



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

(10) **Patent No.:** **US 6,681,259 B1**  
(45) **Date of Patent:** **Jan. 20, 2004**

(54) **METHOD FOR COUPLING A WIRELESS TERMINAL TO A DATA TRANSMISSION NETWORK AND A WIRELESS TERMINAL**

(75) Inventors: **Jussi Lemiläinen**, Tampere (FI); **Henry Haverinen**, Tampere (FI)

(73) Assignee: **Nokia Mobile Phones Ltd**, Espoo (FI)

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

(21) Appl. No.: **09/307,894**

(22) Filed: **May 10, 1999**

(30) **Foreign Application Priority Data**

May 12, 1998 (FI) ..... 981052

(51) **Int. Cl.**<sup>7</sup> ..... **G06F 15/16**

(52) **U.S. Cl.** ..... **709/250; 709/227**

(58) **Field of Search** ..... 709/250, 225, 709/227, 220, 238, 222, 239, 317; 710/8; 370/216; 340/7.1; 455/403; 713/201

(56) **References Cited**

**U.S. PATENT DOCUMENTS**

5,263,178 A	11/1993	Liukkonen	455/76
5,353,328 A	10/1994	Jokimies	379/58
5,392,282 A	2/1995	Kiema	370/77
5,490,235 A	2/1996	Von Holten et al.	395/2.79
5,557,748 A *	9/1996	Norris	709/220
5,630,061 A *	5/1997	Richter et al.	709/227
5,714,943 A *	2/1998	Rasor	340/7.1
5,802,351 A	9/1998	Frampton	395/500
5,852,721 A *	12/1998	Dillon et al.	709/227
5,862,344 A *	1/1999	Hart	709/238
5,890,005 A	3/1999	Lindholm	395/750.03
5,918,018 A *	6/1999	Gooderum et al.	709/225
5,983,090 A *	11/1999	Aoki	455/403
6,003,097 A *	12/1999	Richman et al.	710/8

6,131,163 A *	10/2000	Wiegel	713/201
6,134,587 A *	10/2000	Okanoue	709/222
6,151,297 A *	11/2000	Congdon et al.	370/216
6,289,377 B1 *	9/2001	Lalwaney et al.	709/222
6,330,597 B2 *	12/2001	Collin et al.	709/220
6,484,210 B1 *	11/2002	Adriano et al.	709/239

**OTHER PUBLICATIONS**

Tripunitara et al, A Middleware Approach to Asynchronous & Backward Compatible Detction & Prevention of ARP Cache Poisoning, IEEE 1999.\*

\* cited by examiner

*Primary Examiner*—Mark R. Powell

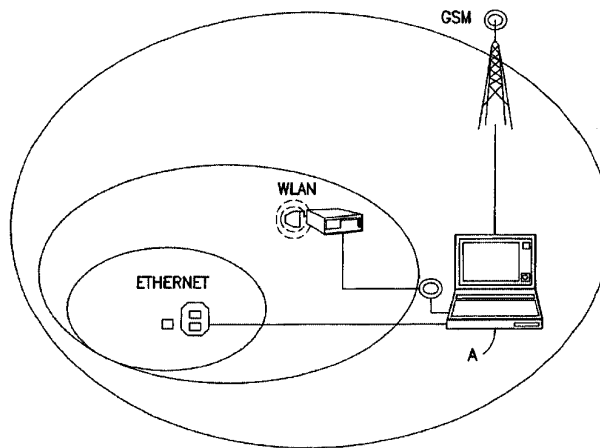
*Assistant Examiner*—Thong Vu

(74) *Attorney, Agent, or Firm*—Perman & Green, LLP

(57) **ABSTRACT**

The invention relates to a terminal (A), which comprises at least one network interface card (NIC1, NIC2, NIC3) for setting up a data transmission connection to a communication network (NW1, NW2, NW3, MNW) for packet switched data transmission, and means (PD) for forming packets of the information to be transmitted and for unpacking information from the received packets. The terminal (A) is allocated at least one first address identifying the terminal (A), and at least one data network-specific second address. The means (PD) for forming packets comprise means for connecting the first address to the packets, and the terminal (A) also comprises a network interface selection driver (NISD), which contains means for selecting the communication network (NW1, NW2, NW3, MNW) used in data transmission at a given time, means for transmitting packets between the means (PD) for forming packets and the network interface card (NIC1, NIC2, NIC3) corresponding to the data transmission network (NW1, NW2, NW3, MNW) used at a given time, and means for modifying the first address to the second address according to the data transmission network used in the packets at a given time.

