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Hind et al.

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(54) **METHOD AND APPARATUS FOR EFFICIENTLY INITIALIZING SECURE COMMUNICATIONS AMONG WIRELESS DEVICES**

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(73) Assignee: **International Business Machines Corporation**, Armonk, NY (US)

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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.: **09/316,805**

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(22) Filed: **May 21, 1999**

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(51) **Int. Cl.** **H04L 9/00**

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(52) **U.S. Cl.** **713/168; 713/169; 713/170; 713/173**

(58) **Field of Search** **713/150, 156, 713/168-170, 171, 173, 176, 189, 175; 380/277, 278, 279, 282, 285**

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Primary Examiner—Hosuk Song

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(74) *Attorney, Agent, or Firm*—Synnvestvedt & Lechner, LLP

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(57) **ABSTRACT**

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A method and system for efficiently establishing secure communications between mobile devices in a radio network. The present invention utilizes public key cryptography and unique hardware identifiers to enable authorizations for access to wireless networks, such as picocells. The present invention prevents the mobile user from maintaining a plurality of secrets such as user identifier/password pairs, PINs, or encryption keys, for access to each device to which he might require access.

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21 Claims, 9 Drawing Sheets

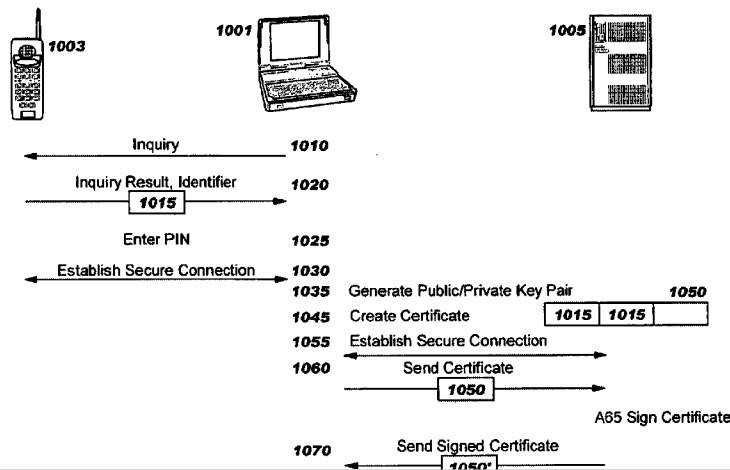


FIG. 1A

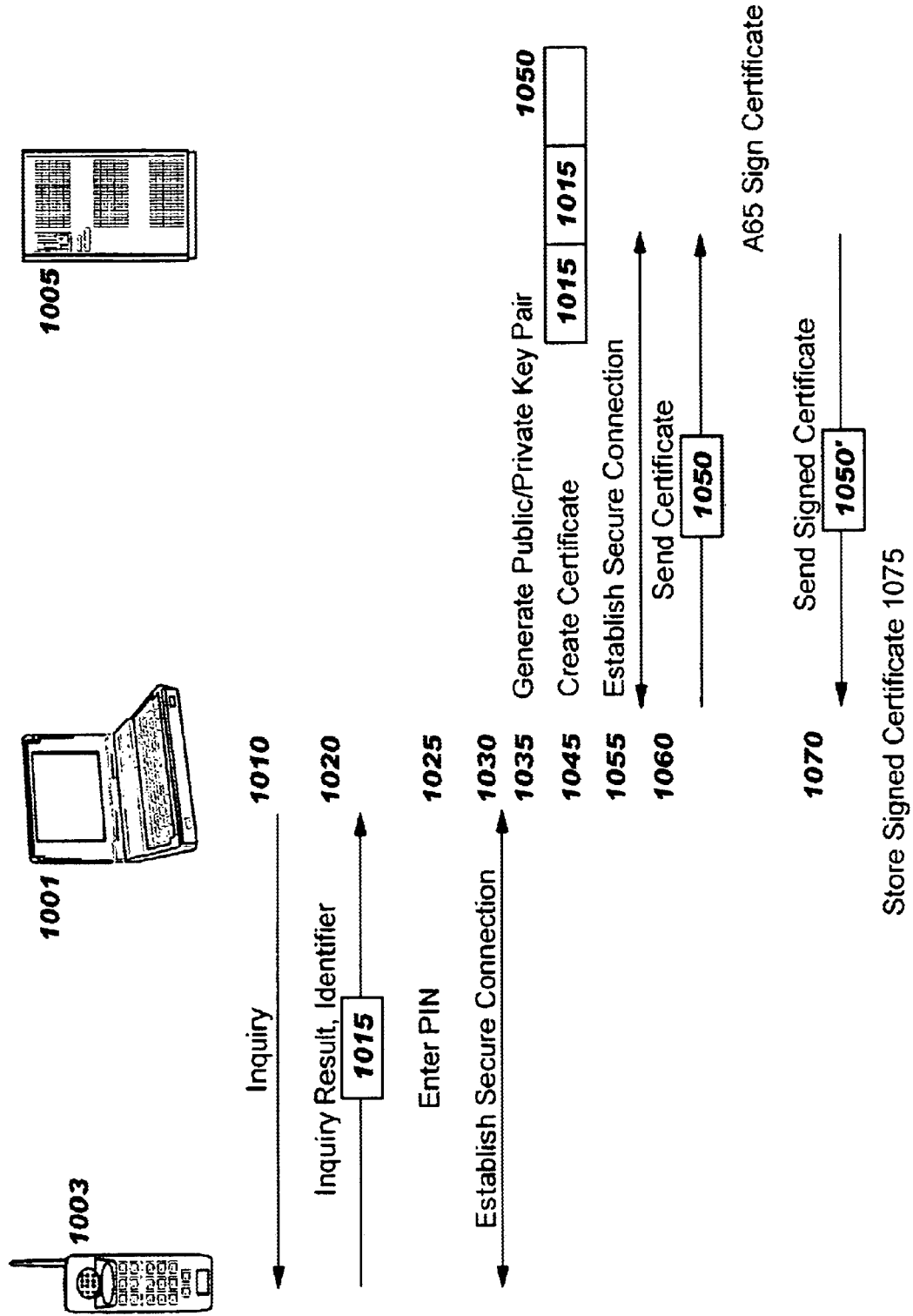
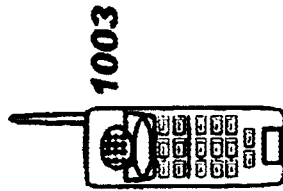
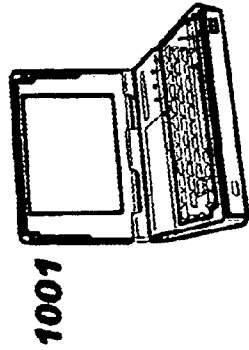
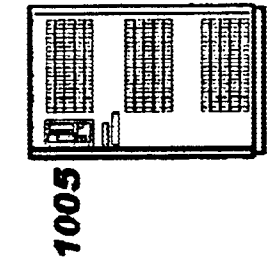


