(12) **United States Patent**   (10) **Patent No.:**   **US 6,937,869 B1**

Rayburn   (45) **Date of Patent:**   **Aug. 30, 2005**

(54) **ROUTE PLANNING SYSTEM FOR MOBILE TELECOMMUNICATIONS**

(75) Inventor: **Terry Rayburn**, Kansas City, MO (US)

(73) Assignee: **Sprint Spectrum L.P.**, Overland Park, KS (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 557 days.

(21) Appl. No.: **09/843,261**

(22) Filed: **Apr. 26, 2001**

Related U.S. Application Data

(60) Provisional application No. 60/203,491, filed on May 10, 2000.

(51) **Int. Cl.**^{7} **H04Q 7/20**

(52) **U.S. Cl.** **455/457**; 455/456.3; 455/456.1; 455/414.3; 340/990; 340/995.23; 340/993; 701/200

(58) **Field of Search** 455/456.3, 456.1, 455/457, 414.1, 456.6; 340/993, 995.23, 340/990; 701/200–202, 209

(56) **References Cited**

U.S. PATENT DOCUMENTS

5,155,689	A	*	10/1992	Wortham	455/456.3
5,353,023	A	*	10/1994	Mitsugi	340/989
5,890,088	A	*	3/1999	Nimura et al.	701/211
6,029,069	A	*	2/2000	Takaki	455/456.1
6,085,097	A	*	7/2000	Savery et al.	455/456.1
6,456,854	B1	*	9/2002	Chern et al.	455/457
6,625,457	B1	*	9/2003	Raith	455/456.1
6,633,763	B2	*	10/2003	Yoshioka	455/457
2001/0044310	A1	*	11/2001	Lincke	455/456
2001/0046884	A1	*	11/2001	Yoshioka	455/564
2002/0160790	A1	*	10/2002	Schwartz et al.	455/456
2002/0168986	A1	*	11/2002	Lau et al.	455/456
2003/0216145	A1	*	11/2003	Cox et al.	455/456.1

OTHER PUBLICATIONS

Lawrence Harte et al., "Cellular and PCS—The Big Picture," p. 11 (McGraw-Hill 1997).
Nicole Harris, "Snap Track Inc. Finds a Way to Locate Cell-Phone Callers,"*The Wall Street Journal*Jun. 25, 1999.
Finance Home—Yahoo!—Help, Yahoo Press Release, Mar. 27, 2001.
"Enhanced Wireless 9-1-1 Phase 2—J-STD-036", Electronics Industry Association/Telecommunications Industry Association, Jul. 2000.
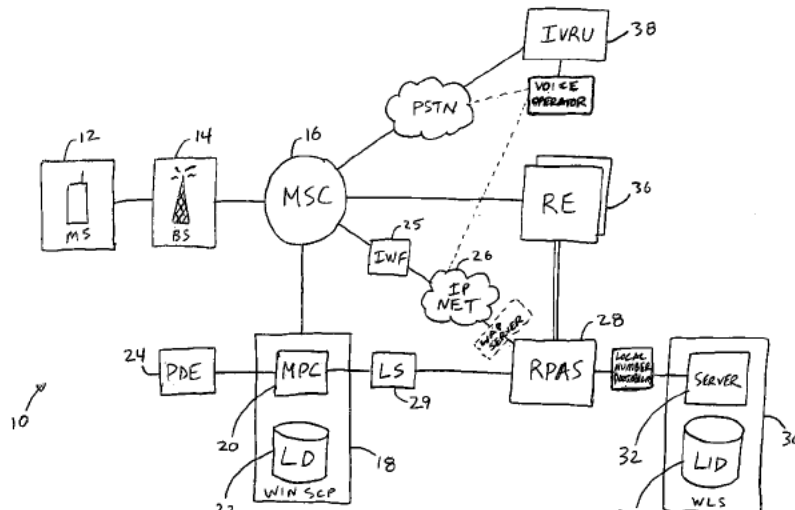
* cited by examiner

