(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
29 December 2004 (29.12.2004)

PCT

(10) International Publication Number
WO 2004/114575 A3

(51) International Patent Classification[7]: H04L 9/30, 9/32

(21) International Application Number:
PCT/US2004/019437

(22) International Filing Date: 17 June 2004 (17.06.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/479,626 17 June 2003 (17.06.2003) US

(71) Applicant *(for all designated States except US)*: **VISA INTERNATIONAL SERVICE ASSOCIATION** [US/US]; P.O. Box 8999, San Francisco, CA 94128-8999 (US).

(72) Inventor; and

(75) Inventor/Applicant *(for US only)*: **SAHOTA, Jagdeep, Singh** [US/US]; 981 Coral Ridge Road, Rodeo, 94572 (US).

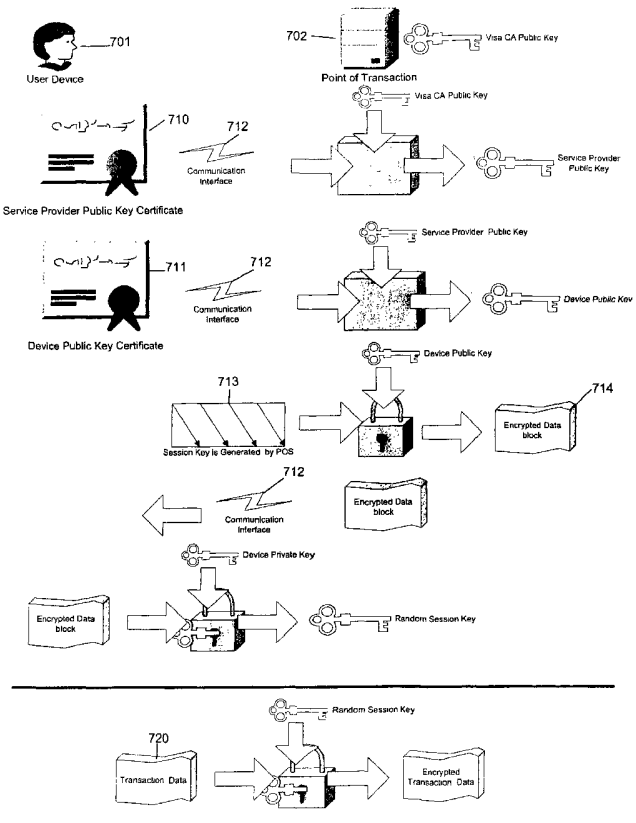
(74) Agent: **MELNIK, W., Joseph**; Pepper Hamilton LLP, One Mellon Center, 50th Floor, 500 Grant Street, Pittsburgh, PA 15219 (US).

(81) Designated States *(unless otherwise indicated, for every kind of national protection available)*: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States *(unless otherwise indicated, for every kind of regional protection available)*: ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,

[Continued on next page]

(54) Title: METHOD AND SYSTEMS FOR SECURELY EXCHANGING DATA IN AN ELECTRONIC TRANSACTION



(57) Abstract: Methods and systems of encrypting and authenticating transaction data via the use of encryption and authentication algorithms are disclosed. Encryption and decryption algorithms are stored within a computer-readable storage medium and executed by a processor on a user device (701). These algorithms are used when a transaction is initiated by the user device (701) with a point of transaction terminal (702) across a communication interface (712) to establish a secure connection for the transmission of data. Data relating to the transaction is then sent across the communication interface (712) through the secure connection.

WO 2004/114575 A3

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, PL, 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*

(88) Date of publication of the international search report:
31 March 2005

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/US04/19437

A. CLASSIFICATION OF SUBJECT MATTER
IPC(7) : 713/201; 705/52, 57; 380/30
US CL : H04L 9/30, 9/32
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. : 713/200, 201; 705/51, 52, 56, 57; 380/30, 201, 202, 203

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)
West

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 5,606,617 A (BRANDS) 25 February 1997, column 5, line 25 - column 7, line 59.	1-18
A	US 6,253,193 B1 (Ginter et al.) 26 June 2001, column 45, line 33 - column 47, line 22.	1-18

☐ Further documents are listed in the continuation of Box C. ☐ See patent family annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent published on or after the international filing date

"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)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" 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

"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

"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

"&" document member of the same patent family

Date of the actual completion of the international search
23 December 2004 (23.12.2004)

Date of mailing of the international search report
11 JAN 2005

Name and mailing address of the ISA/US
Mail Stop PCT, Attn: ISA/US
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450
Facsimile No. (703) 305-3230

Authorized officer
for Michelle L. Eason
Emmanuel L. Moise

Telephone No. (571)272-0800

Form PCT/ISA/210 (second sheet) (January 2004)