

(12) **United States Patent**
Kelly

(10) **Patent No.:** **US 6,594,254 B1**
(45) **Date of Patent:** ***Jul. 15, 2003**

(54) **DOMAIN NAME SERVER ARCHITECTURE FOR TRANSLATING TELEPHONE NUMBER DOMAIN NAMES INTO NETWORK PROTOCOL ADDRESSES**

6,122,255 A * 9/2000 Bartholomew et al. 370/237
6,154,445 A * 11/2000 Farris et al. 370/237
6,226,678 B1 * 5/2001 Mattaway et al. 709/230
6,300,863 B1 * 10/2001 Cotichini et al. 340/5.8
6,347,085 B2 * 2/2002 Kelly 370/352

(75) Inventor: **Keith C. Kelly**, Deerfield Beach, FL (US)

OTHER PUBLICATIONS

(73) Assignee: **Netspeak Corporation**, Newark, NJ (US)

C. Yang, "INETPhone: Telephone Services and Servers on Internet", Network Working Group RFC: 1789, pp. 1-6, Apr. 1995.*

(*) Notice: This patent issued on a continued prosecution application filed under 37 CFR 1.53(d), and is subject to the twenty year patent term provisions of 35 U.S.C. 154(a)(2).

"The History of TPC.INT," <http://www.tpc.int/faq/history.html>.

C. Malamud & M. Rose, "Principles of Operation for the TPC.INT Subdomain: Remote Printing -Technical Procedures," Network Working Group, Request for Comments: 1528 (Oct. 1993).

C. Malamud & M. Rose, "Principles of Operation for the TPC.INT Subdomain: Remote Printing -Administrative Policies," Network Working Group, Request for Comments: 1529 (Oct. 1993).

C. Malamud & M. Rose, "Principles of Operation for the TPC.INT Subdomain: General Principles and Policy," Network Working Group, Request for Comments: 1530 (Oct. 1993).

* cited by examiner

(21) Appl. No.: **08/911,519**

(22) Filed: **Aug. 14, 1997**

Related U.S. Application Data

(60) Provisional application No. 60/023,891, filed on Aug. 16, 1996.

(51) **Int. Cl.⁷** **H04L 12/66**

(52) **U.S. Cl.** **370/352; 370/389; 370/401**

(58) **Field of Search** 370/352, 354, 370/356, 389, 392, 475, 237, 401, 230; 379/88.17, 201, 210, 219, 220, 224; 709/200, 201, 203, 218, 219, 227, 202, 230; 455/415, 461; 340/5.8

Primary Examiner—Hassan Kizou

Assistant Examiner—John Pezzlo

(74) *Attorney, Agent, or Firm*—Kenyon & Kenyon

(57) **ABSTRACT**

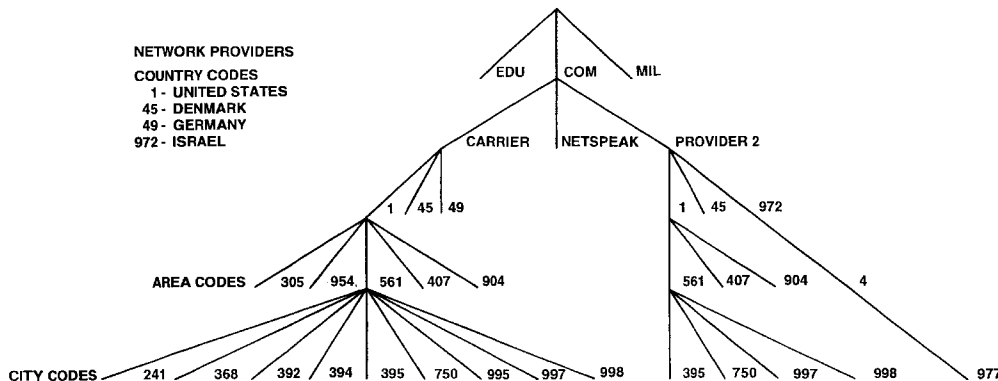
A method and apparatus for translating a domain name representing a telephone number into a network protocol address includes a domain name server architecture containing logic responsive to a telephone number domain name, the telephone number domain name representing the country code, area code, exchange, or subscriber number of a subscriber apparatus telephone number. The logic resolves the telephone number domain name into a network protocol address usable in ultimately initiating a communication with the subscriber apparatus on a circuit-switched network. In one embodiment, a hierarchical tree of domain names and subdomain names representing the country codes, area codes and exchange codes of telephone numbers is constructed to assist in the process of resolving domain names to network protocol addresses.

