SYSTEM AND METHOD FOR DYNAMIC DATA SECURITY OPERATIONS

Abstract: This present invention provides users with secure transparent electronic communication, allowing them to send and receive encrypted and/or signed messages with little or no user involvement. In various embodiments, the present invention provides a user with e-mail security via automated hierarchical techniques for transparently sending and receiving secure messages, lowers the burden on administrators, and allows for a public key infrastructure (PKI) to be dynamically constructed and operated. Such a system can also manage cryptographic keys and certificates for the users, and create such keys and certificates for the users when necessary. The server can also receive an indication that a user has been properly authenticated, check whether the user has a cryptographic key, and automatically create a key if the user does not have one, thereby automatically registering the user within a community and allowing the user to transparently send and receive secure electronic messages.
(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:
— with international search report

— before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

(88) Date of publication of the international search report: 4 November 2004

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.
INTERNATIONAL SEARCH REPORT

INTERNATIONAL APPLICATION NO.
PCT/US04/00226

A. CLASSIFICATION OF SUBJECT MATTER
   IPC(7) : H04L 009/00
   US CL : 713/153
   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. : 713/153, 201, 158, 153, 154, 175; 709/206
   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

<table>
<thead>
<tr>
<th>Category</th>
<th>Citation of document, with indication, where appropriate, of the relevant passages</th>
<th>Relevant to claim No.</th>
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<tr>
<td>X</td>
<td>US 6,356,937 B1 (MONTVILLE et al.) 12 March 2002 (12.03.2002), see col. 22 paragraph 7-col. 23 paragraph 1.</td>
<td>6-7</td>
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<td>A</td>
<td>US 5,261,002 A (PERLMAN et al.) 09 November 1993 09.11.1993.</td>
<td>1-12</td>
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<td>US 5,671,279 A (ELGAMAL) 23 September 1997 (23.09.1997), see col. 18 lines 20-27.</td>
<td>8-11</td>
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<td>Y</td>
<td>GIAC Enterprises April 2002, see section 4.2(b).</td>
<td>10-11</td>
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Further documents are listed in the continuation of Box C. See patent family annex.

Date of the actual completion of the international search
30 June 2004 (30.06.2004)

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Form PCT/ISA/210 (second sheet) (July 1998)
Continuation of B. FIELDS SEARCHED Item 3:
EAST
certificate, proxy, alias