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Hind et al.

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

JP	06-237484	8/1994	.....	H04O/7/04
JP	07-193569	7/1995	.....	H04L/9/06
JP	08-507619	8/1996	.....	H04L/9/06
JP	10-507324	7/1998	H04L/9/32
JP	10-341224	12/1998	H04L/9/32
WO	0072506	11/2000	H04L/9/32

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OTHER PUBLICATIONS

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

ICPWC'99, IEEE, "System Design Issues for Low-Power, Low-Cost Short Range Wireless Networking", P. Bhagwat et al, IBM Thomas J. Watson Research Center, New York, pp. 264-268.

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

IEEE Personal Communications, Dec. 1998, WiSAP: A Wireless Personal Access Network for Handheld Computing Devices, C. Bisdikian et al, pp. 18-25.

(21) Appl. No.: **09/316,805**

"Bluetooth Feasibility Analysis Summary" by David Moloney, SSL, Dublin, Ireland, Jan. 1999, Document FLY-005.

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

"A View of Certificate Technology in Internet/Intranet Communications" by John R. Hind, <http://c48jrh1.raleigh.ibm.com/web-Overview-of-Certificates.htm>, pp. 1-12.

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

Bluetooth Technology: The Convergence of Communications And Computing by Andrew Seybold, <http://www.gsm-data.com/artblue.htm>, pp. 1-4.

(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**

* cited by examiner

(56) **References Cited**

Primary Examiner—Hosuk Song

U.S. PATENT DOCUMENTS

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

5,299,263	A	3/1994	Beller et al.	.....	380/30
5,473,692	A	12/1995	Davis	.....	380/25
5,621,798	A	4/1997	Aucsmith et al.		
5,949,877	A	* 9/1999	Traw et al.	.....	713/171
6,178,409	B1	* 1/2001	Weber et al.	.....	705/79
6,493,825	B1	* 12/2002	Blumenau et al.	.....	713/168
6,542,610	B1	* 4/2003	Traw et al.	.....	380/262

FOREIGN PATENT DOCUMENTS

DE	19730301	7/1997	.....	H04L/9/32
JP	02-301241	12/1990	.....	H04L/9/06
JP	04-117826	4/1992	.....	H04L/9/28
JP	04-129441	4/1992	.....	H04L/9/28
JP	04-191787	7/1992	.....	G09C/1/00

(57) **ABSTRACT**

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.

