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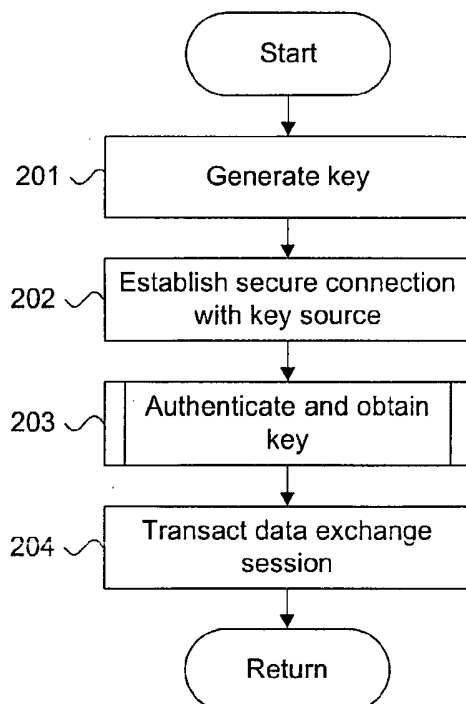
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[Continued on next page]

(54) Title: SECURELY AUTHENTICATING A DATA EXCHANGE SESSION WITH AN IMPLANTABLE MEDICAL DEVICE

200



(57) Abstract: A system (161) and method (200) for securely authenticating a data exchange session (182) with an implantable medical device (103) is presented. A crypto key (122) uniquely associated with an implantable medical device (103) is defined to authenticate data (131) during a data exchange session (182). A secure connection (181) is established from an external source (161) with a secure key repository (163) securely maintaining the crypto key (122). Authorization to access data (131) on the implantable medical device (103) is authenticated by securely retrieving the crypto key (122) from the secure key repository (163).

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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 No
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A. CLASSIFICATION OF SUBJECT MATTER		
G06F1/00	H04L9/00	H04L29/00 A61B5/00 A61N1/00
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)		
G06F H04L A61N		
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 practical, search terms used)		
EPO-Internal		
C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	SCHNEIER B: "Applied Cryptography, Second Edition" APPLIED CRYPTOGRAPHY. PROTOCOLS, ALGORITHMS, AND SOURCE CODE IN C, NEW YORK, JOHN WILEY & SONS, US, 1996, pages 31-42, XP002236553 ISBN: 0-471-11709-9 the whole document	1,30,59
Y	EP 0 756 397 A (HEWLETT-PACKARD COMPANY; AGILENT TECHNOLOGIES, INC.) 29 January 1997 (1997-01-29) abstract	1-10, 27-39, 56-59
Y	US 2002/065099 A1 (BJORND AHL PER ET AL) 30 May 2002 (2002-05-30) abstract	1-10, 27-39, 56-59
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<input checked="" type="checkbox"/> Further documents are listed in the continuation of box C. <input checked="" type="checkbox"/> Patent family members are listed in 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 document but 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		Date of mailing of the international search report
13 September 2005		14. 12. 2005
Name and mailing address of the ISA European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016		Authorized officer Meződi, S

INTERNATIONAL SEARCH REPORT

International Application No
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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 2001/027331 A1 (THOMPSON DAVID L) 4 October 2001 (2001-10-04) abstract	1-10, 27-39, 56-59
Y	US 6 434 429 B1 (KRAUS MICHAEL ET AL) 13 August 2002 (2002-08-13) abstract	1-10, 27-39, 56-59

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2005/008650

Box II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

1-10, 27-29, 30-39, 56-59

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-10, 27-29, 30-39, 56-59

using different interfaces for establishing and for transacting secure communication

This group also contains claims that do not include this feature but do not require an extra search

2. claims: 11-16, 40-45

maintaining the key in the medical device

3. claims: 17-20, 46-49

maintaining the key in a secure database

4. claims: 21-26, 50-55

maintaining the key in a token

INTERNATIONAL SEARCH REPORT

International Application No
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Patent document cited in search report		Publication date	Patent family member(s)	Publication date
EP 0756397	A	29-01-1997	NONE	
US 2002065099	A1	30-05-2002	US 6396612 B1	28-05-2002
US 2001027331	A1	04-10-2001	US 2005261934 A1	24-11-2005
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