038 A	* 9/1991	Shepard	379/213
5,163,083 A	* 11/1992	Dowden et al.	379/213
5,239,577 A	* 8/1993	Bates et al.	379/213
5,341,374 A	8/1994	Lewen et al.	
5,375,068 A	12/1994	Palmer et al.	
5,410,754 A	4/1995	Koltzbach et al.	
5,434,913 A	7/1995	Tung et al.	
5,479,488 A	* 12/1995	Lennig et al.	379/213
5,490,247 A	2/1996	Tung et al.	
5,493,568 A	2/1996	Sampat et al.	
5,608,786 A	3/1997	Gordon	
5,613,006 A	* 3/1997	Reese	379/213

37 Claims, 18 Drawing Sheets



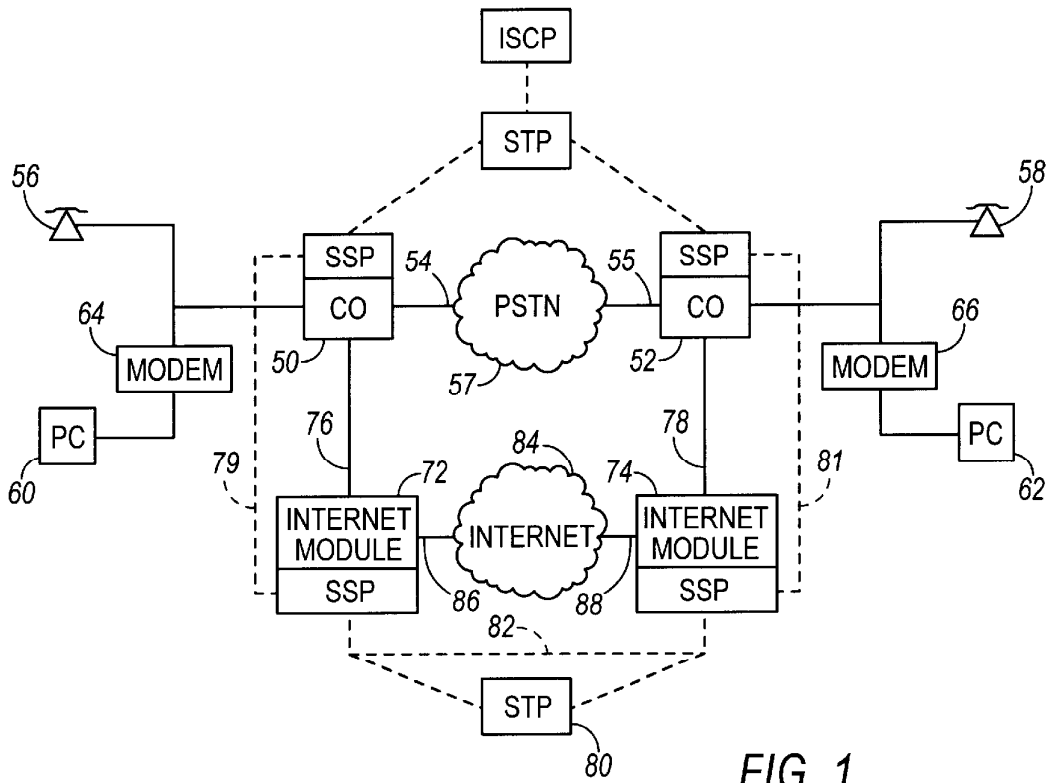


FIG. 1

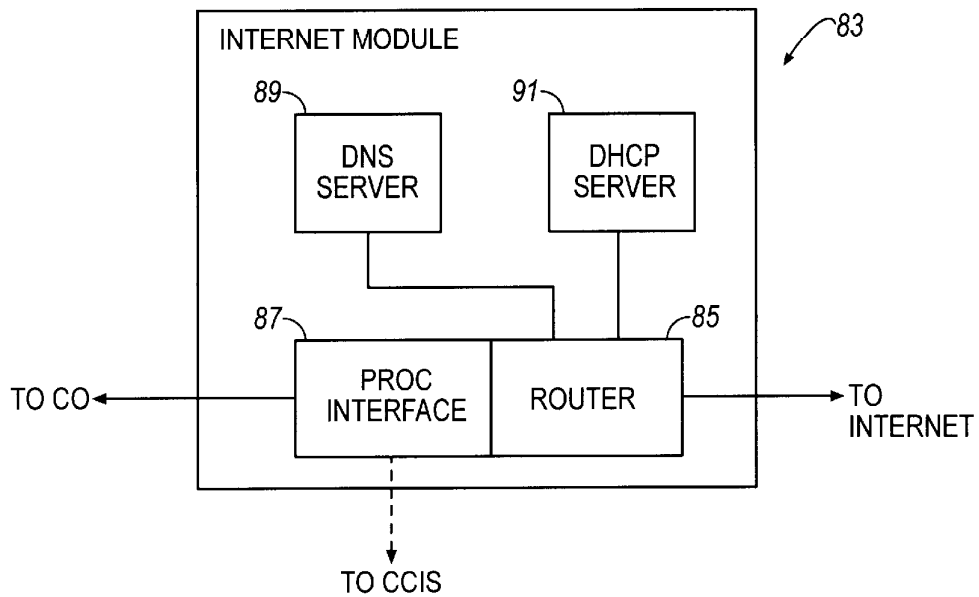
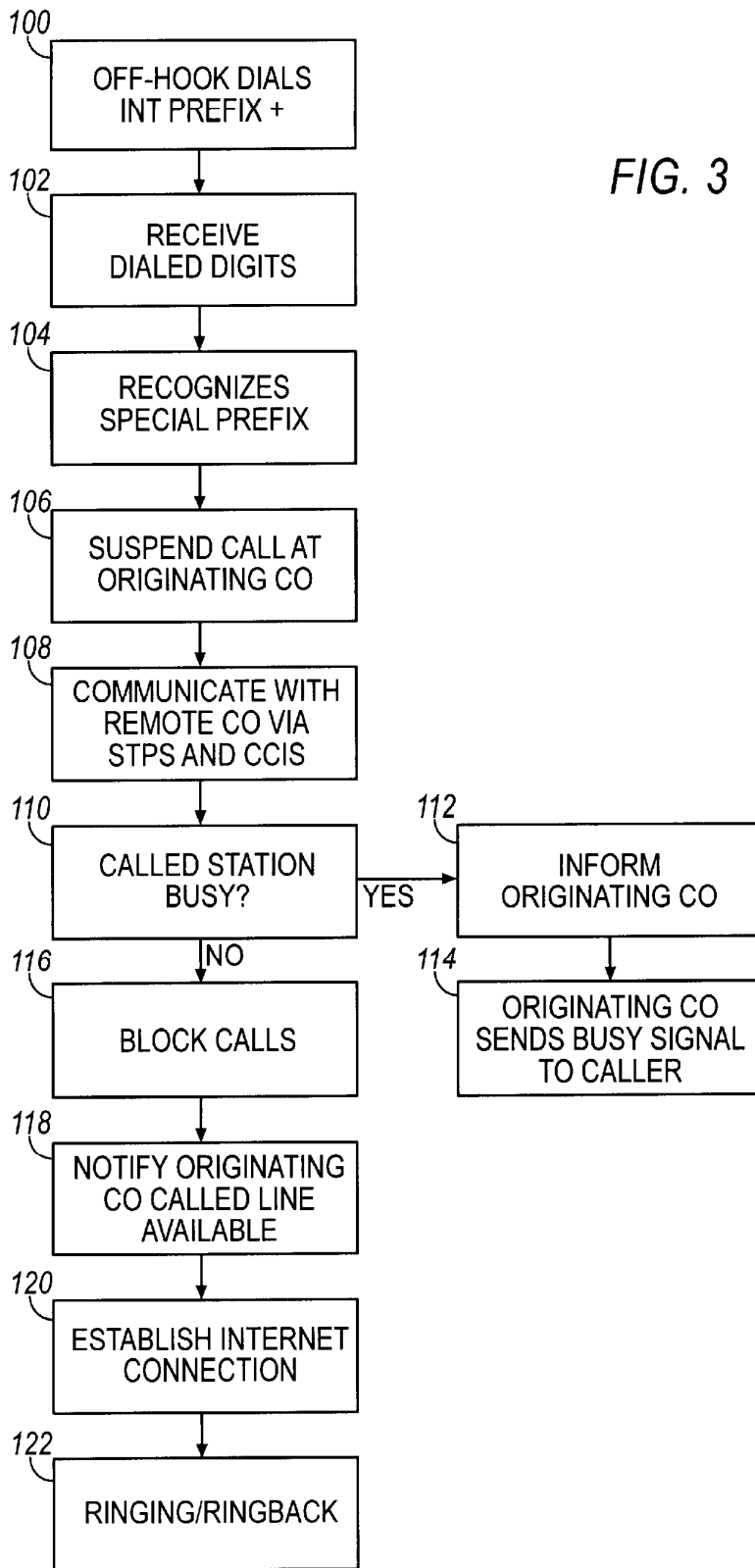