**12 Claims, 10 Drawing Sheets**



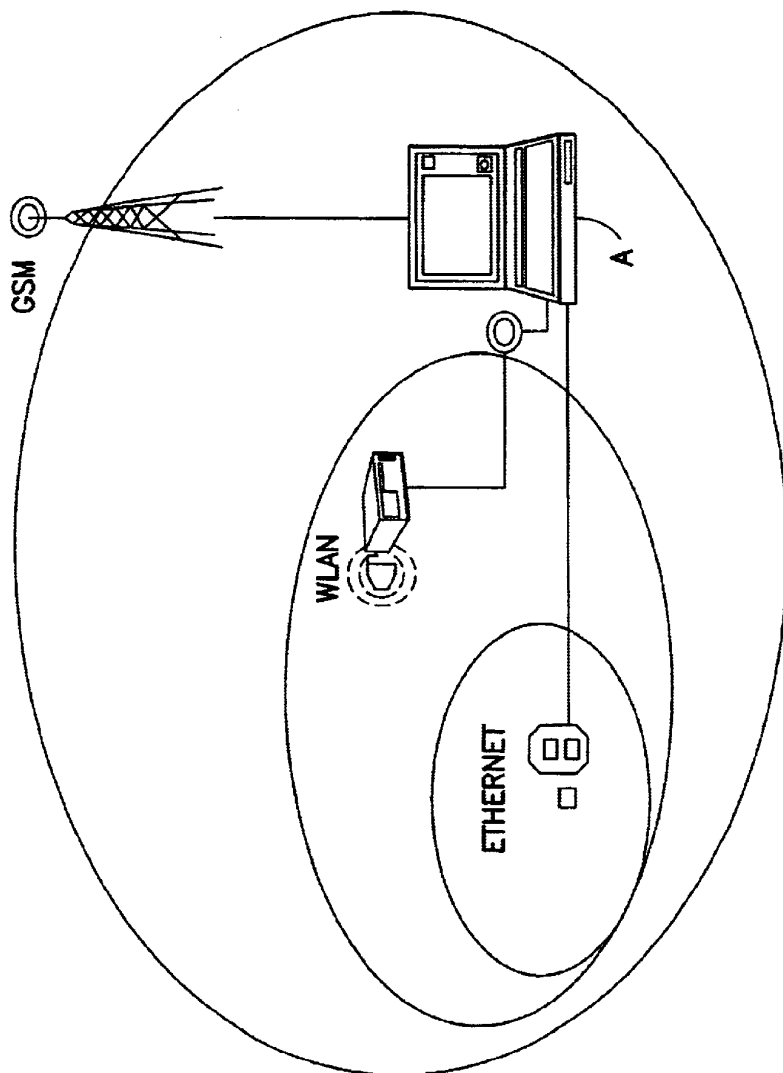


FIG.1