21 Claims, 9 Drawing Sheets

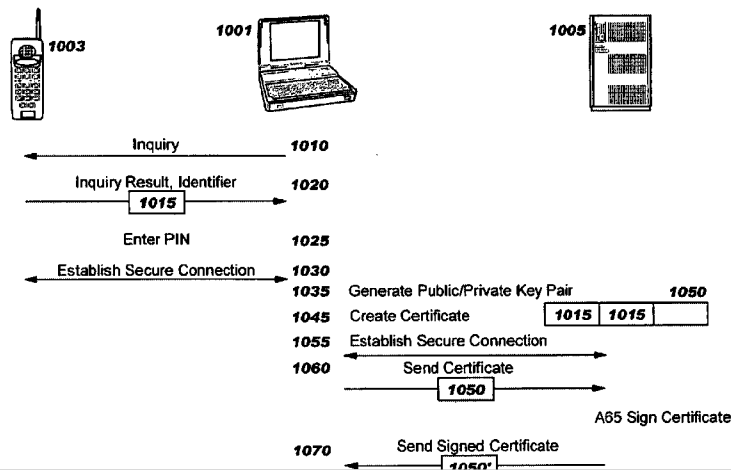


FIG. 1A

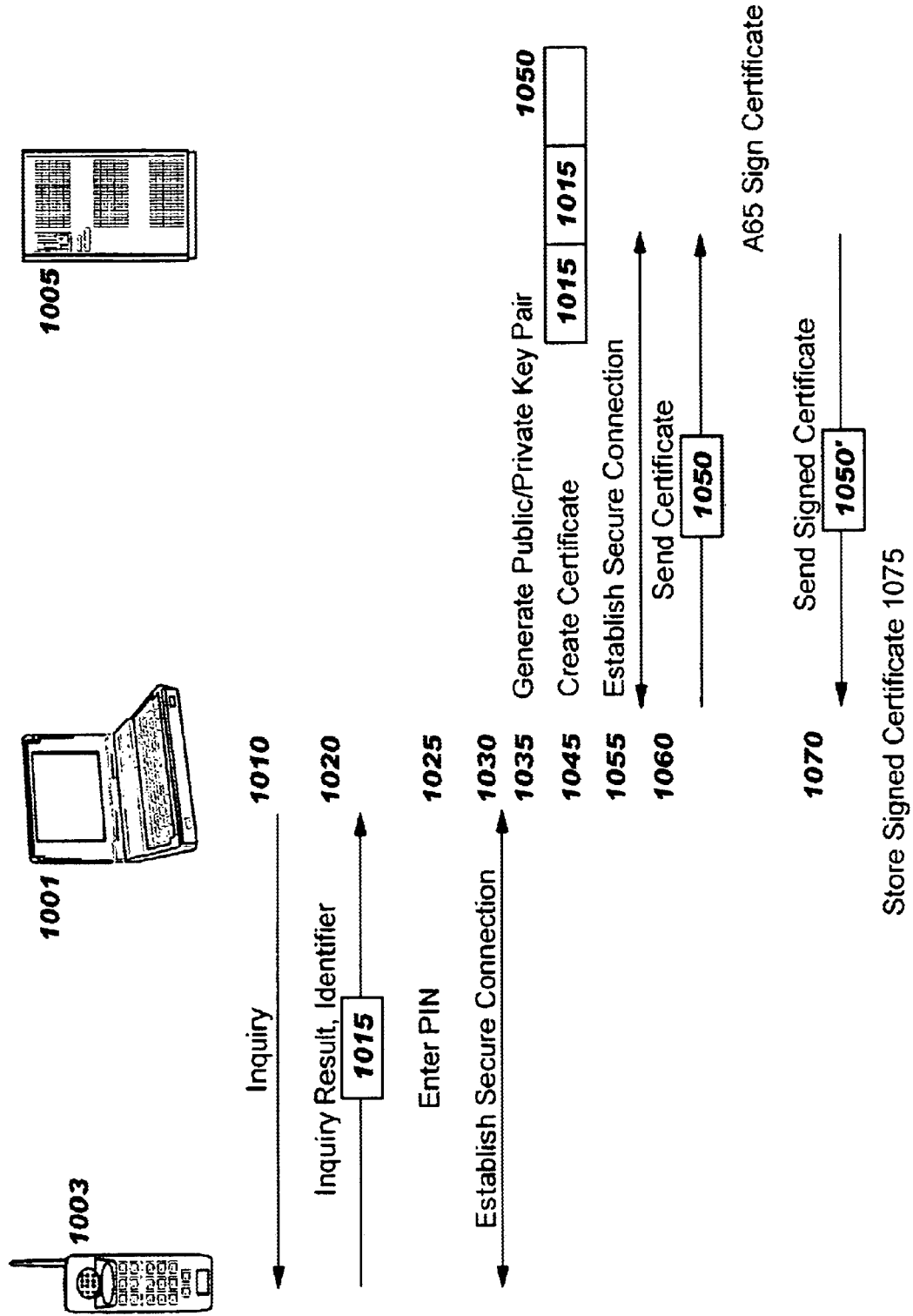
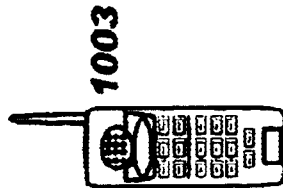
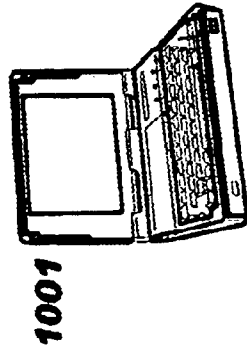
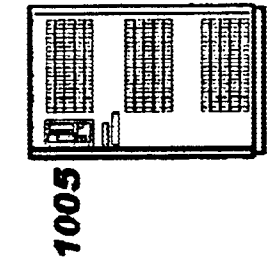