FIG. 2



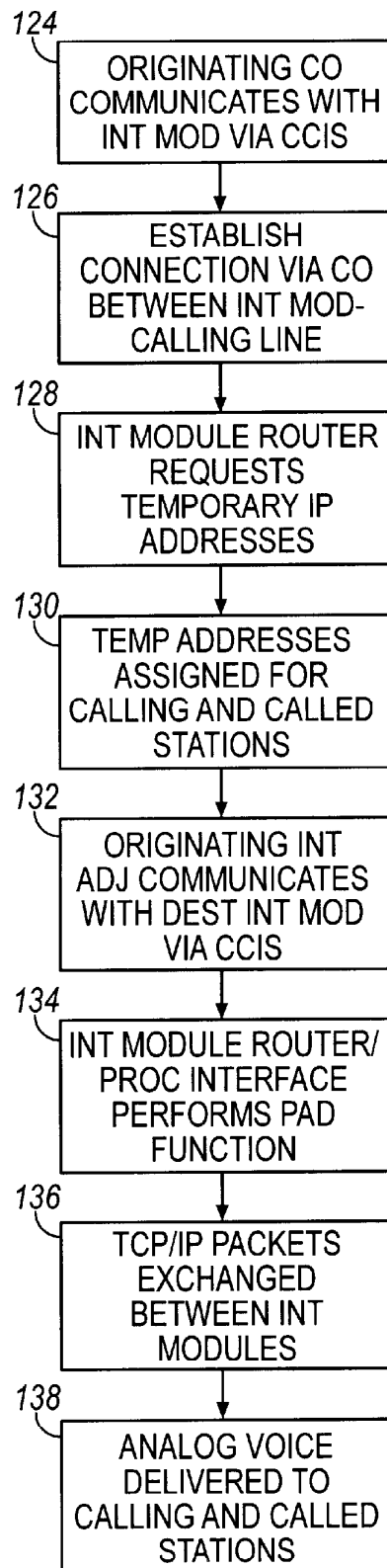


FIG. 4

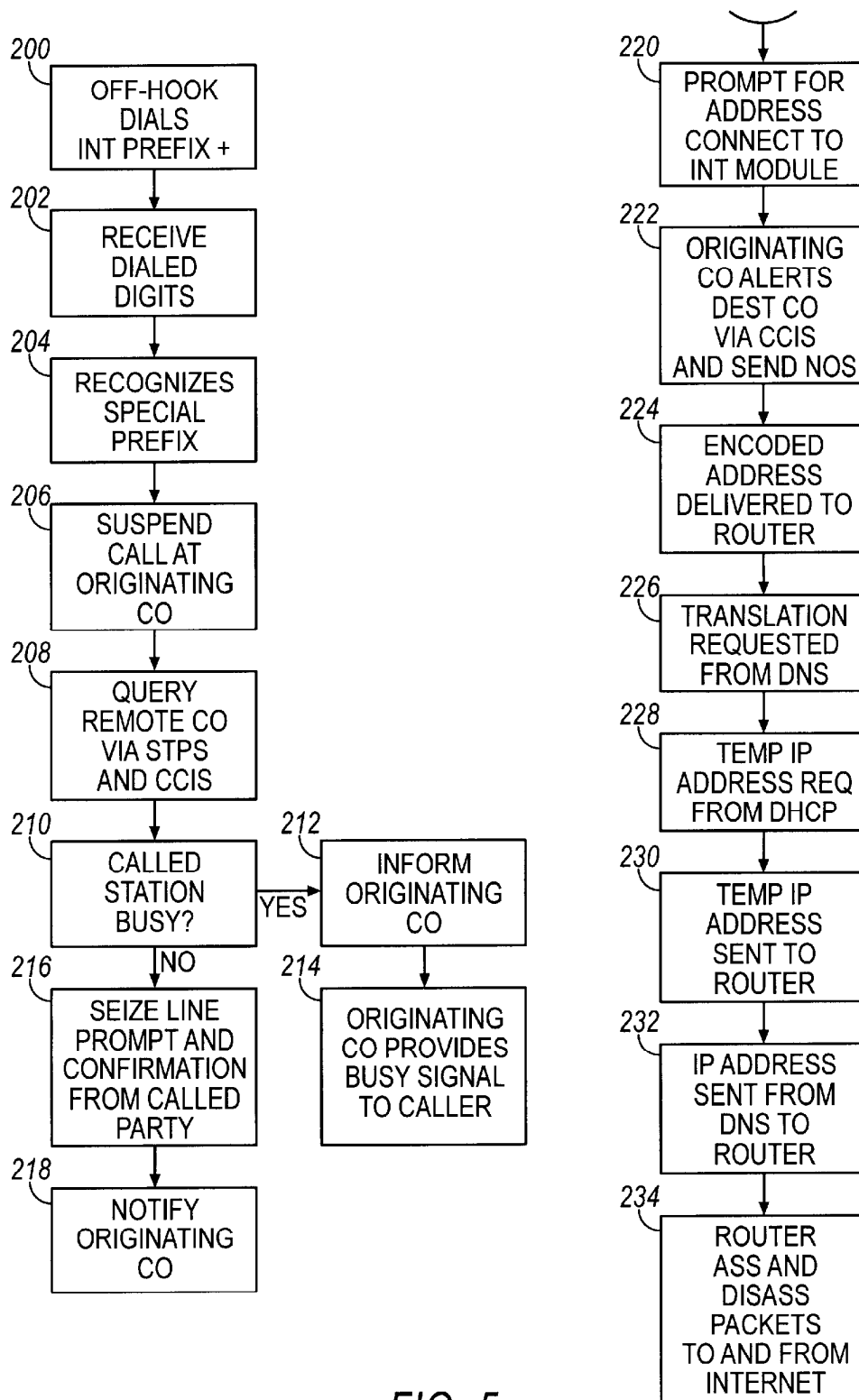


FIG. 5

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.