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**Holtmanns et al.**

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(45) **Date of Patent:** **Dec. 8, 2009**

(54) **METHODS, SYSTEM AND MOBILE DEVICE CAPABLE OF ENABLING CREDIT CARD PERSONALIZATION USING A WIRELESS NETWORK**

7,023,994	B1 *	4/2006	Dupre	380/247
2002/0164031	A1 *	11/2002	Piikivi	380/270
2004/0168063	A1 *	8/2004	Revital et al.	713/172
2006/0265595	A1 *	11/2006	Scottodiluzio	713/180

**FOREIGN PATENT DOCUMENTS**

DE	10 2005 025 684	A1	8/2006
EP	1 408 669	A1	4/2004

**OTHER PUBLICATIONS**

3GPP TR 33.919, 3<sup>rd</sup> Generation Partnership Project; Technical Specification Group Services and System Aspects; 3G Security; Generic Authentication Architecture (GAA); System Description (Release 6), Technical Report, Mar. 2005, Version 6.2.0, pp. 1-13, 3<sup>rd</sup> Generation Partnership Project.

(Continued)

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(57) **ABSTRACT**

Methods of creating a secure channel over which credit card personalization data can be transmitted over the air (OTA) are provided. In particular, Generic Authentication Architecture (GAA) may be used to establish a secure communication channel between the user equipment (UE) and a personalization application server or bureau acting as a network application function (NAF) server. An user equipment, personalization application service (e.g., a NAF server), a system embodying a personalization application server and an user equipment, and a computer program product are also provided for creating a secure channel, such as via GAA, over which credit card personalization data can be transmitted OTA.

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(73) Assignee: **Nokia Corporation**, Espoo (FI)

(\* ) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 686 days.

(21) Appl. No.: **11/237,811**

(22) Filed: **Sep. 28, 2005**

(65) **Prior Publication Data**

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**Related U.S. Application Data**

(60) Provisional application No. 60/659,258, filed on Mar. 7, 2005.

(51) **Int. Cl.**  
**H04K 1/00** (2006.01)

(52) **U.S. Cl.** ..... **235/380; 380/247**

(58) **Field of Classification Search** ..... **235/380; 380/247; 455/411; 713/168**

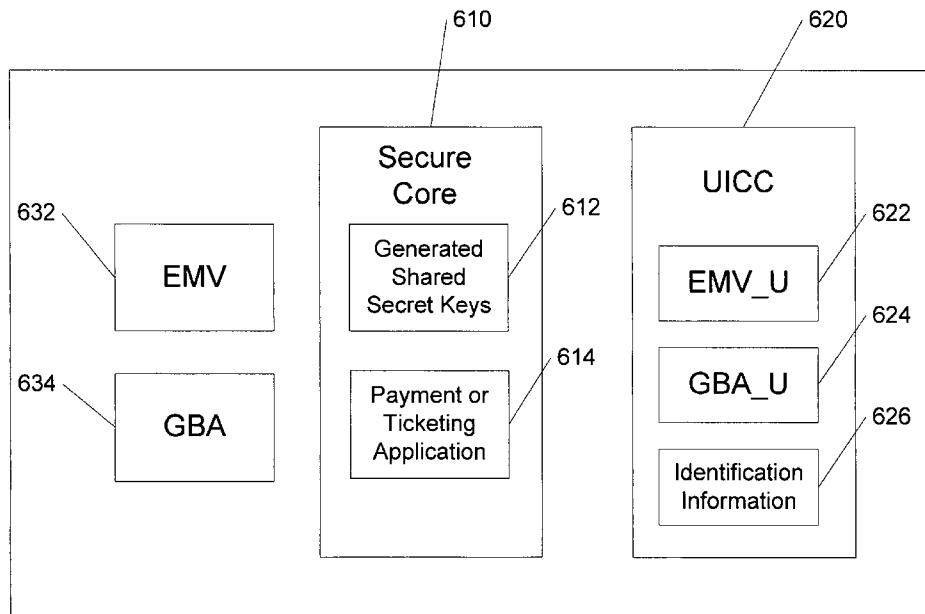
See application file for complete search history.

(56) **References Cited**

**U.S. PATENT DOCUMENTS**

5,557,679 A 9/1996 Julin et al.

