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

(10) **Patent No.:** **US 6,633,848 B1**
(45) **Date of Patent:** *Oct. 14, 2003

(54) **PROMPT MANAGEMENT METHOD SUPPORTING MULTIPLE LANGUAGES IN A SYSTEM HAVING A MULTI-BUS STRUCTURE AND CONTROLLED BY REMOTELY GENERATED COMMANDS**

(75) Inventors: **Christopher Sean Johnson**, San Jose, CA (US); **Scott K. Pickett**, Los Gatos, CA (US)

(73) Assignee: **Vertical Networks, Inc.**, Sunnyvale, CA (US)

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

This patent is subject to a terminal disclaimer.

(21) Appl. No.: **09/369,038**

(22) Filed: **Aug. 4, 1999**

Related U.S. Application Data

(63) Continuation of application No. 10/325,763, filed on Dec. 18, 2002, which is a continuation of application No. 09/419,384, filed on Oct. 15, 1999, now Pat. No. 6,560,222, which is a continuation of application No. 09/167,408, filed on Oct. 6, 1998, now Pat. No. 6,154,465, which is a continuation-in-part of application No. 09/163,596, filed on Sep. 29, 1998, now Pat. No. 6,343,074, which is a continuation-in-part of application No. 09/161,550, filed on Sep. 25, 1998, now Pat. No. 6,208,658.

(51) **Int. Cl.^{7}** **G10L 21/00**; H04L 12/66
(52) **U.S. Cl.** **704/277**; 370/353
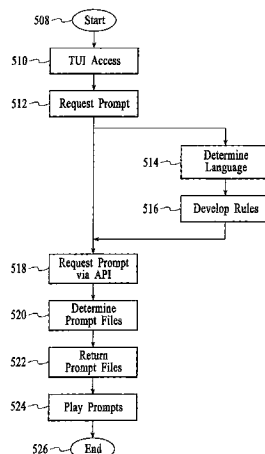(58) **Field of Search** 379/88.05, 201.01, 379/266.07; 704/8, 275, 260, 256, 235, 2; 709/223, 206