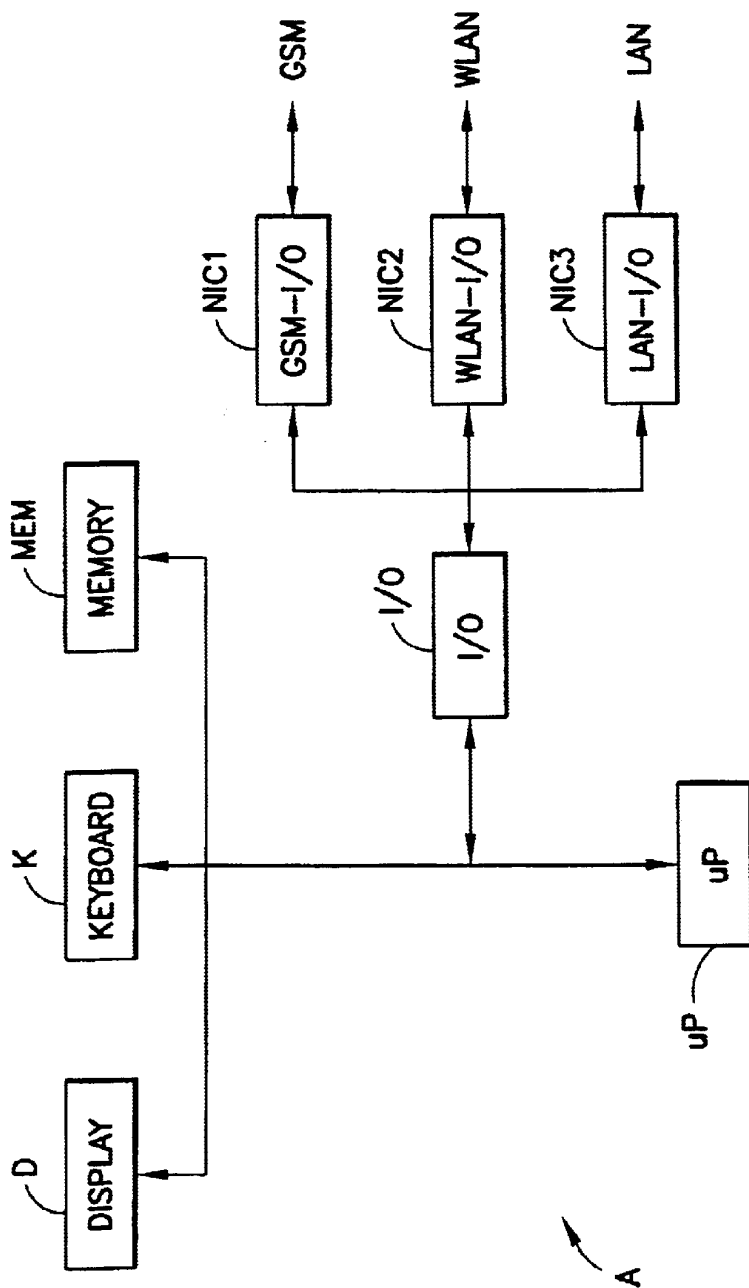
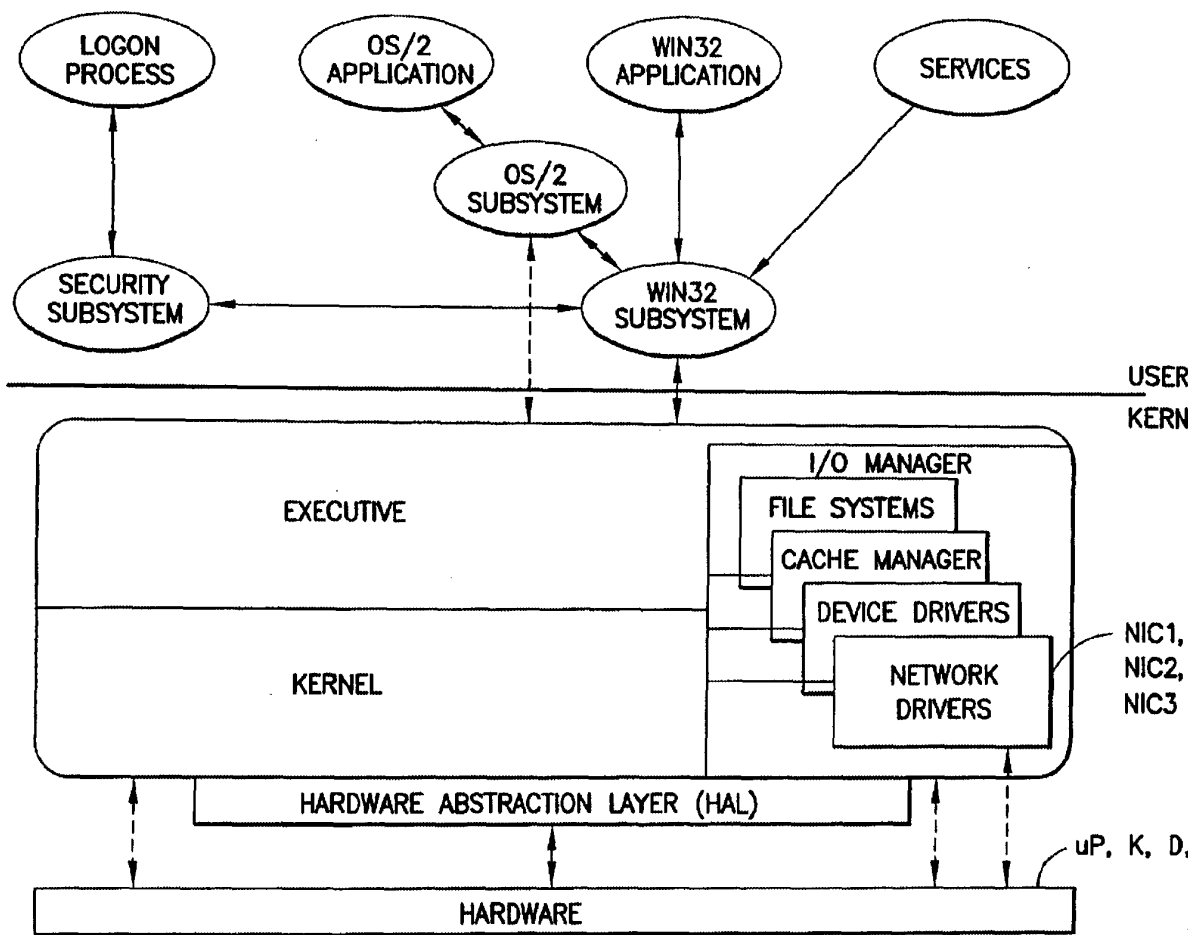


