

(12) **United States Patent**
Kelly

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

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(*) 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).

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

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Related U.S. Application Data

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(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

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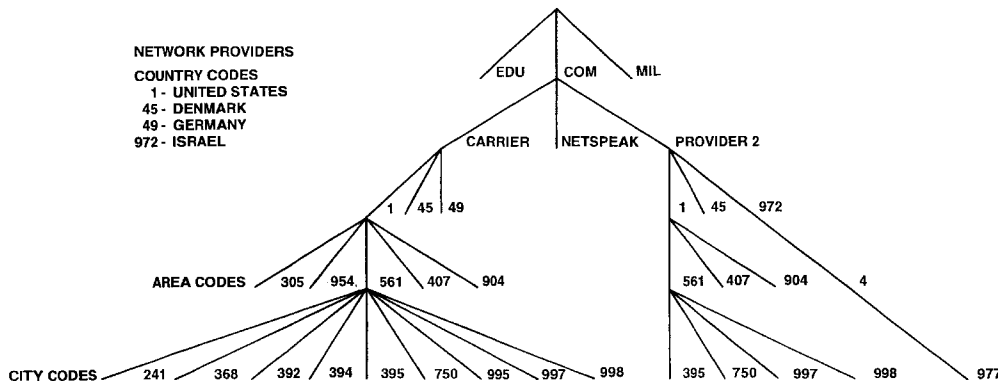
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(57) **ABSTRACT**

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.

