



# United States Patent [19]

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Xu et al.

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- [54] **NETWORK ACCESS METHODS, INCLUDING DIRECT WIRELESS TO INTERNET ACCESS**
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- [73] Assignee: **3Com Corporation**, Santa Clara, Calif.
- [21] Appl. No.: **08/887,313**
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- [51] **Int. Cl.<sup>7</sup>** ..... **G06F 13/00**
- [52] **U.S. Cl.** ..... **709/225; 713/201**
- [58] **Field of Search** ..... 395/187.01, 182, 395/188.01, 200.5, 200.53, 200.54, 200.55, 200.57, 200.8; 379/60; 370/401, 338, 349, 389, 400, 907, 908, 913; 713/201, 202; 709/220, 223-225, 227, 229, 250

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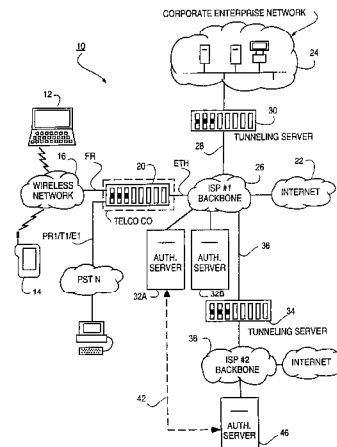
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## [57] ABSTRACT

A method is provided for connecting a source of digital data to a computer network. The source of digital data transmits data over a wireless transmission medium to a wireless service carrier, the wireless service carrier multiplexing the digital data onto a high speed digital telephone line. The method comprises the steps of receiving the digital data at a communications chassis such as a network access server, extracting, from the digital data, network access authentication data comprising at least one of the following: (a) a telephone number called by the source of digital data, or (b) a telephone number associated with the source of digital data; transmitting the authentication data over a local area or wide area computer network connected to a network authentication server for the computer network; determining, in the network authentication server, from the transmitted authentication data whether the remote user is permitted to access the computer network; and the authentication server responsively notifying the network access server the results of the step of determining; and authorizing the source of data to access the computer network if the step of determining results in a positive response.

**18 Claims, 10 Drawing Sheets**



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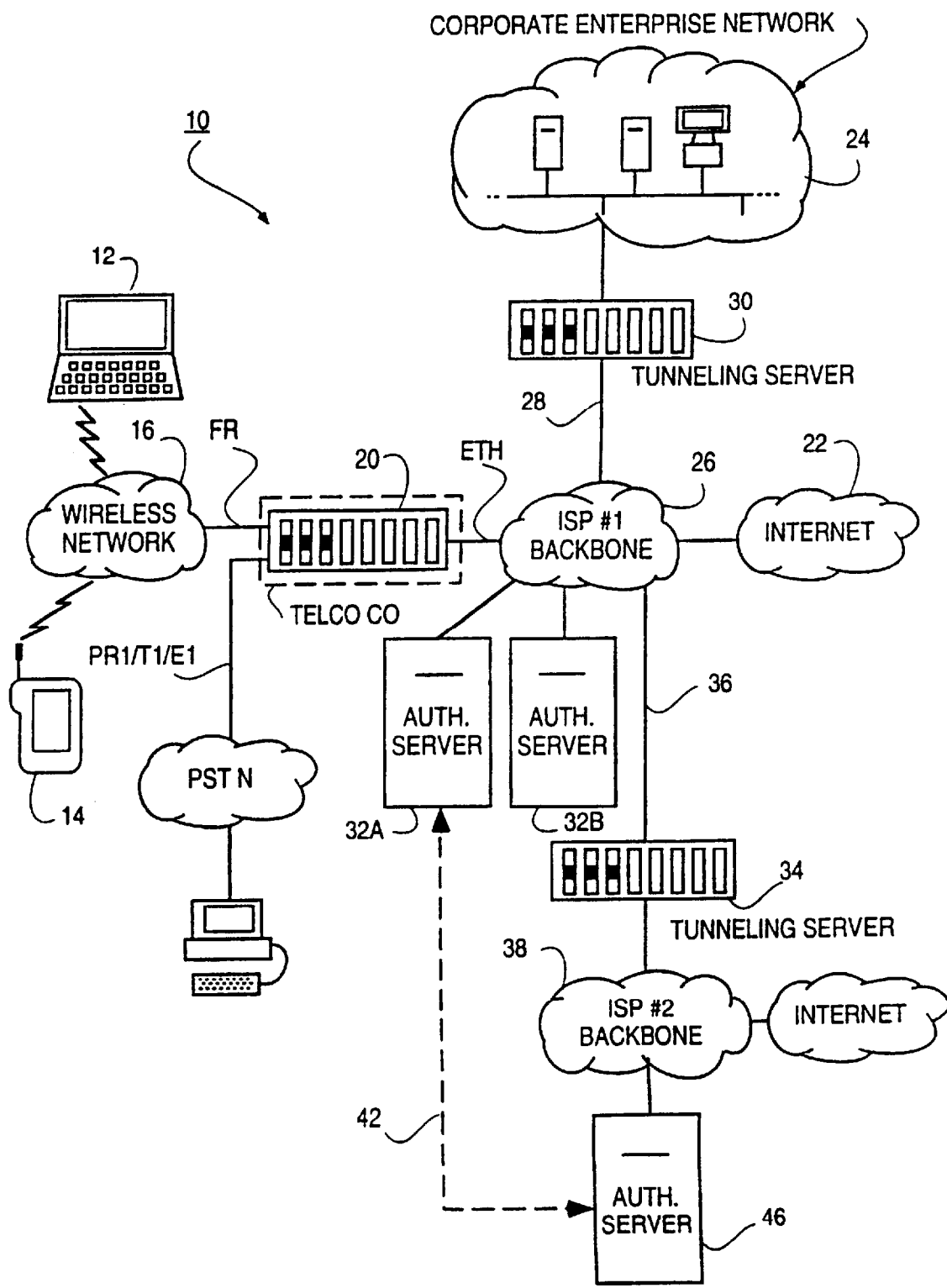
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FIG. 1