(56) **References Cited**

U.S. PATENT DOCUMENTS

4,958,366 A * 9/1990 Hashimoto 379/70
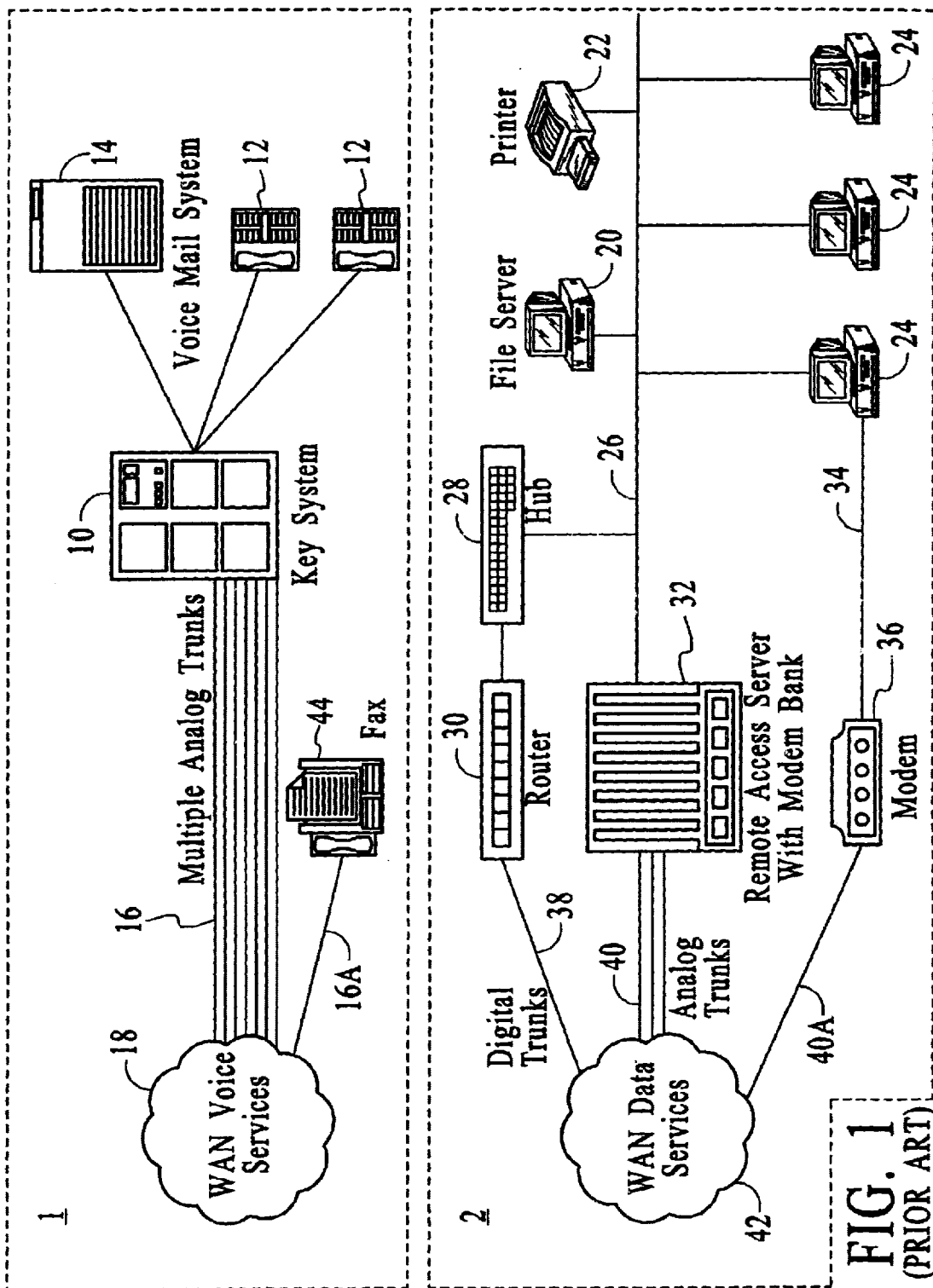5,136,633 A * 8/1992 Tejada et al. 379/88.2
5,388,146 A * 2/1995 Morduch et al. .... 178/2 B

(List continued on next page.)

Primary Examiner—Marsha D. Banks-Harold
Assistant Examiner—V. Paul Harper
(74) *Attorney, Agent, or Firm*—Loudermilk & Associates

(57) **ABSTRACT**

Systems and methods by which voice/data communications may occur in multiple modes/protocols are disclosed. In particular, systems and methods are provided for multiple native mode/protocol voice and data transmissions and receptions with a computing system having a multi-bus structure, including, for example, a TDM bus and a packet bus, and multi-protocol framing engines. Such systems preferably include subsystem functions such as PBX, voice mail and other telephony functions, LAN hub and data router. In preferred embodiments, a TDM bus and a packet bus are intelligently bridged and managed, thereby enabling such multiple mode/protocol voice and data transmissions to be intelligently managed and controlled with a single, integrated system. A computer or other processor includes a local area network controller, which provides routing and hub(s) for one or more packet networks. The computer also is coupled to a buffer/framer, which serves to frame/deframe data to/from the computer from TDM bus. The buffer/framer includes a plurality of framer/deframer engines, supporting, for example, ATM and HDLC framing/deframing. The buffer/framer is coupled to the TDM bus by way of a switch/multiplexer, which includes the capability to intelligently map data traffic between the buffer/framer and the TDM bus to various slots of the TDM frames. Preferably, a DSP pool is coupled to buffer/framer in a manner to provide various signal processing and telecommunications support, such as dial tone generation, DTMF detection and the like. The TDM bus is coupled to a various line/station cards, serving to interface the TDM bus with telephone, facsimiles and other telecommunication devices, and also with a various digital and/or analog WAN network services. Language support for such systems is accomplished by way of a program/data structure so that additional language support may be readily implemented, for example, by a non-software programmer using grammar and voice prompt files, which are preferably located in a predetermined directory in the system.