23 Claims, 7 Drawing Sheets



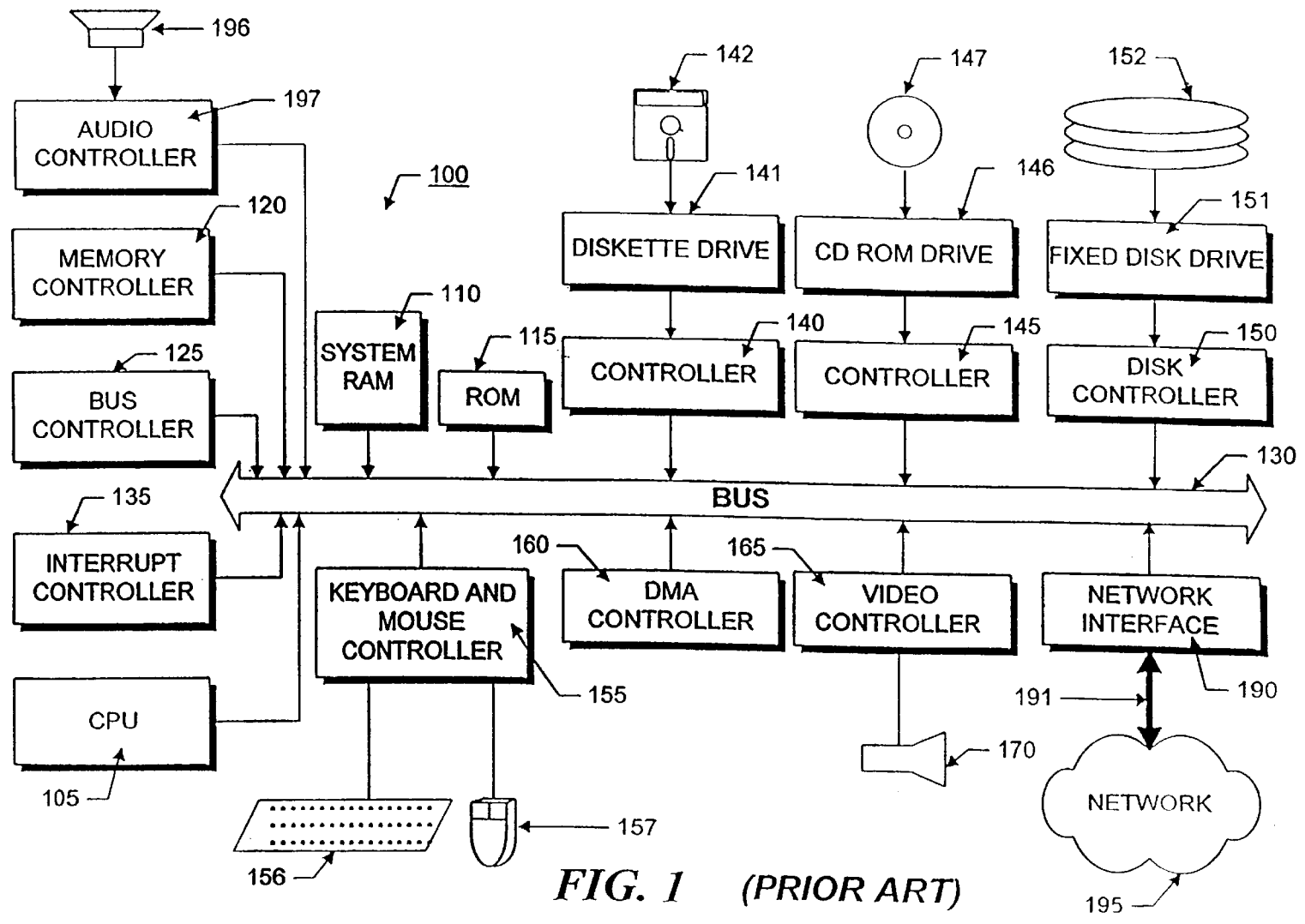


FIG. 1 (PRIOR ART)