**47 Claims, 14 Drawing Sheets**



OTHER PUBLICATIONS

Niemi et al., Network Working Group Request for Comment: 3310, Hypertext Transfer Protocol (HTTP) Digest Authentication Using Authentication and Key Agreement (AKA), Technical Specification, Retrieved Aug. 4, 2005 from Internet Site <ftp://ftp.rfc-editor.org/in-notes/rfc3310.txt>, pp. 1-17.

3GPP TS 33.220, 3<sup>rd</sup> Generation Partnership Project; Technical Specification Group Services and System Aspects; Generic Authentication Architecture (GAA); Generic Bootstrapping Architecture (Release 7), Technical Specification, Jun. 2005, Version 7.0.0, pp.

1-41, 3<sup>rd</sup> Generation Partnership Project.

Calhoun et al., Network Working Group Request for Comment: 3588, Diameter Base Protocol, Technical Specification, Retrieved Aug. 4, 2005 from Internet Site <http://www.ietf.org/rfc/rfc3588.txt>, pp. 1-138.

Global Platform, Card Specification, Technical Specification, Mar. 2003, pp. 1-237, Version 2.1.1, Global Platform, Inc., USA.

International Search Report for PCT/IB2006/000412 dated Aug. 29, 2006.

\* cited by examiner

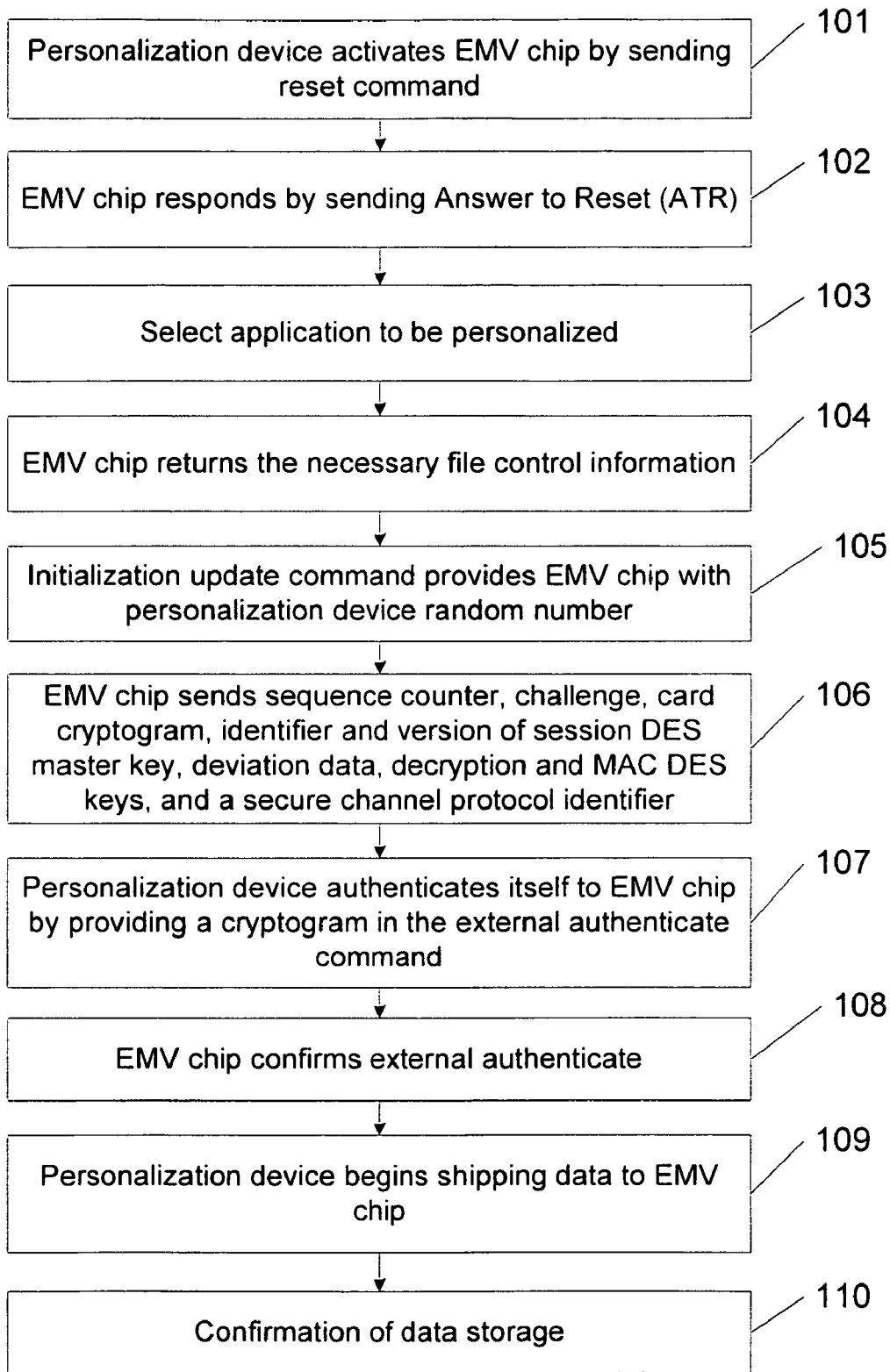


FIG. 1  
(Prior Art)

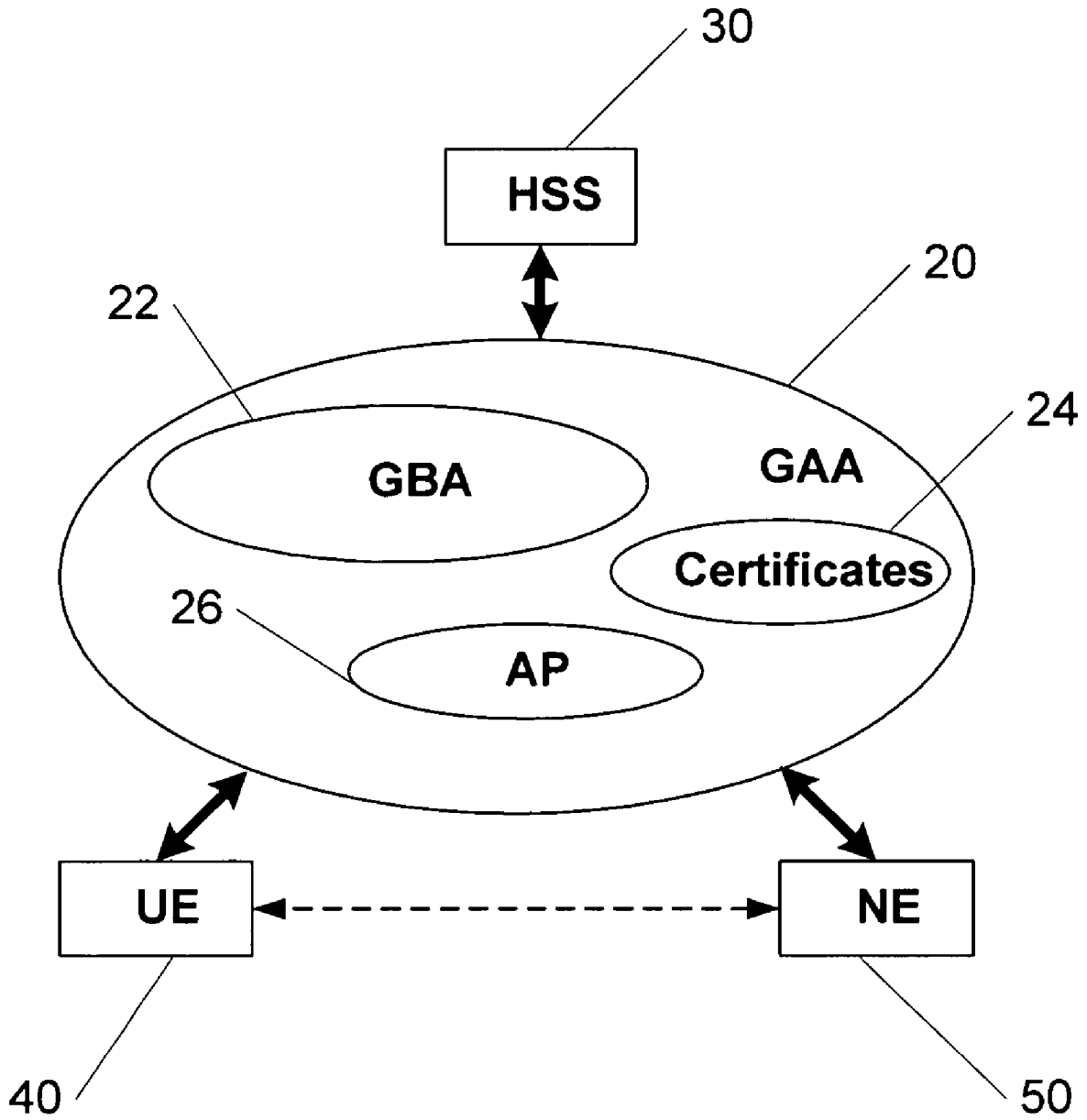


FIG. 2  
(Prior Art)