20 Claims, 46 Drawing Sheets

U.S. PATENT DOCUMENTS

5,412,712 A * 5/1995 Jennings 379/88.05
5,440,615 A * 8/1995 Caccuro et al. 379/207.01
5,493,606 A * 2/1996 Osder et al. 379/88.05
6,058,166 A * 5/2000 Osder et al. 379/88.05
6,292,773 B1 * 9/2001 Bernardes et al. 379/88.05
6,366,578 B1 * 4/2002 Johnson 370/353

* cited by examiner

FIG. 1
(PRIOR ART)

FIG. 2

FIG. 3

DOCKET ALARM
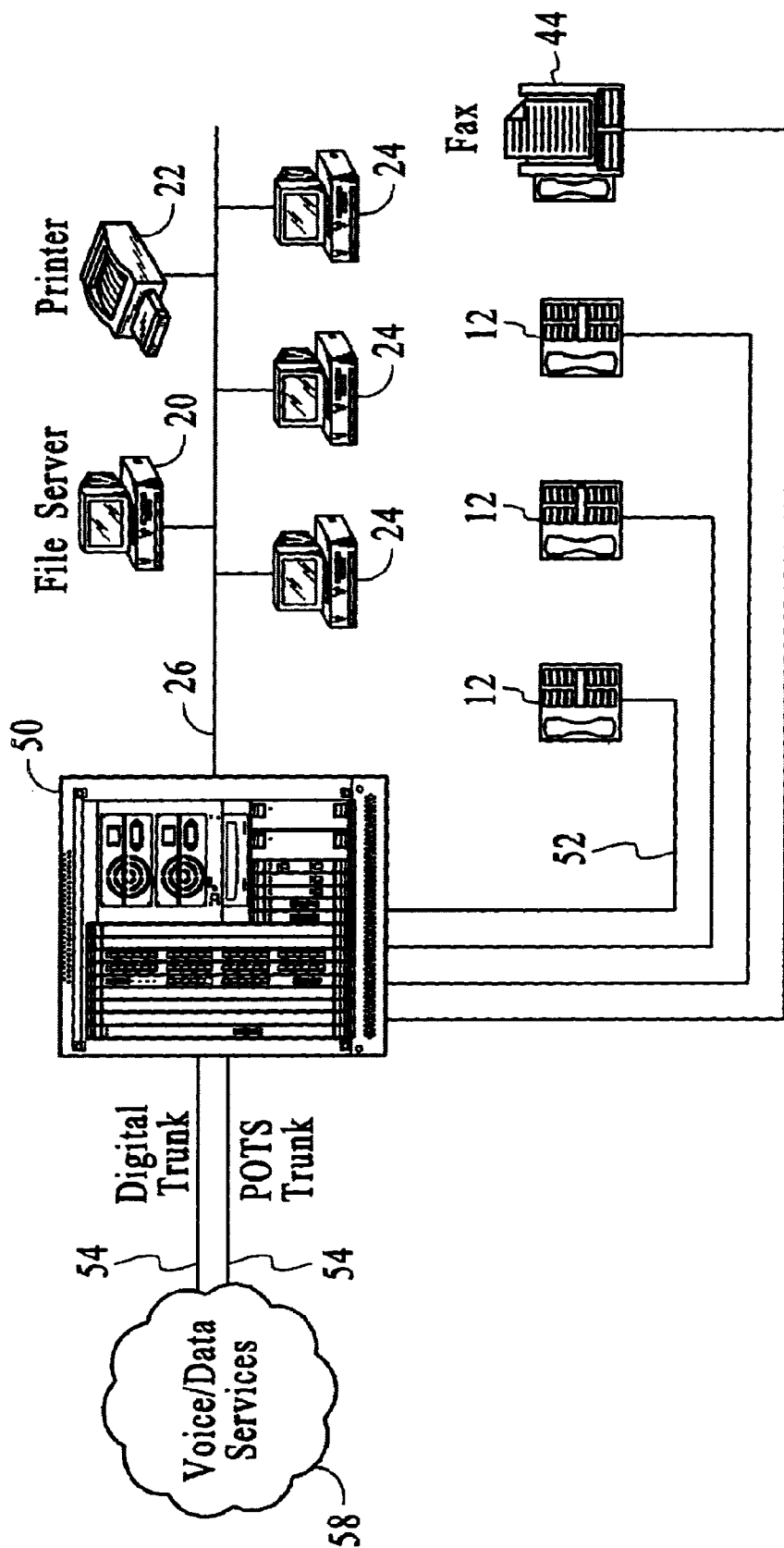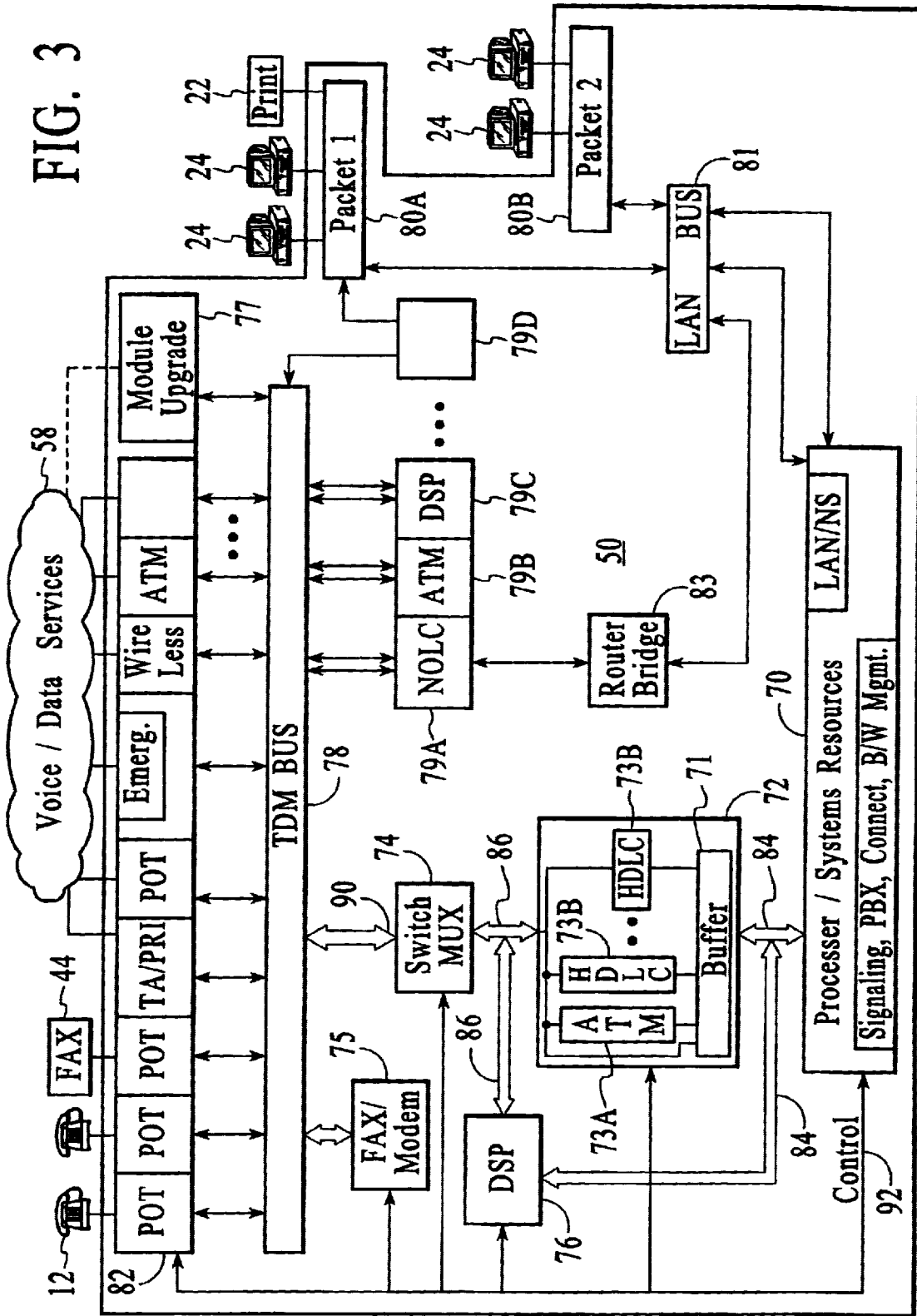
Explore Litigation Insights

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.