

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

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- (54) **VIRTUAL CONNECTION OF A REMOTE UNIT TO A SERVER**
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- (*) Notice: 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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- (21) Appl. No.: **09/167,698**
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- (51) **Int. Cl.⁷** **H04J 3/00**
- (52) **U.S. Cl.** **370/469; 370/329**
- (58) **Field of Search** **370/329, 389, 370/468, 469; 709/203, 206, 227**

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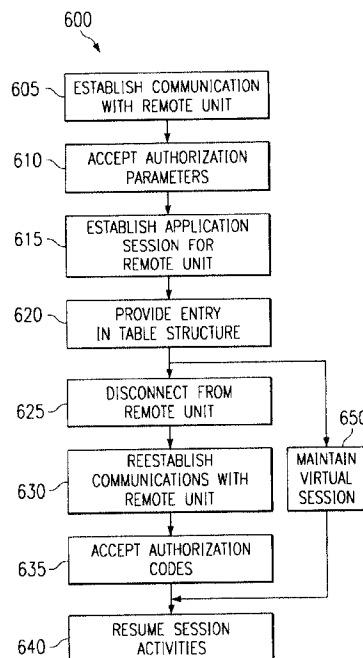
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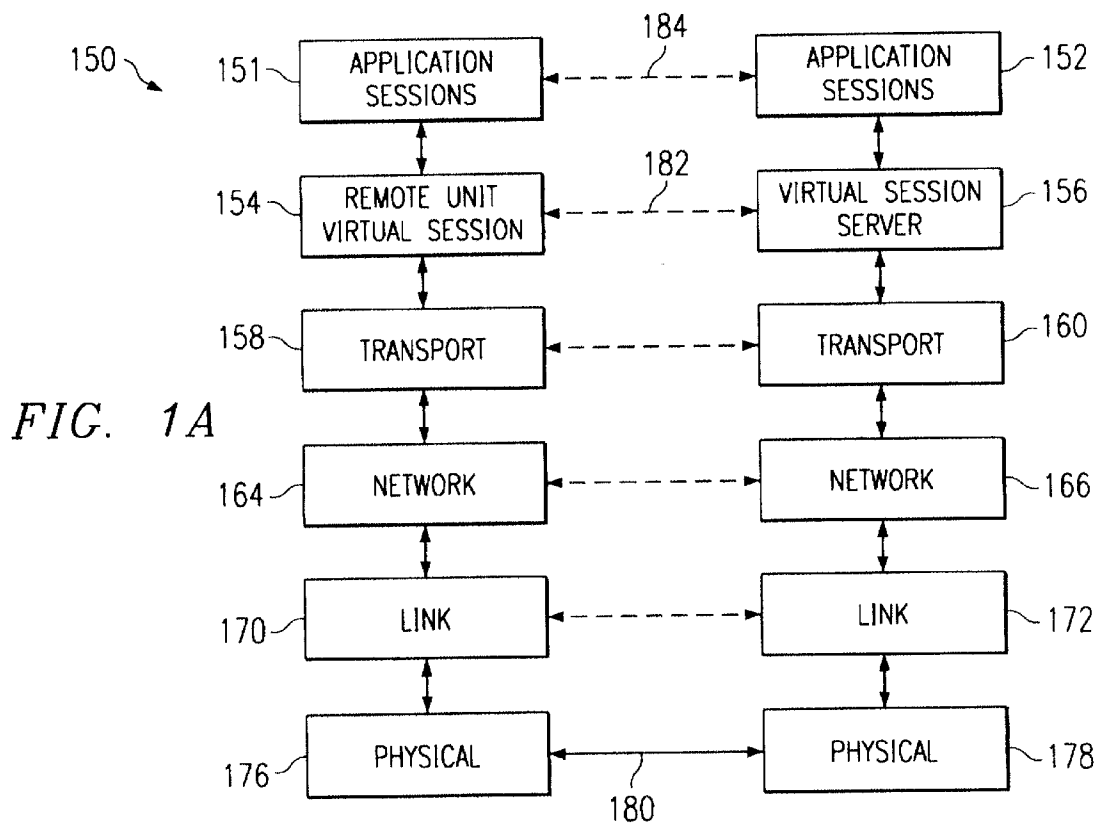
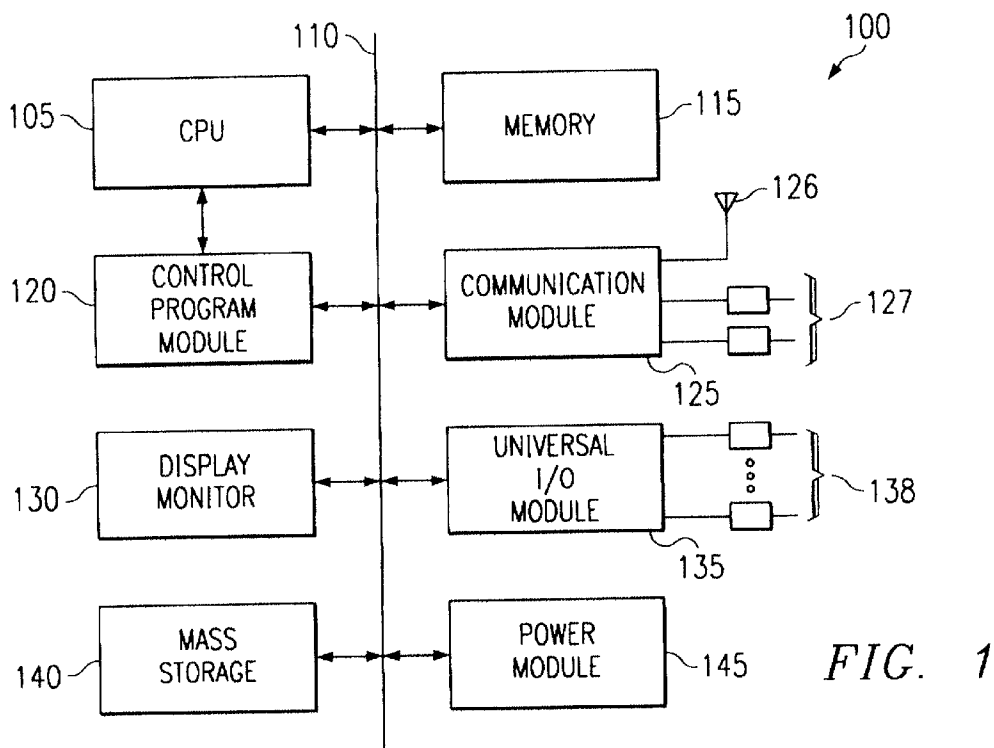
Primary Examiner—Salvatore Cangialosi
(74) *Attorney, Agent, or Firm*—Eric M. Dowling