(56) **References Cited**

U.S. PATENT DOCUMENTS

5,608,786 A * 3/1997 Gordon 370/352
5,742,668 A * 4/1998 Pepe et al. 455/415
5,742,762 A * 4/1998 Scholl et al. 709/200
5,742,905 A * 4/1998 Pepe et al. 455/461
5,799,063 A * 8/1998 Krane 379/88.17
6,014,379 A * 1/2000 White et al. 370/389
6,021,126 A * 2/2000 White et al. 370/352
6,069,890 A * 5/2000 White et al. 370/352

23 Claims, 7 Drawing Sheets



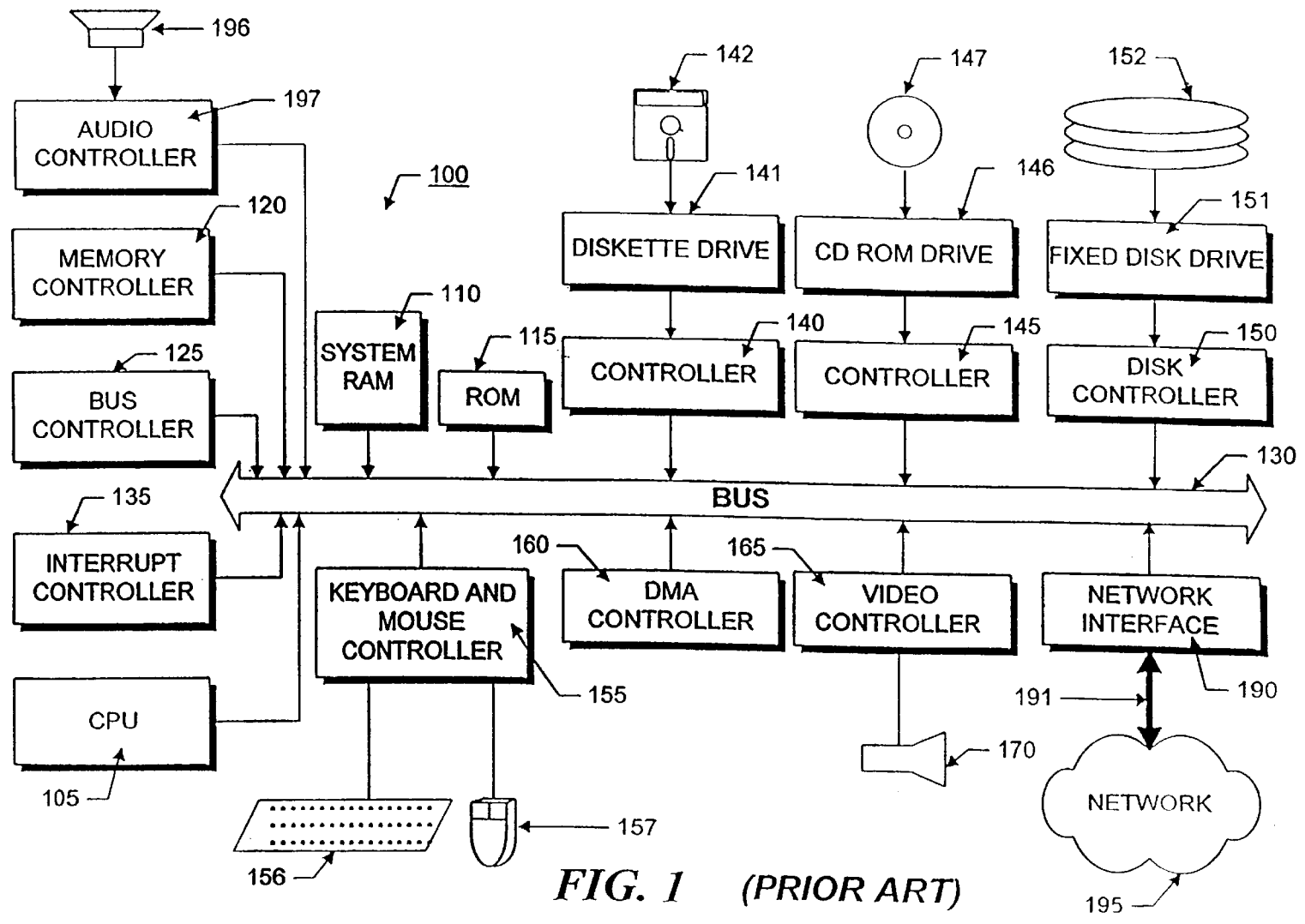


FIG. 1 (PRIOR ART)