FIG. 1B



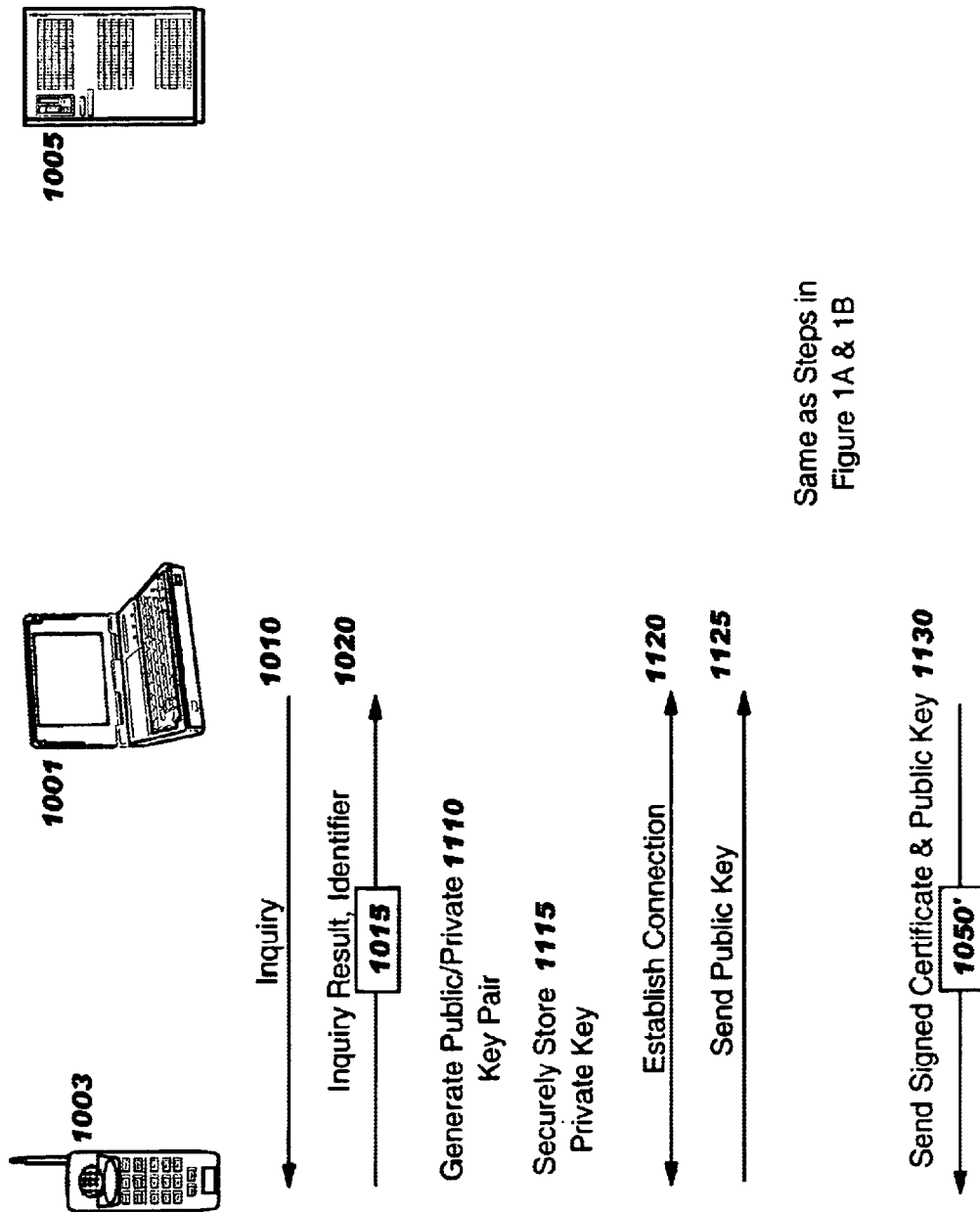
1080 → Send Cert. & Keys, Disconnect

Store Signed Certificate 1085
and Public Key

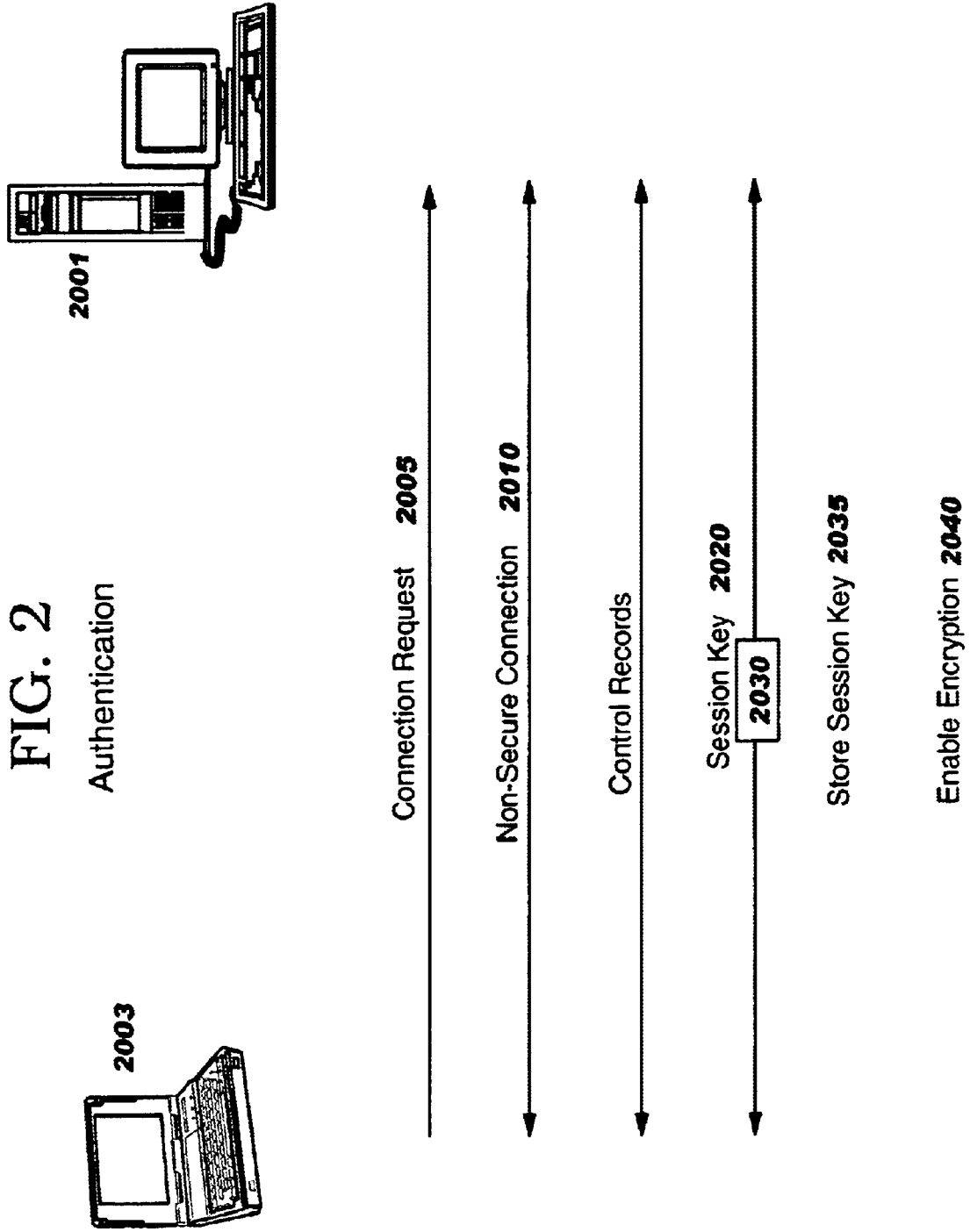
Store Private Key 1090
as Protected Value

Delete PIN 1095 Delete PIN

FIG. 1C



Same as Steps in Figure 1A & 1B



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