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# United States Patent [19]

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Perkins

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[54] NETWORK ADDRESS MANAGEMENT FOR A WIRED NETWORK SUPPORTING WIRELESS COMMUNICATION TO A PLURALITY OF MOBILE USERS

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[51] Int. Cl.<sup>5</sup> ..... H04J 3/24; H04B 7/00

[52] U.S. Cl. .... 370/85.7; 370/85.13; 370/94.1; 370/95.1

[58] Field of Search ..... 370/60, 85.1, 85.2, 370/85.3, 85.7, 85.13, 94.1, 94.3, 95.1; 340/825.5, 825.51; 455/39, 68, 53.1, 54.1, 54.2, 55.1, 56.1

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### [57] ABSTRACT

Apparatus and method for managing bidirectional transmission of information between a wired network and at least one mobile communication unit (10) in wireless communication with the wired network. The wired network is of the type wherein users of the network are each assigned a unique network address such as in, for example, a TCP/IP network. In accordance with the invention there is provided a local gateway (16) coupled between a wireless LAN and the wired network for communication with a mobile communication unit. There is also provided a global gateway (18) coupled to the local gateway and to remote users of the network. The global gateway functions to maintain a plurality of network addresses and, in response to a request for an assignment of a network address from the mobile communication unit, assigns one of the plurality of network addresses to the requesting mobile communication unit. The global gateway also buffers and routes data received from a remote user, the data being directed to an address corresponding to the assigned network address, to the mobile communication unit having the assigned address.

20 Claims, 5 Drawing Sheets

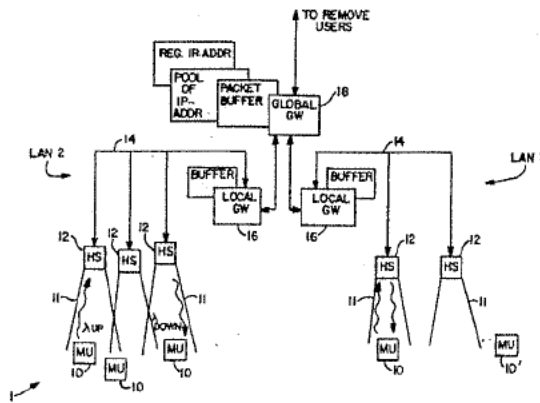
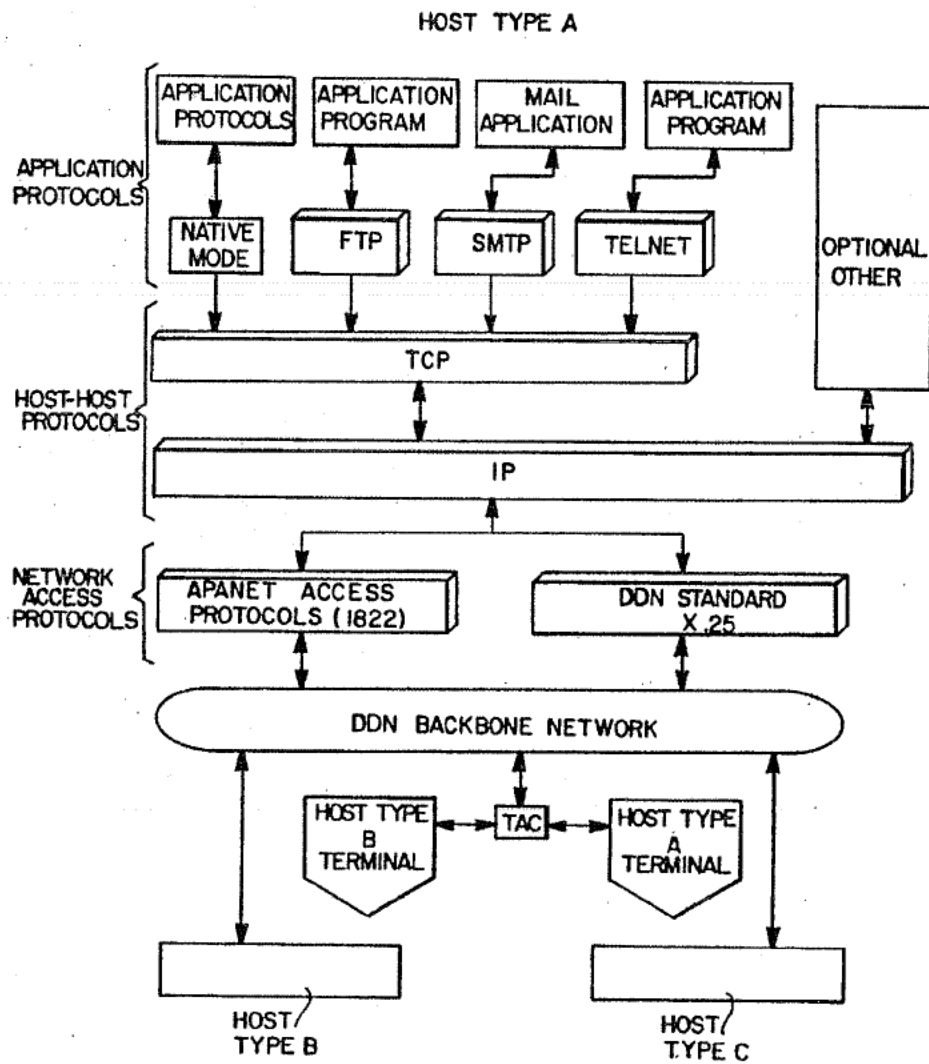