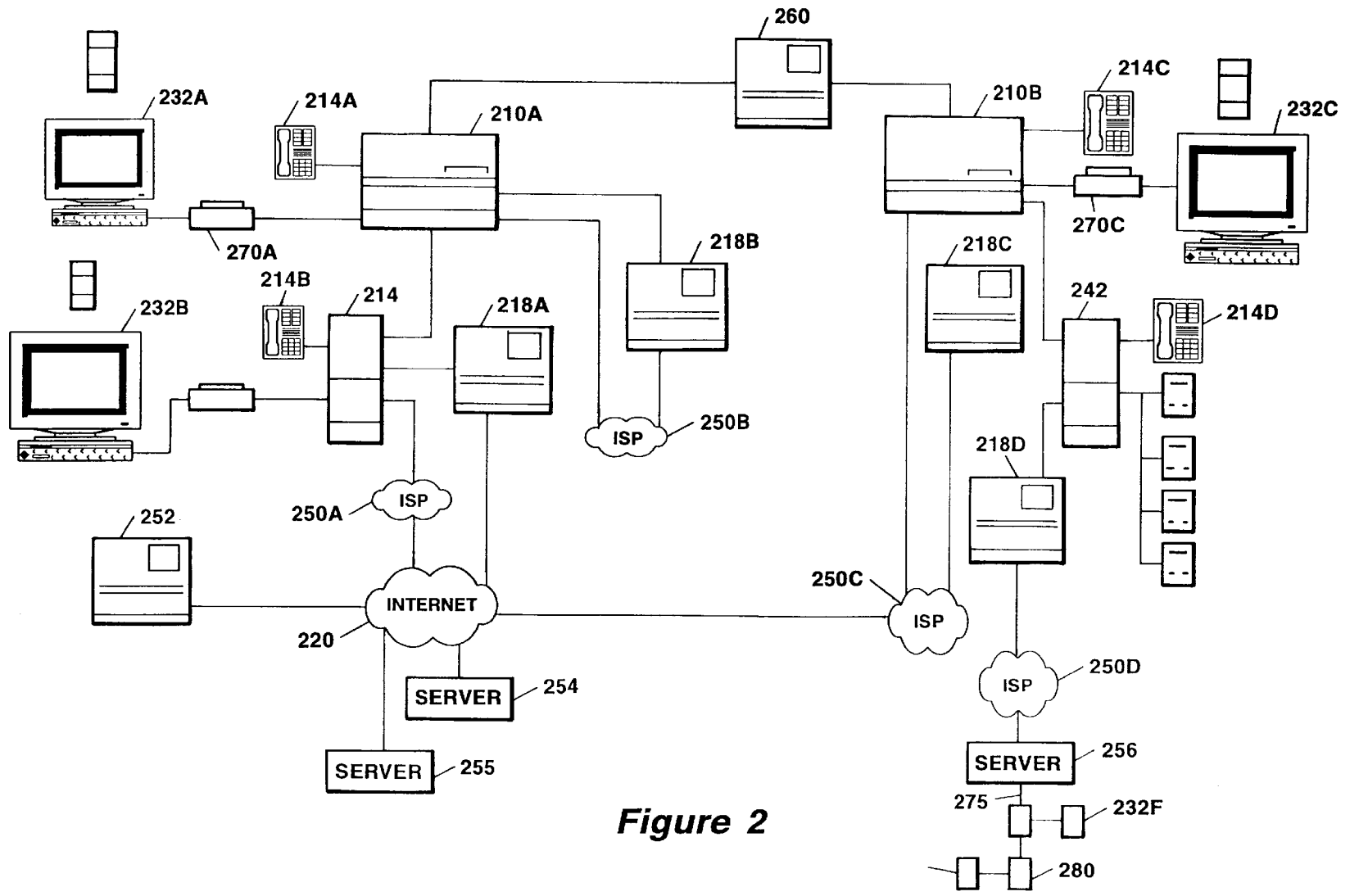


Figure 2

