

(43) International Publication Date
30 December 2009 (30.12.2009)(10) International Publication Number
WO 2009/156597 A3(51) International Patent Classification:
H04L 12/58 (2006.01) *H04L 29/06* (2006.01)
H04L 29/12 (2006.01)(21) International Application Number:
PCT/FI2009/050580(22) International Filing Date:
26 June 2009 (26.06.2009)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
20085663 27 June 2008 (27.06.2008) FI(71) Applicant (for all designated States except US): DELT-
AGON GROUP OY [FI/FI]; Itälahdenkatu 27 A,
FI-00210 Helsinki (FI).

(72) Inventor; and

(75) Inventor/Applicant (for US only): KOISTINEN, Pasi
[FI/FI]; Itälahdenkatu 27 A, FI-00210 Helsinki (FI).(74) Agent: PATENT AGENCY COMPATENT LTD.; Hit-
saajankatu 6, FI-00810 Helsinki (FI).(81) Designated States (unless otherwise indicated, for every
kind of national protection available): AE, AG, AL, AM,
AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ,
CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO,
DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT,
HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP,
KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD,
ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI,
NO, NZ, OM, PE, PG, PH, PL, PT, RO, RS, RU, SC, SD,
SE, SG, SK, SL, SM, ST, SV, SY, TJ, TM, TN, TR, TT,
TZ, UA, UG, US, UZ, VC, VN, 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,
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, HR, HU, IE, IS, IT, LT, LU, LV,
MC, MK, MT, NL, NO, PL, PT, RO, SE, SI, SK, TR),

[Continued on next page]

(54) Title: METHOD AND SYSTEM FOR PROTECTING CONFIDENTIALITY OF MESSAGES AND SEARCH DEVICE

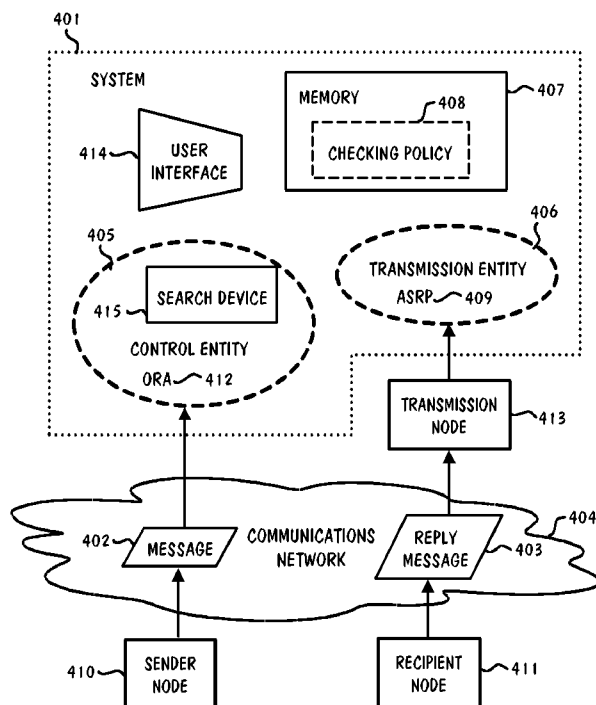


FIG. 4

(57) Abstract: The system according to the invention is intended to transmit an e-mail message (402) and a reply message (403) related to it securely over the Internet. In more detail, the system forces to use only secure paths over the Internet. The system comprises a control entity (405), a transmission entity (406), a memory (407) usable for the both entities, and checking policy stored in the memory. The control entity (405) receives the message (402), which the sender node (410) has addressed to the recipient node (411), and stores into the memory an original return address (ORA) included in the message. Then the control entity writes an address of a secure return path (ASRP) in a return address of the message so that the reply message (403) can be transmitted from the recipient node (411), along the secure return path, to the sender node (410) of the message. Finally, the control entity (405) transmits the message along a secure path to the recipient node (411). Assuming that the recipient of the message sends the reply message (403), the transmission entity (406) included in the system receives the reply message. Then, according to the checking policy, the transmission entity replaces the ASRP (409) included in the recipient address of the reply message with the ORA (412) read in the memory and transmits the reply message to the sender node (410). In addition to the system, the invention comprises a method and a search device.



OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML,
MR, NE, SN, TD, TG).

— *before the expiration of the time limit for amending the
claims and to be republished in the event of receipt of
amendments (Rule 48.2(h))*

Published:

— *with international search report (Art. 21(3))*

(88) Date of publication of the international search report:

7 October 2010

INTERNATIONAL SEARCH REPORT

International application No
PCT/FI2009/050580

A. CLASSIFICATION OF SUBJECT MATTER

INV. H04L12/58 H04L29/12 H04L29/06
ADD.

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)
H04L

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, WPI Data, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X A	US 6 643 687 B1 (DICKIE GARTH A [US] ET AL) 4 November 2003 (2003-11-04) * abstract column 2, line 58 - column 3, line 34; figure 1 column 5, line 3 - line 62; figure 4 -----	1-20 21-28
X A	US 2001/051990 A1 (SHIRAKAWA TAKAHISA [JP]) 13 December 2001 (2001-12-13) * abstract paragraph [0007] - paragraph [0008] paragraph [0022] - paragraph [0027]; figure 1 paragraph [0028] - paragraph [0038]; figure 2 ----- -/--	1-20 21-28

☒ 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 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

13 August 2010

Date of mailing of the international search report

19/08/2010

Name and mailing address of the ISA/

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040,
Fax: (+31-70) 340-3016

Authorized officer

Poppe, Fabrice

INTERNATIONAL SEARCH REPORT

International application No
PCT/FI2009/050580

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	MOCKAPETRIS ISI P: "DOMAIN NAMES - CONCEPTS AND FACILITIES; rfc1034.txt" 1 November 1987 (1987-11-01), IETF STANDARD, INTERNET ENGINEERING TASK FORCE, IETF, CH , XP015005973 ISSN: 0000-0003 the whole document	21-28
A	MOCKAPETRIS ISI P: "DOMAIN NAMES - IMPLEMENTATION AND SPECIFICATION; rfc1035.txt" 1 November 1987 (1987-11-01), IETF STANDARD, INTERNET ENGINEERING TASK FORCE, IETF, CH , XP015005974 ISSN: 0000-0003 the whole document	21-28

INTERNATIONAL SEARCH REPORT

International application No.
PCT/FI2009/050580

Box No. 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 No. 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 fees, this Authority did not invite payment of additional fees.
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.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.
- ☐ The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.
- ☒ 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: 1-20

method and system to protect confidentiality of contents of a message and a reply message in transmission occurring by e-mail in a communications network

2. claims: 21-28

search device for finding secure paths in a communications network

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/FI2009/050580

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 6643687	B1	04-11-2003	NONE
US 2001051990	A1	13-12-2001	JP 2001358750 A
			26-12-2001