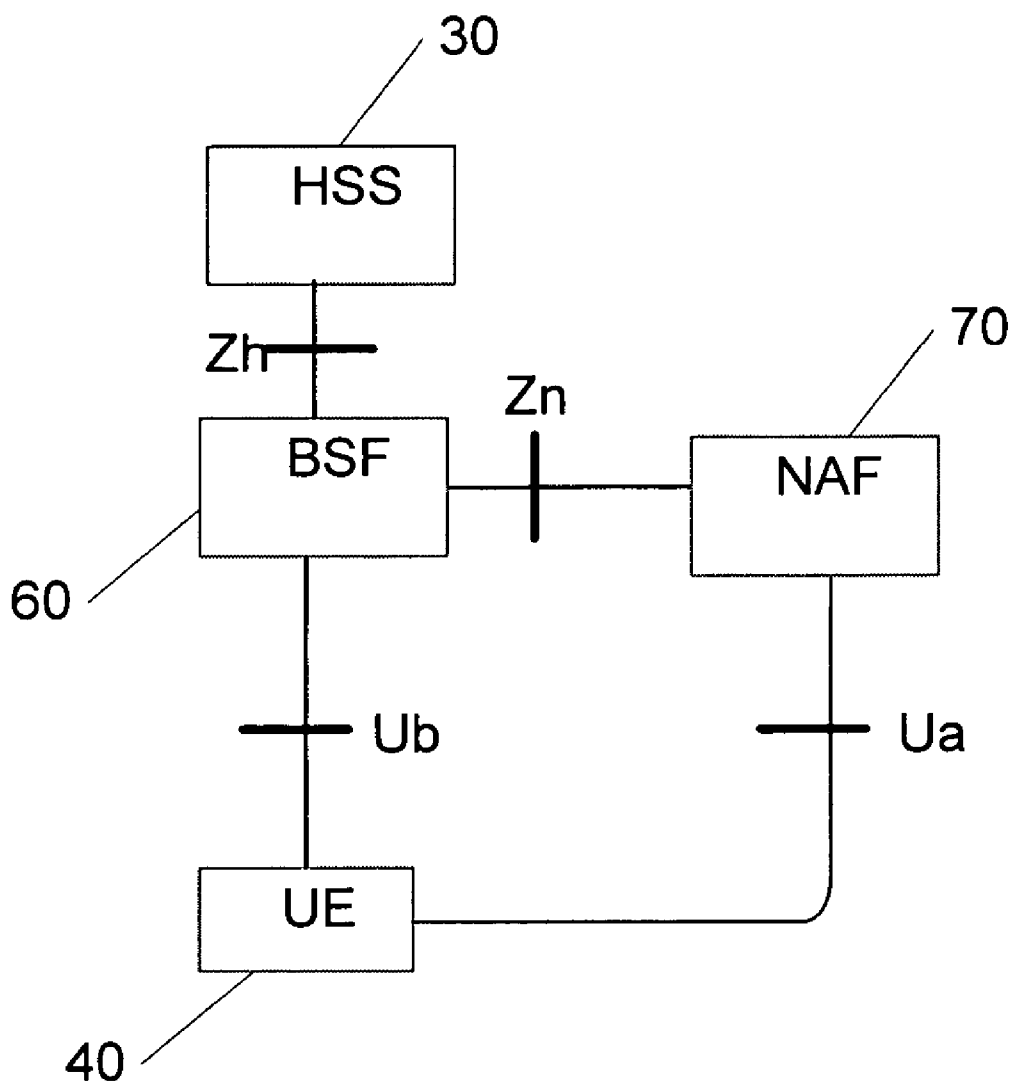


FIG. 3  
(Prior Art)

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