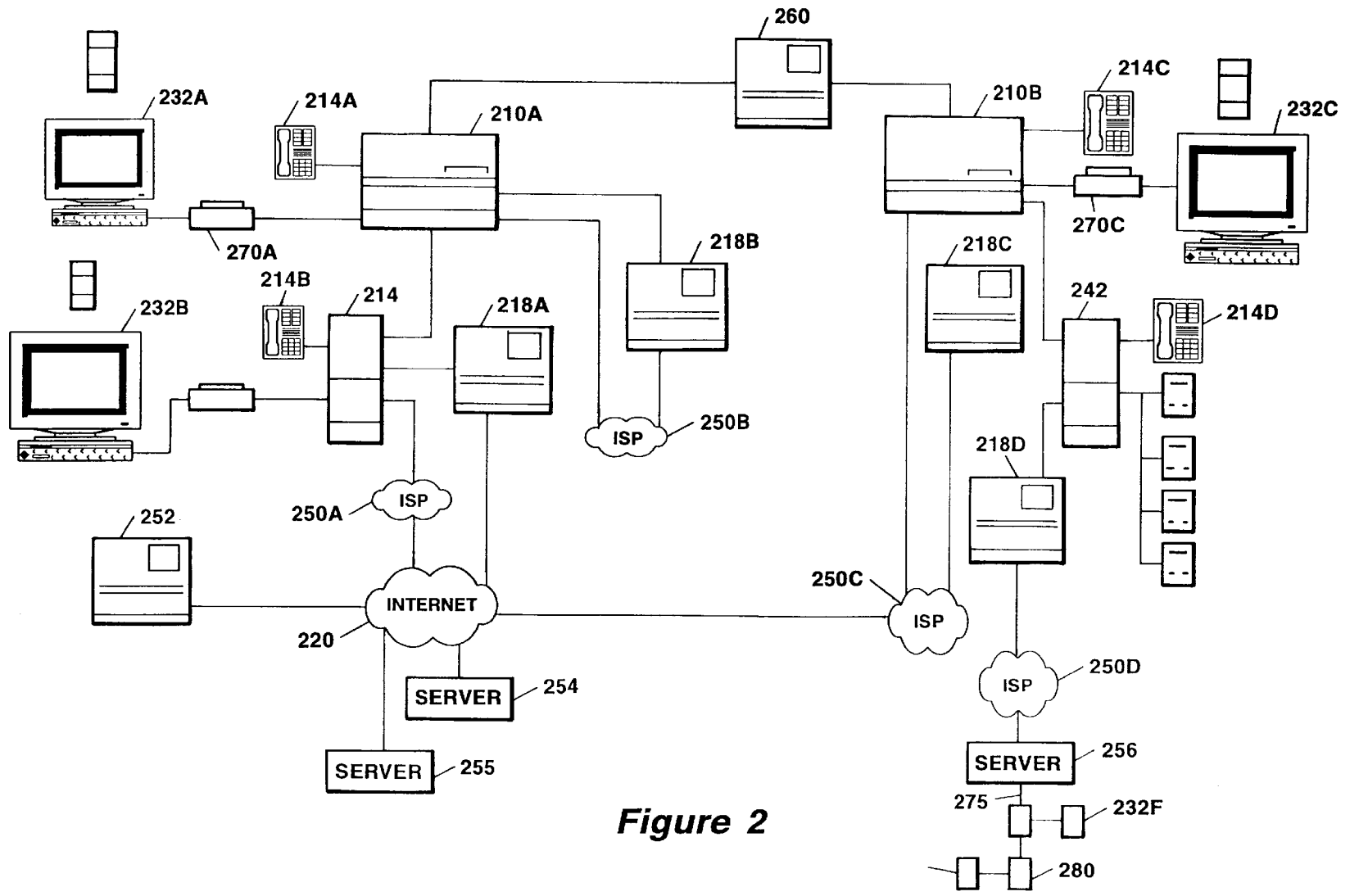


Figure 2

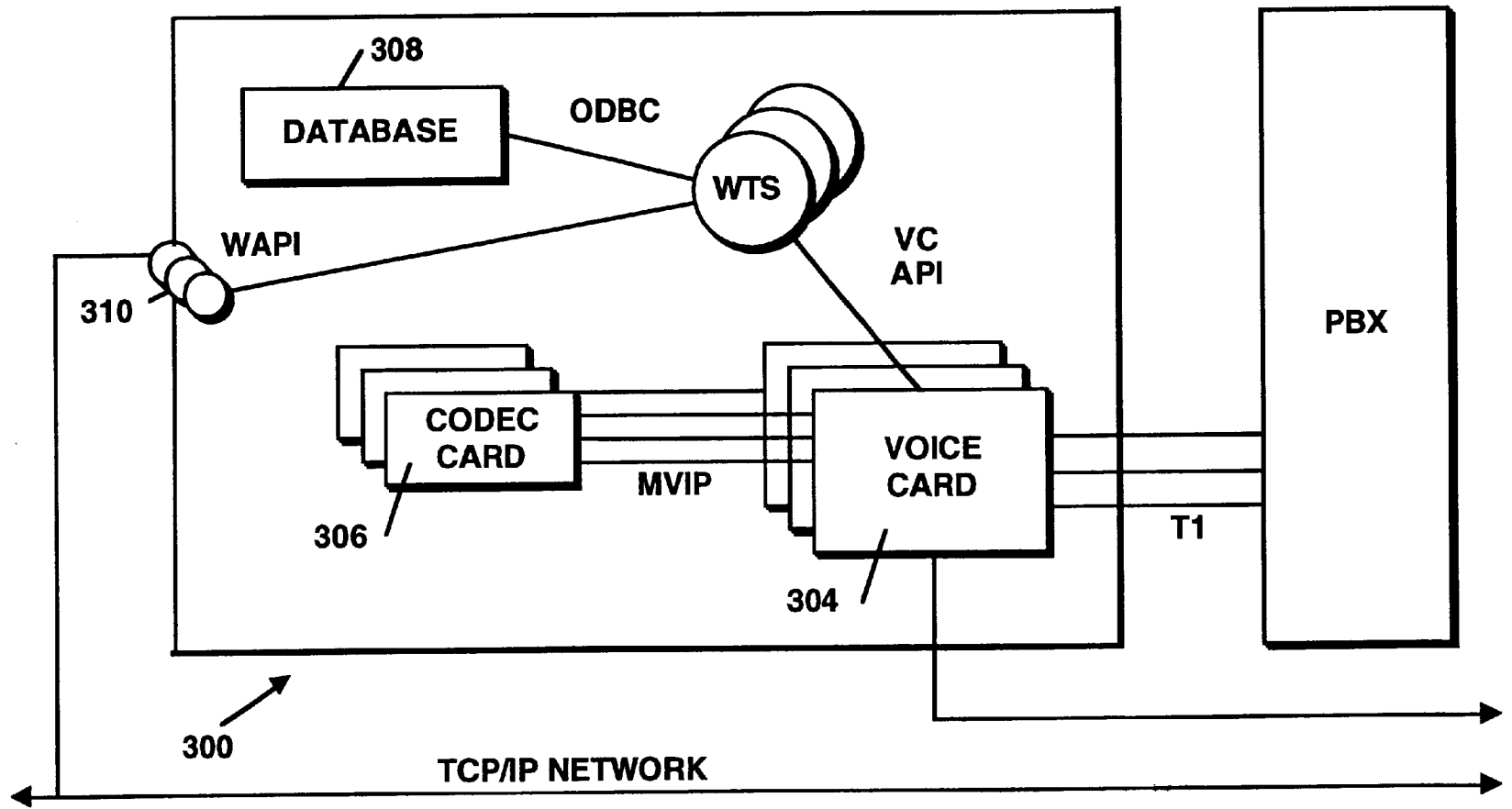


Figure 3