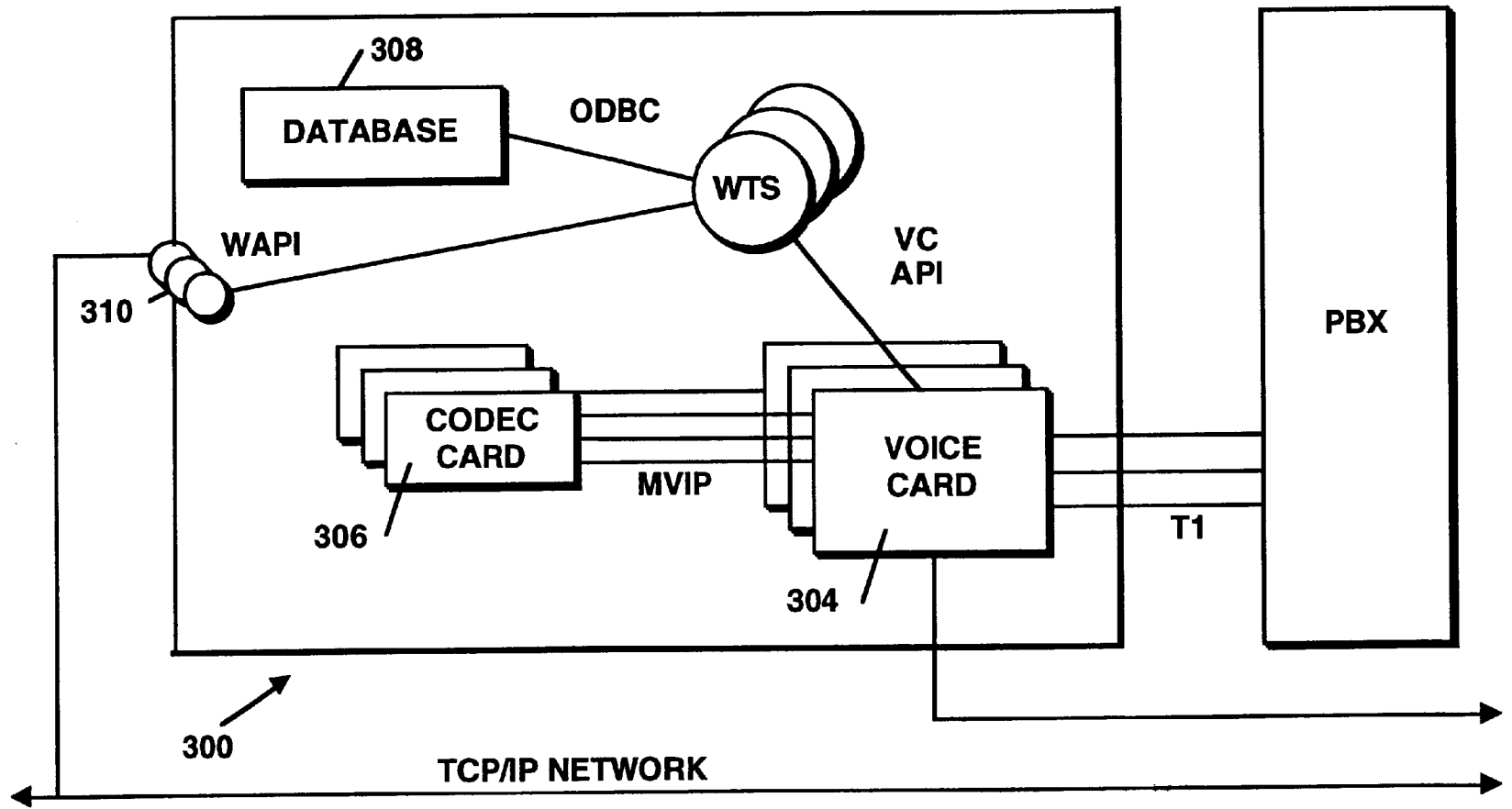


Figure 3

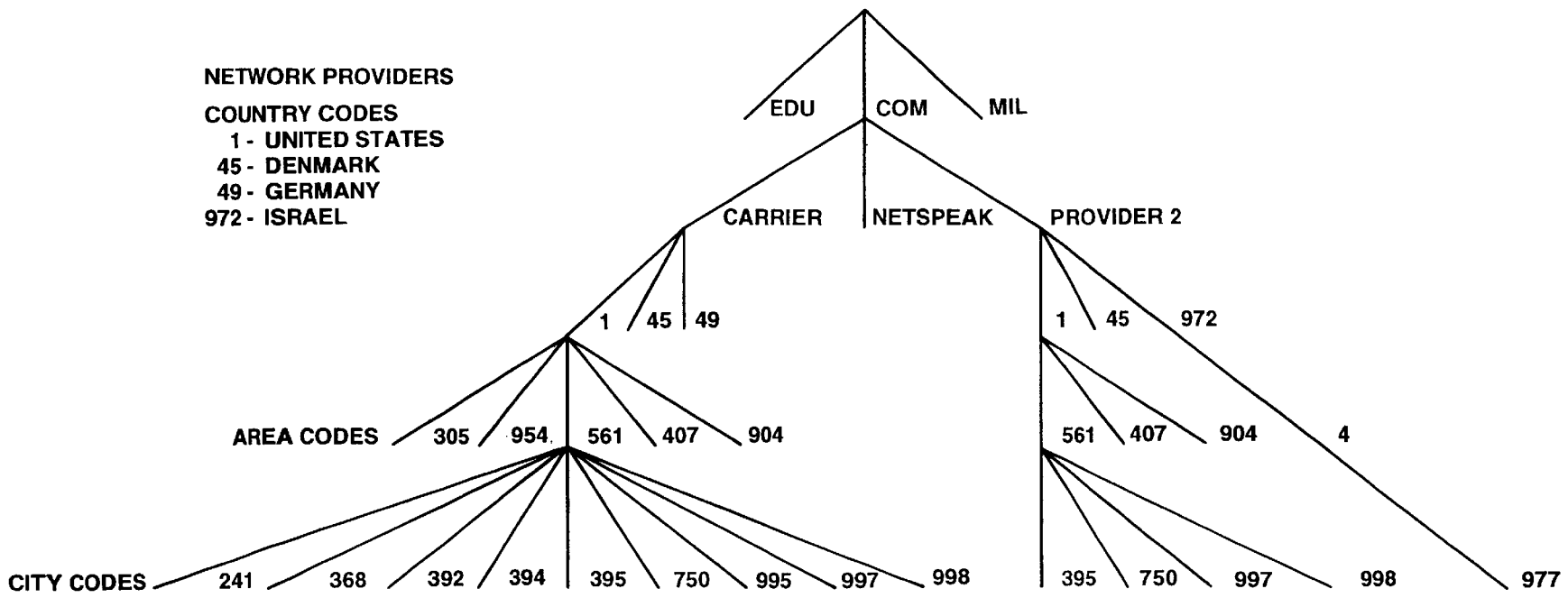


Figure 4

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.