Primary Examiner—William Trost
Assistant Examiner—Sharad Rampuria

(57)   **ABSTRACT**

A route planning system for use in mobile telecommunications is disclosed. A user of a mobile station such as a wireless telephone, PDA, pager or computer, initiates a route planning service request and provides a destination telephone number. A switching center responsively initiates an asynchronous position request of a mobile positioning system, which identifies and stores the mobile station position. The switching center connects the mobile station to a route planning application server. The route planning application server obtains the mobile station position by querying the mobile positioning system. The route planning application server further obtains the destination telephone number and queries a location system to determine the destination position corresponding to the destination telephone number. The route planning application server in turn generates a route plan for travel from the mobile station position to the destination position and conveys the route plan to the user by any suitable means.
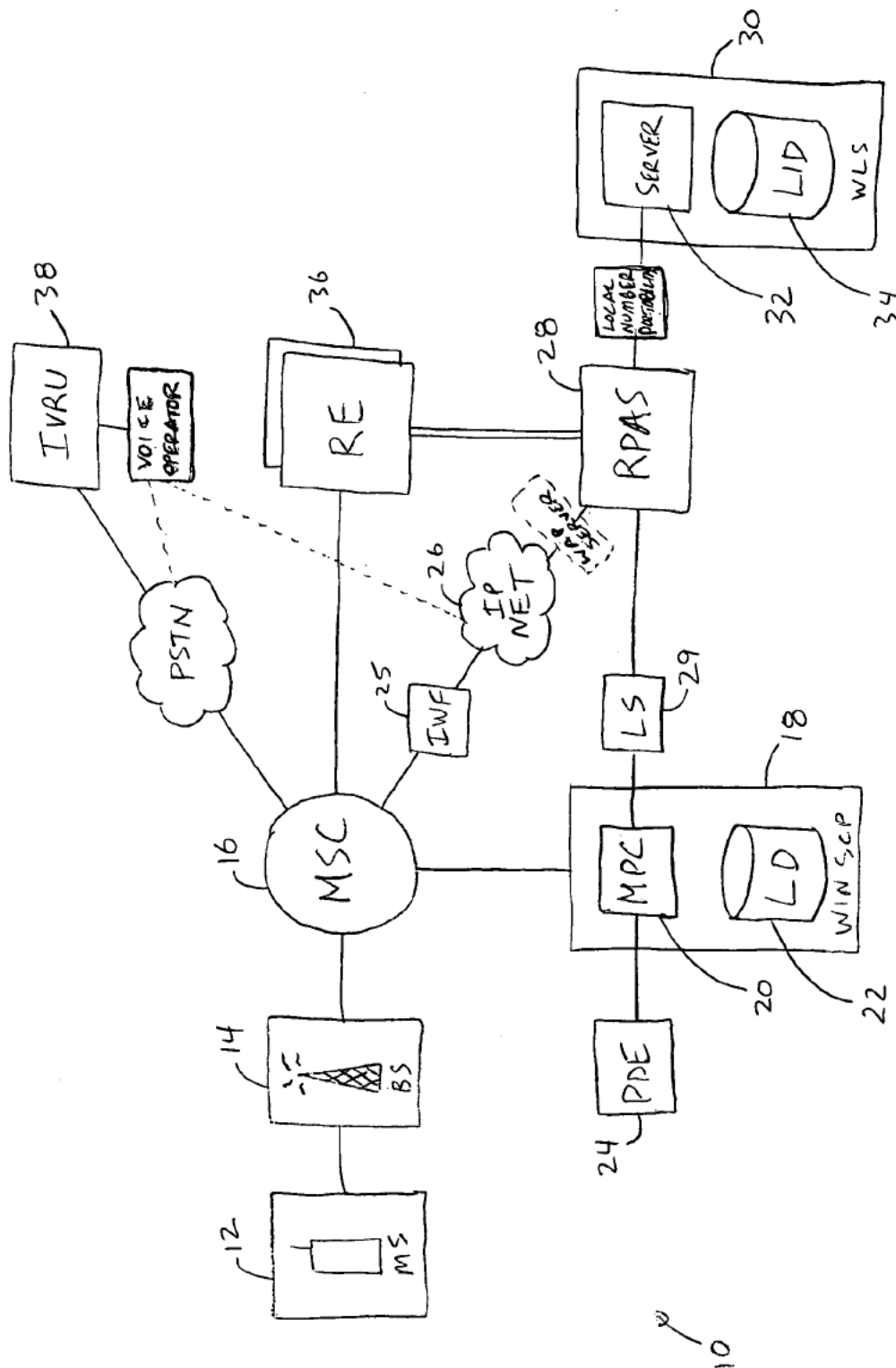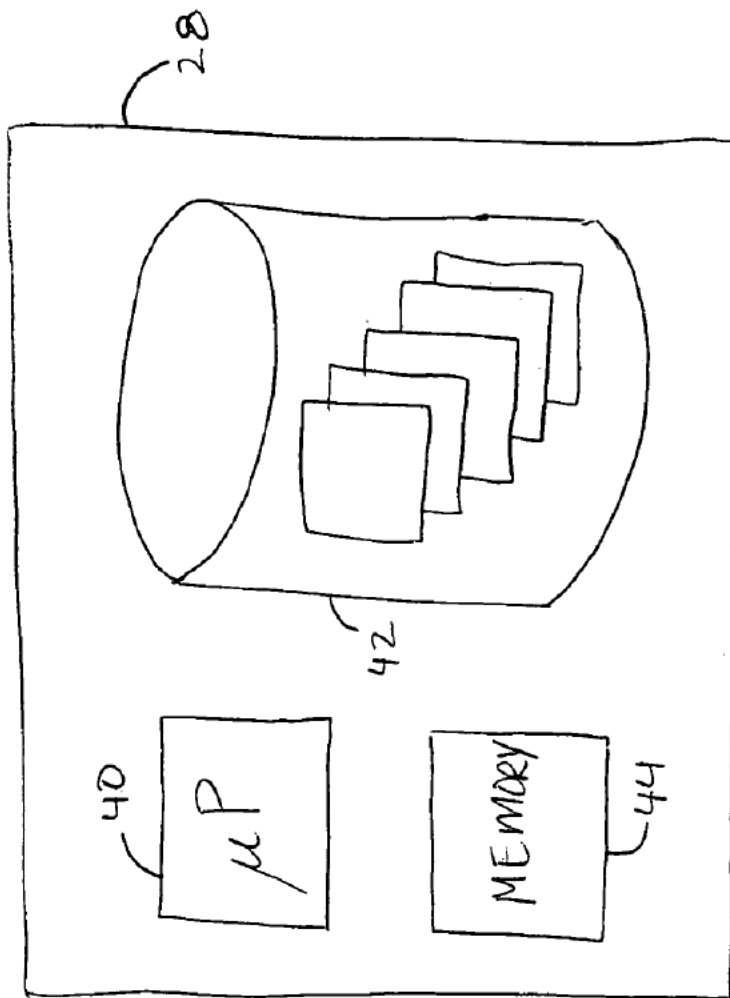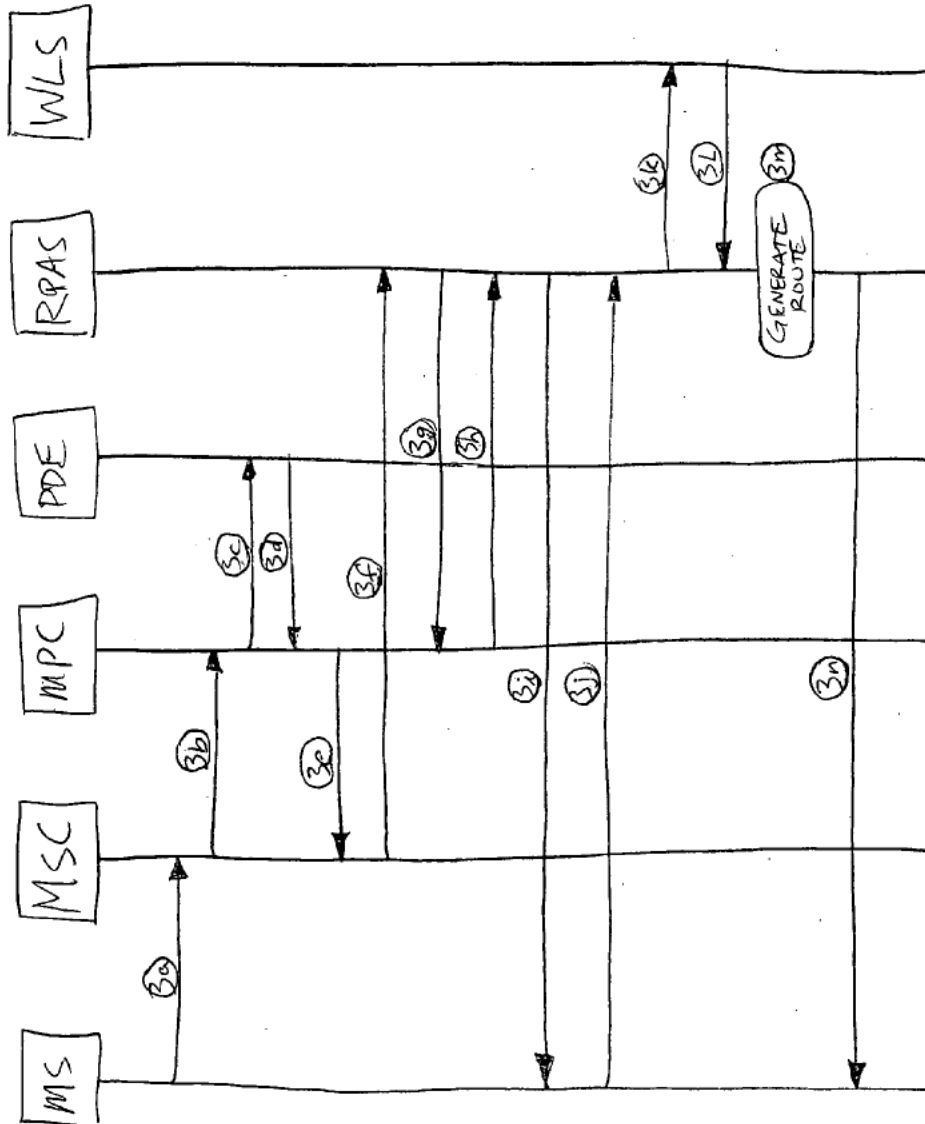
32 Claims, 4 Drawing Sheets

