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(54) Title: ACCESS SYSTEM UTILIZING MULTIPLE FACTOR IDENTIFICATION AND AUTHENTICATION

(57) Abstract: A method of securing an object at an access level includes selecting a profile for a user, including a credential having an encrypted credential public key, an encrypted credential public key encryption key, and a multiple-level access identifier. A working key is generated by binding a domain value with a random value. The object is encrypted with the working key. A random value encryption key is generated based on the shared value by decrypting the credential public key encryption key with the profile key encryption key, decrypting the credential public key with the credential public key encryption key, generating an ephemeral key pair, and generating a shared value based on the ephemeral private key and the credential public key. The random value is encrypted with the random value encryption key, and the encrypted object, the ephemeral public key, and the encrypted random value are provided for an authorized recipient. Authenticating the identity of a user to determine authorization for access to the system includes providing a plurality of factor-based data instances corresponding to a user, evaluating the factor-based data instances to determine if the user's identity is authenticated, and granting or restricting the user's access to the system if the user's identity is authenticated.

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US03/02931

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : H04L 9/32
 US CL : 713/186

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
 U.S. : 713/202, 166, 184-186; 380/23

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
 Please See Continuation Sheet

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5,280,527 A (GULLMAN et al.) 18 January 1994 (18.01.1994), abstract, col. 2, lines 48-65, col. 4, lines 3-22, col. 7, lines 1-33.	1-6,59
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Y		7-30,31,38
Y	US 6,317,834 B1 (GENNARO et al.) 13 November 2001 (13.11.2001), abstract, col. 2, lines 6-21, Fig. 5 and 6, col.1, lines 40-55, col. 9, lines 31-46, Fig. 7a.	7-30, 31,38
Y	US 5,499,297 A (BOEBERT) 12 March 1996 (12.03.1996), the entire document.	31-58

Further documents are listed in the continuation of Box C.

See patent family annex.

* Special categories of cited documents:	"T"
"A" document defining the general state of the art which is not considered to be of particular relevance	later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"E" earlier application or patent published on or after the international filing date	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"O" document referring to an oral disclosure, use, exhibition or other means	"&" document member of the same patent family
"P" document published prior to the international filing date but later than the priority date claimed	

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INTERNATIONAL SEARCH REPORT

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Continuation of B. FIELDS SEARCHED Item 3:

West, Dialog, Proquest, Google: Search terms: authenticat\$4 same biometric, access adj control same biometric, access adj level\$2 same biometric and profile