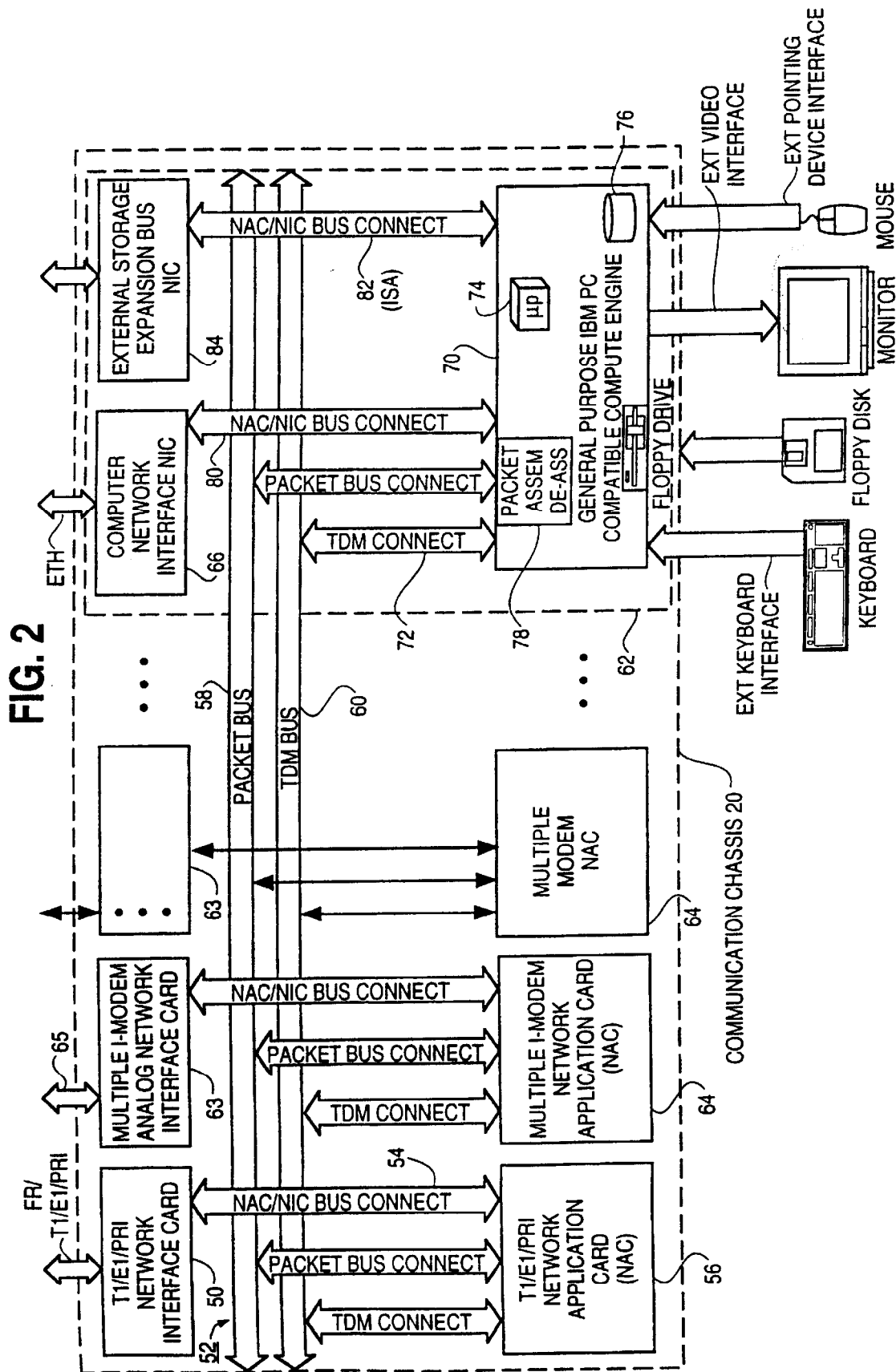


FIG. 2A

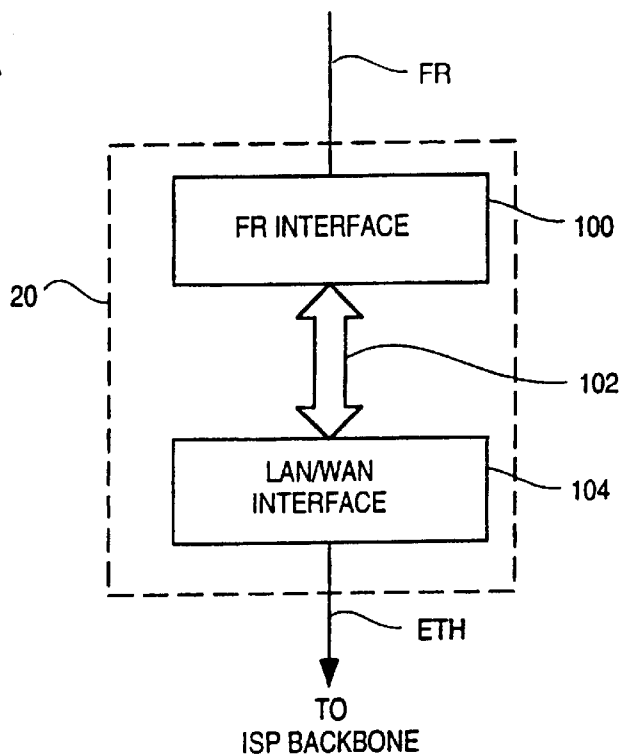