Fig. 1

28

40

μP

42

MEMORY

44

Fig. 2

Fig. 3

Google Exhibit 1010, Page 4 of 15

Fig. 4

DOCKET ALARM
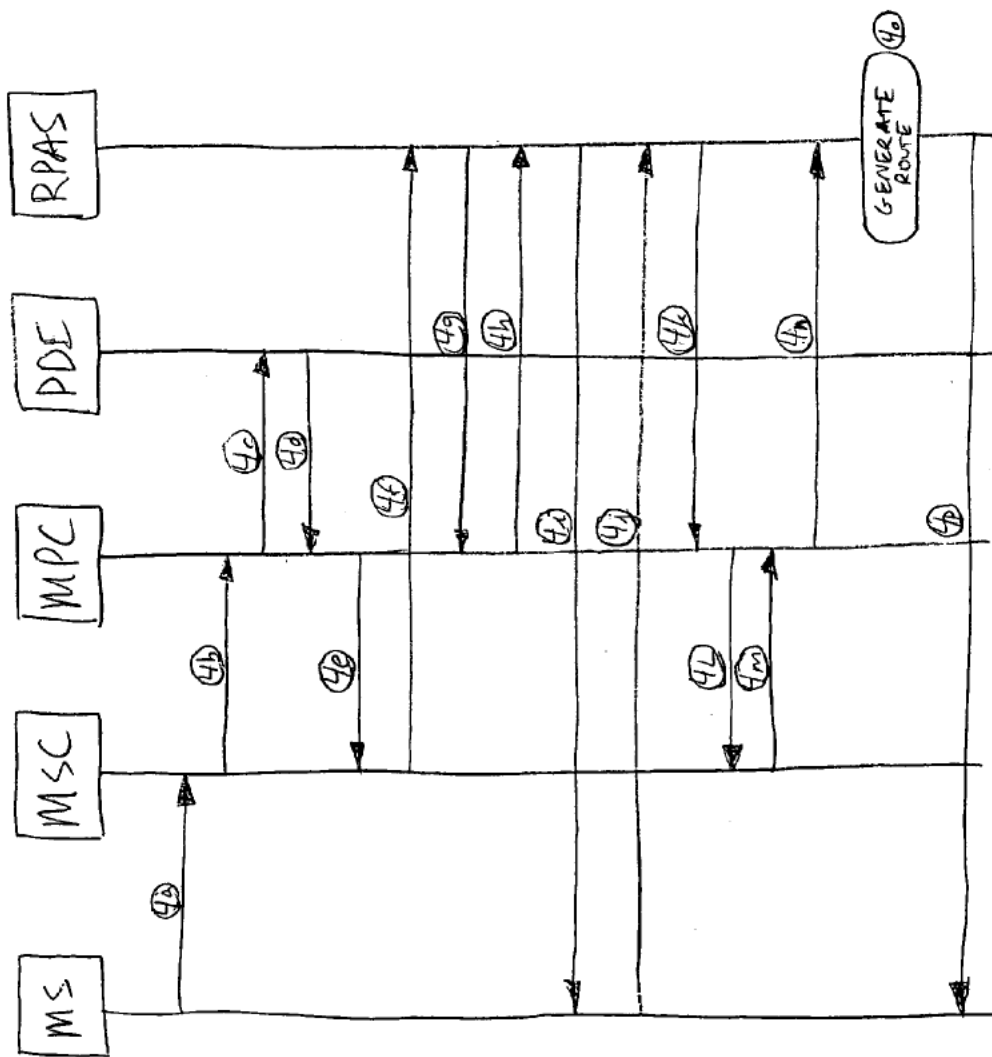
Explore Litigation Insights

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.

fastcase®
Smarter legal research.