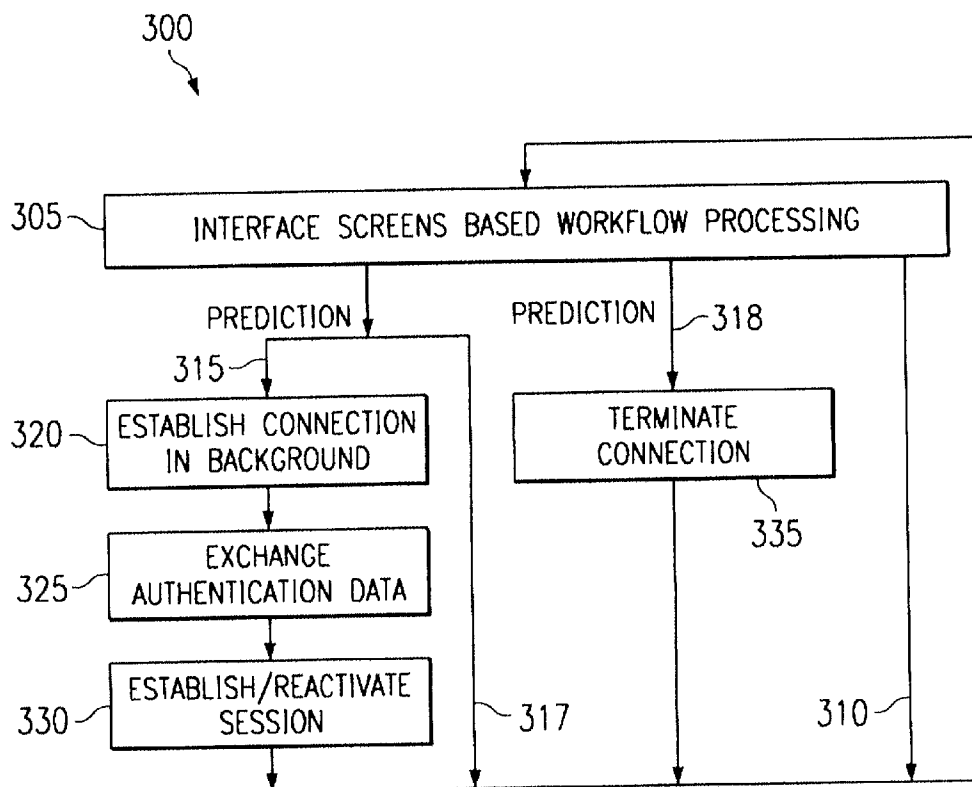
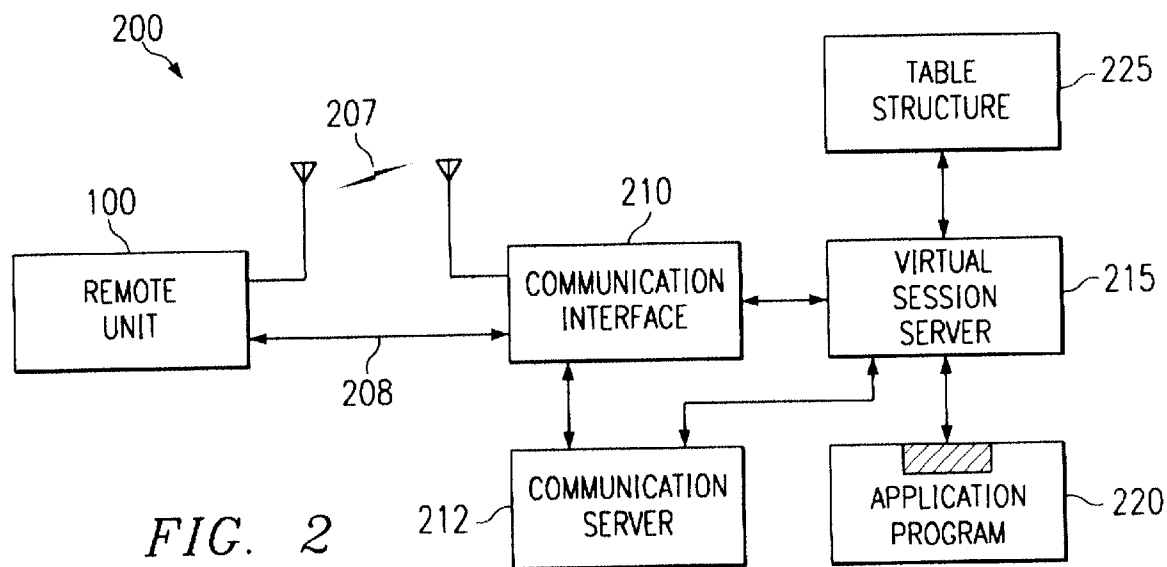
(57) **ABSTRACT**