FIG.2



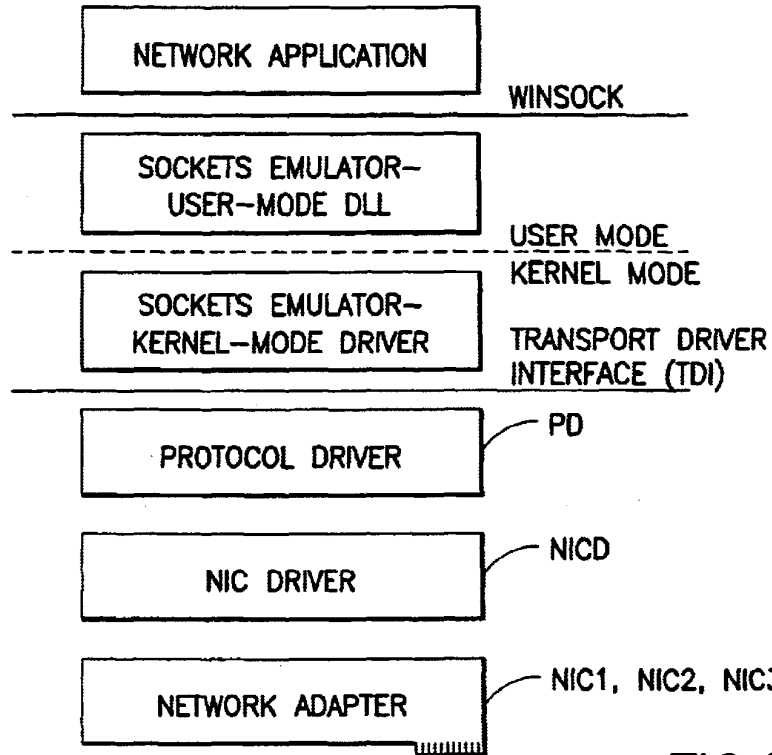


FIG.3b

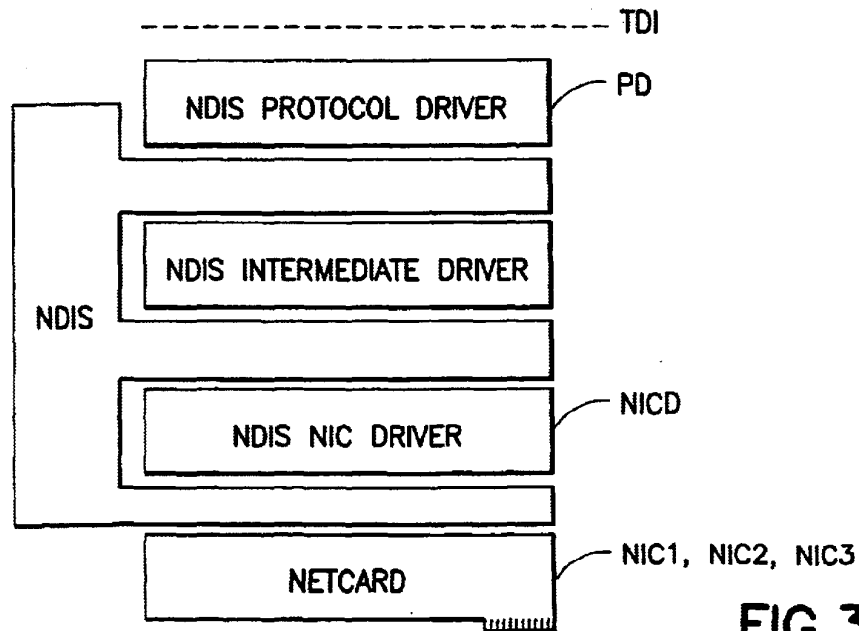


FIG.3c

# 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.