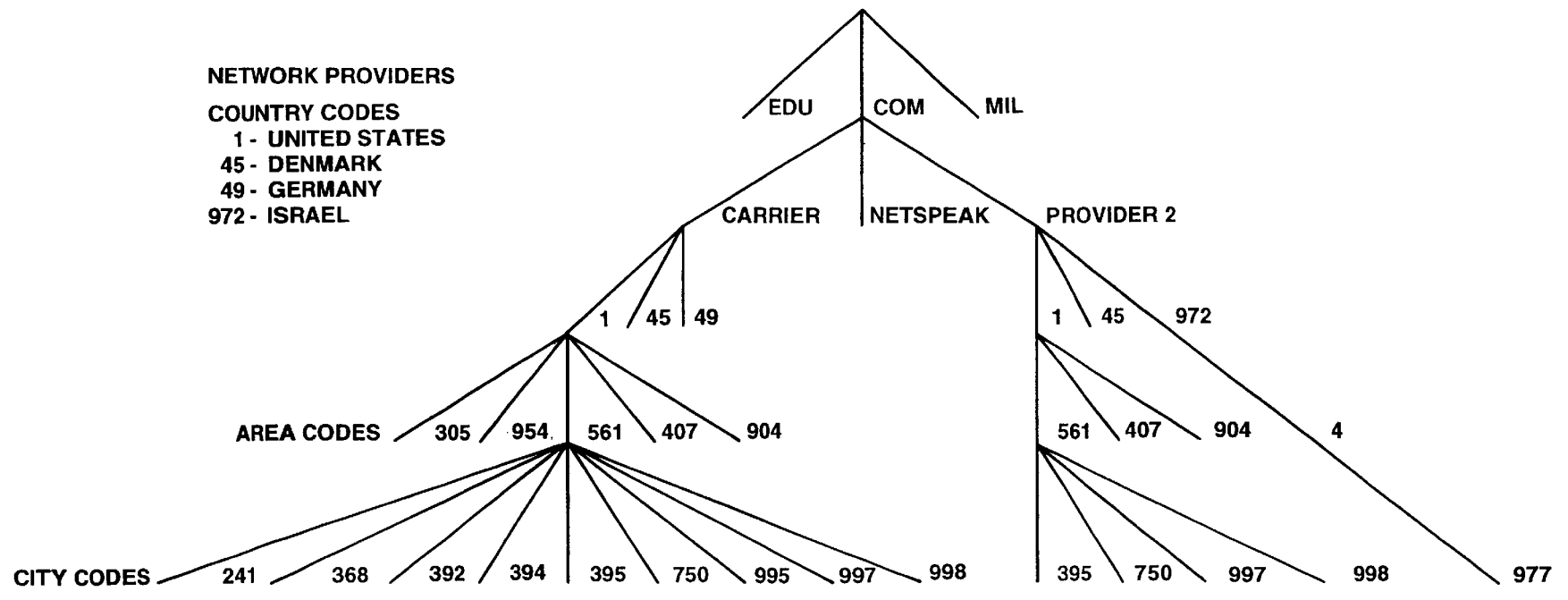


Figure 4

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