FIG. 1  
(PRIOR ART)



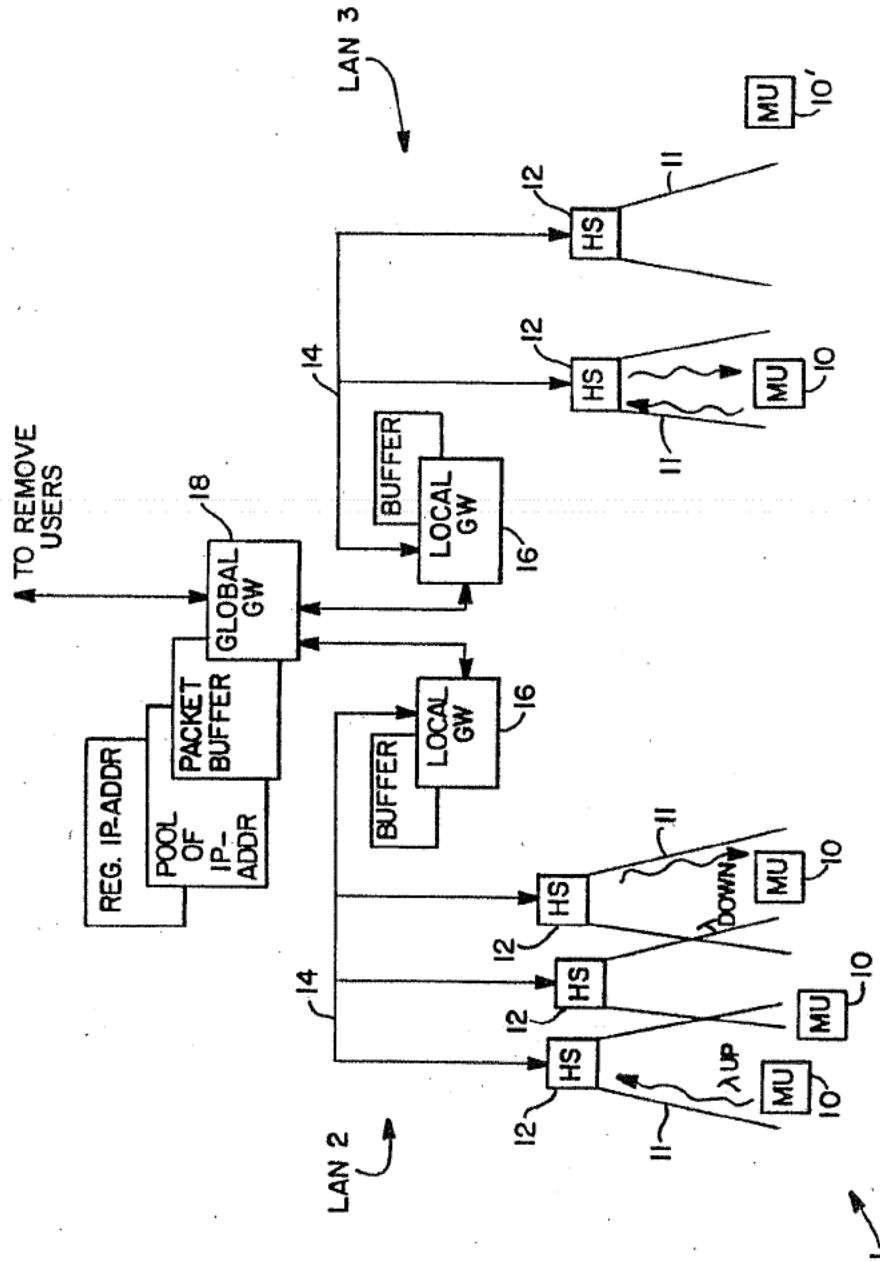


FIG. 2

FIG. 3

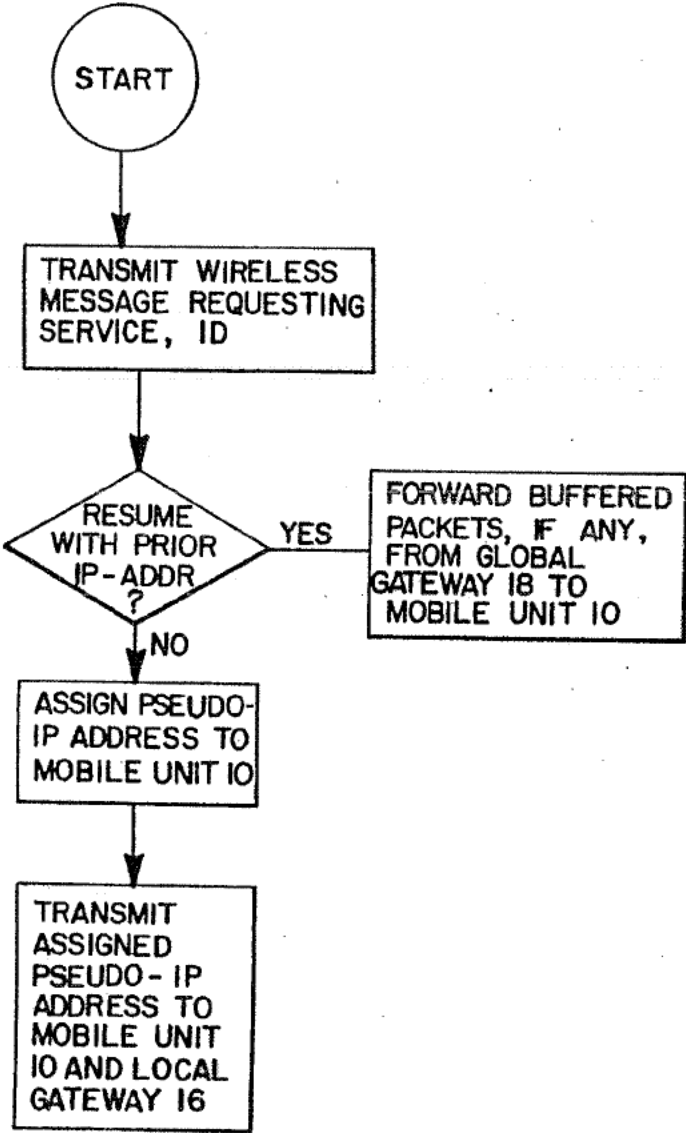