A method is provided for reconnecting a telephone modem with a reduced delay by reducing a time associated with retraining. A wireline communication connection is initialized by a telephone modem to train a set of parameters. The parameters are stored in a memory structure. The connection is used for communication, and is then terminated. At a later time, the connection is reestablished by accessing the parameters from memory and using them to reconnect the modem with a reduced set-up delay. Another method involves coupling to a first physical layer and establishing a session with a server, and then decoupling from the first physical layer while maintaining the session. Later, the session is resumed using a second physical layer. At least one of the physical layers involves a local interface unit that includes a landline connection to a WAN.

75 Claims, 4 Drawing Sheets







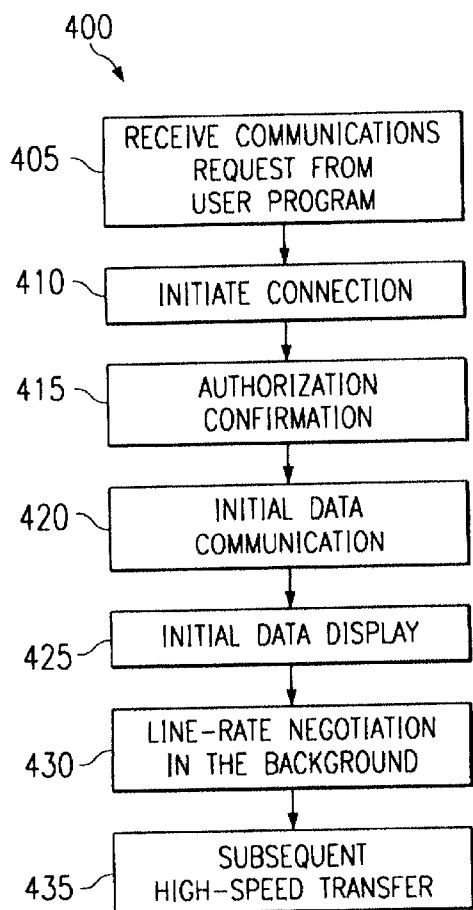


FIG. 4

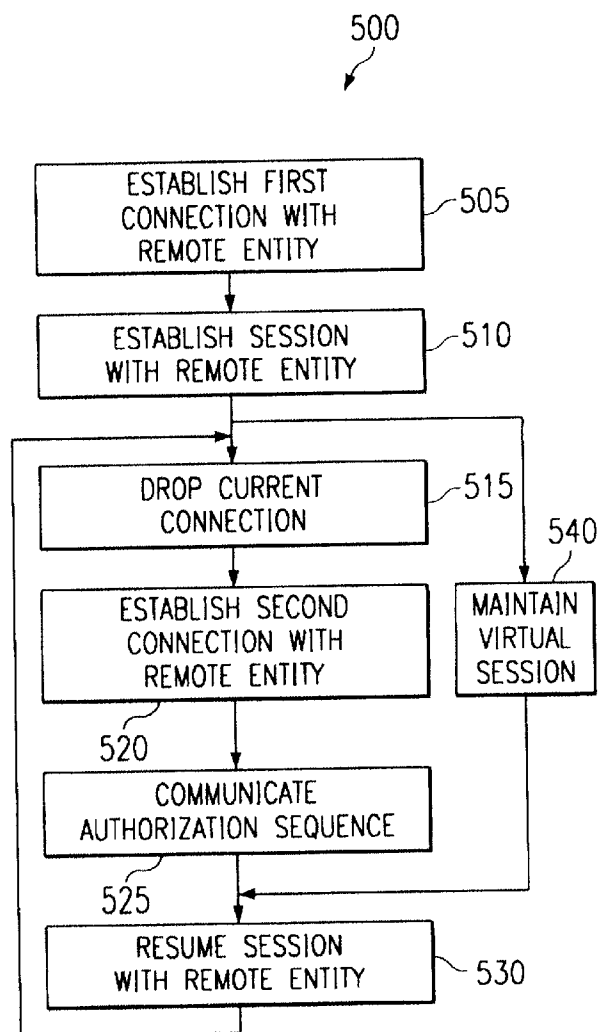


FIG. 5

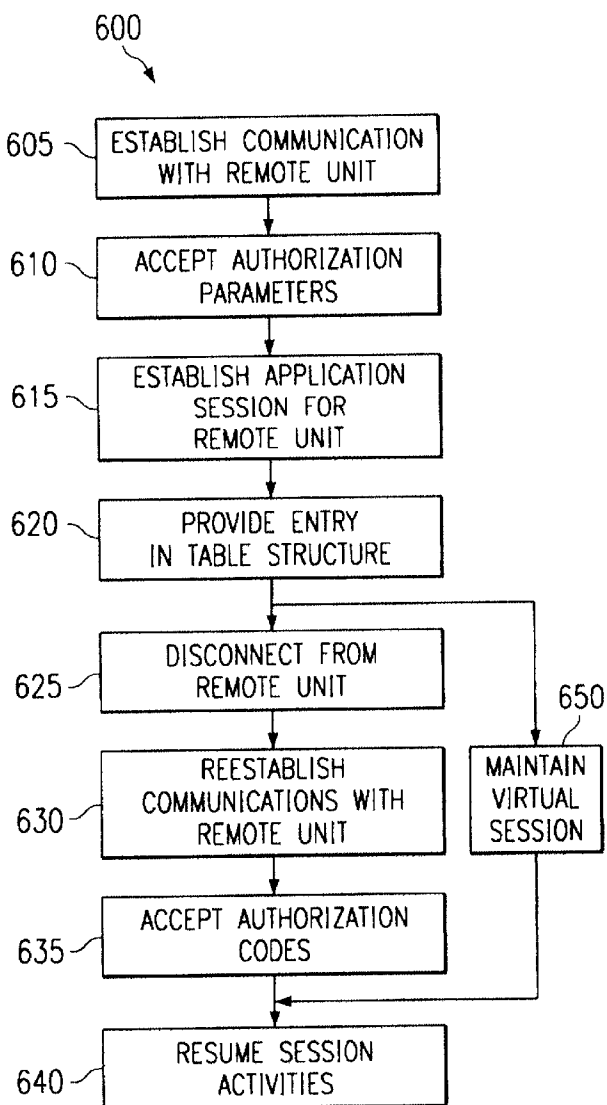


FIG. 6

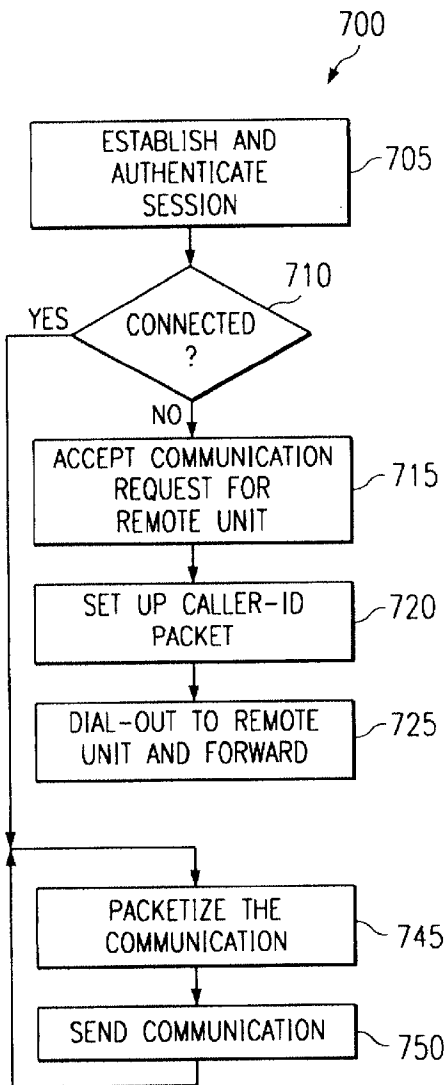


FIG. 7

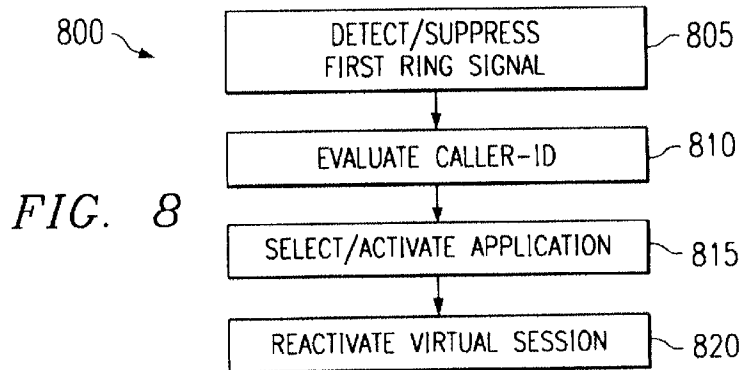


FIG. 8

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