FIG. 1B



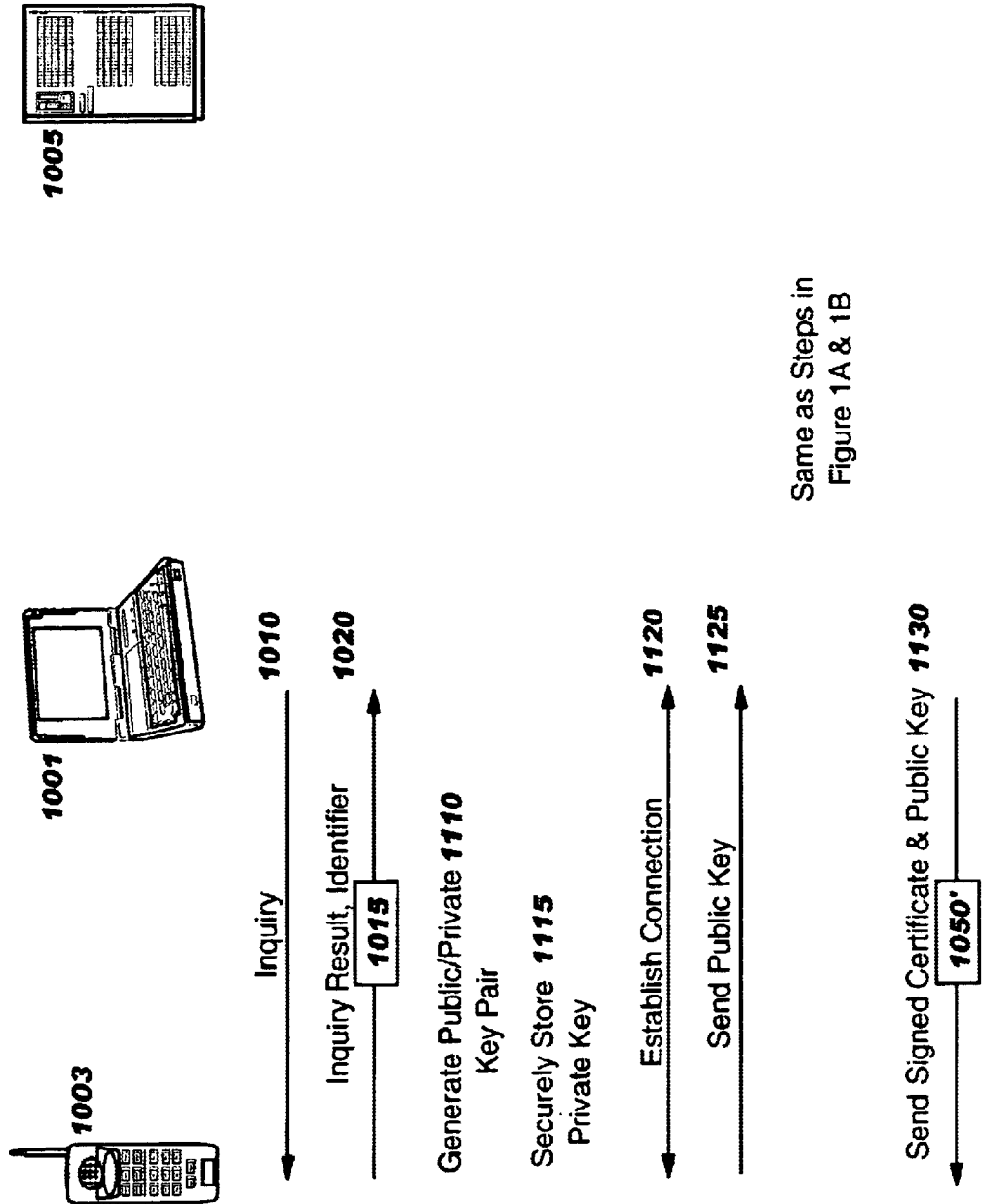
1080 → Send Cert. & Keys, Disconnect

Store Signed Certificate 1085
and Public Key

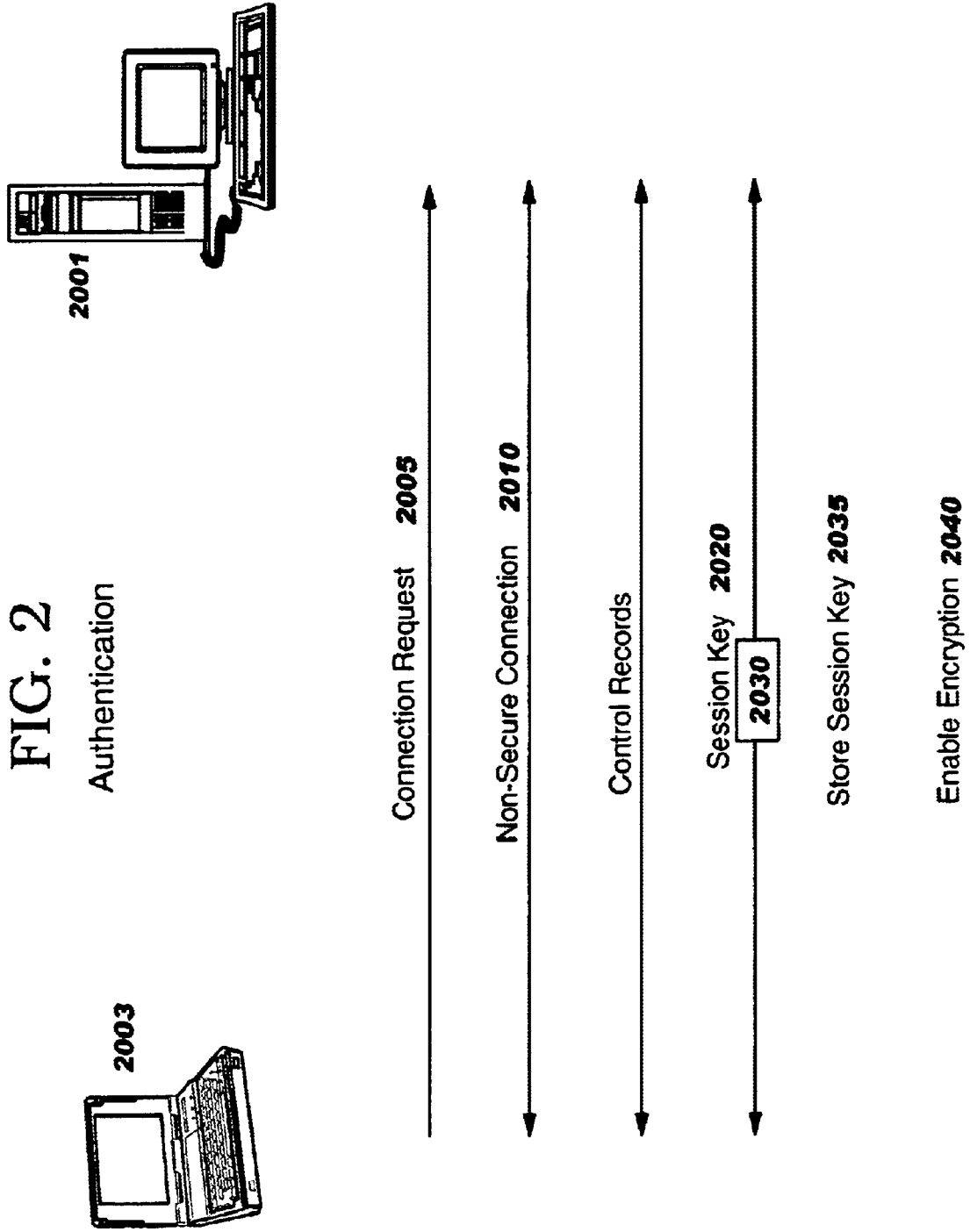
Store Private Key 1090
as Protected Value

Delete PIN 1095 Delete PIN

FIG. 1C



Same as Steps in Figure 1A & 1B



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