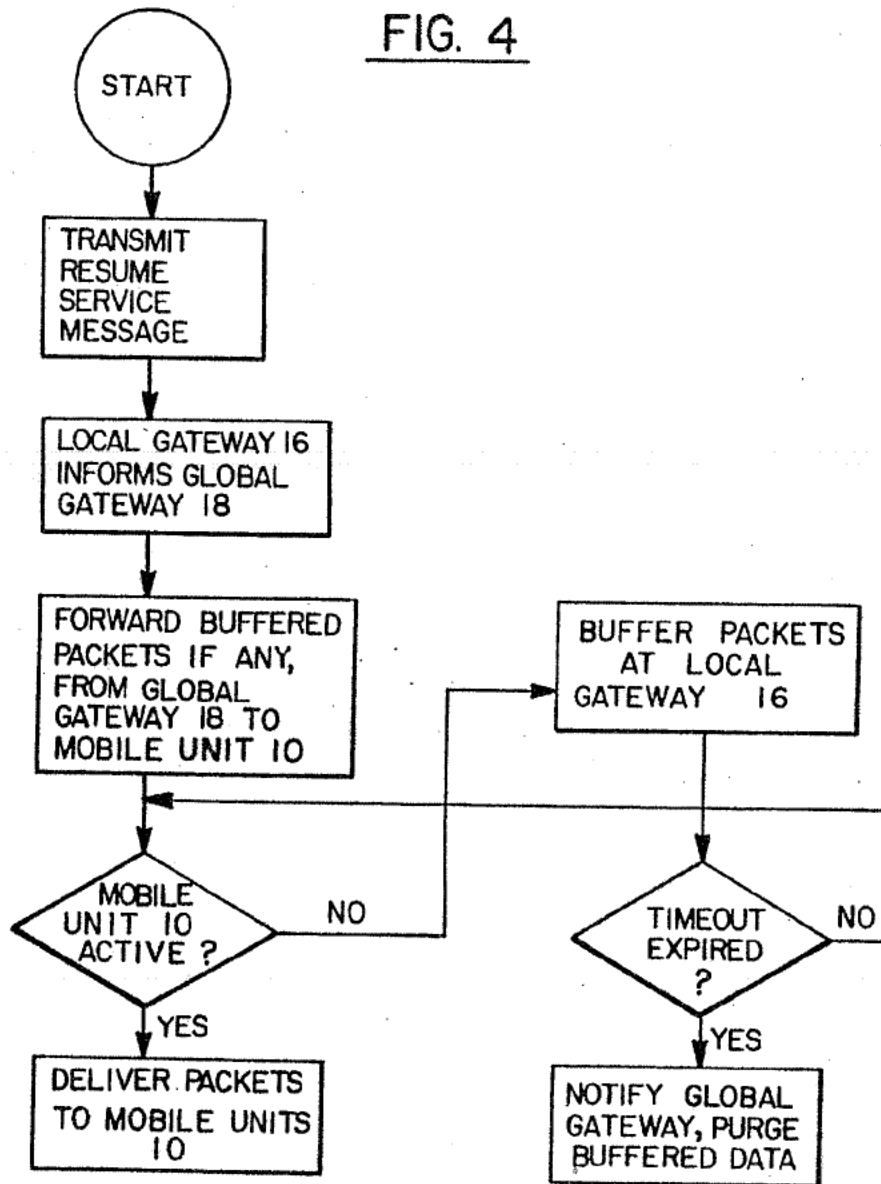


FIG. 4



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