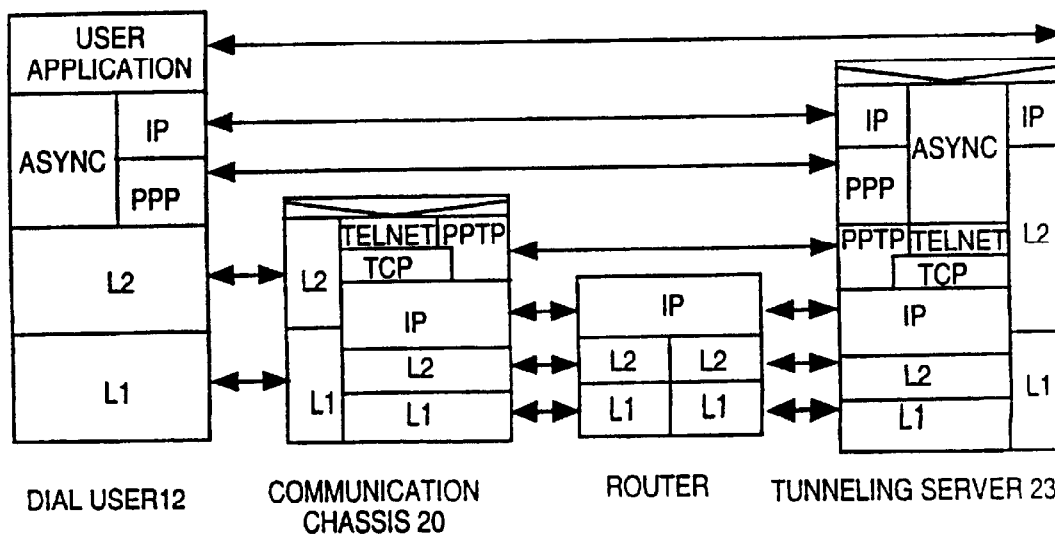


FIG. 3



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