

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
10 April 2008 (10.04.2008)

PCT

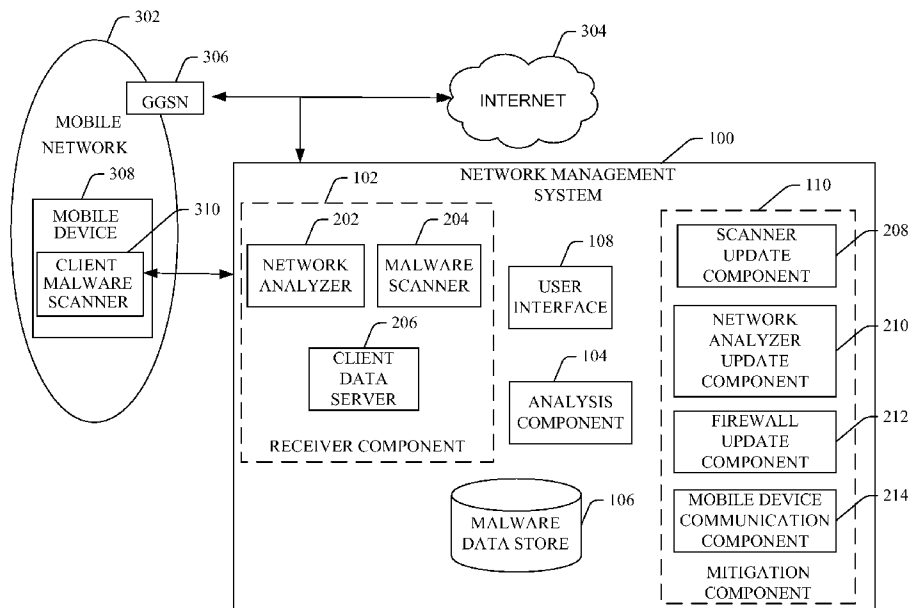
(10) International Publication Number
WO 2008/043109 A3

- (51) International Patent Classification:
G06F 15/173 (2006.01) *H04M 1/66* (2006.01)
- (21) International Application Number:
PCT/US2007/080865
- (22) International Filing Date: 9 October 2007 (09.10.2007)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
60/828,513 6 October 2006 (06.10.2006) US
60/828,500 6 October 2006 (06.10.2006) US
- (71) Applicant (for all designated States except US): **SMO-BILE SYSTEMS, INC.** [US/US]; 2020 Leonard Avenue, Columbus, OH 43220 (US).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): **TUVELL, George** [US/US]; 2020 Leonard Avenue, Columbus, OH 43220 (US). **JIANG, Chunyu** [CN/US]; 2401 McCauley Ct., Columbus, OH 43220 (US).
- (74) Agent: **DORTENZO, Megan**; Thompson Hine LLP, 127 Public Square, 3900 Key Center, Cleveland, OH 44114 (US).

- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, 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, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, 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, HU, IE, IS, IT, LT, LU, LV, MC, MT, 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
 - 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:
3 July 2008

(54) Title: SYSTEM AND METHOD OF REPORTING AND VISUALIZING MALWARE ON MOBILE NETWORKS



(57) Abstract: A network management system monitors malware within a mobile network. The system comprises a receiver component that obtains data regarding malware in the mobile network. The data is obtained from a first source and a second source, where the first source is of a different type than the second source. The monitoring system also includes an analysis component that generates a malware analysis of the mobile network as a function of the data.

WO 2008/043109 A3

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US 07/80865

A. CLASSIFICATION OF SUBJECT MATTER

IPC(8) - G06F 15/173, H04M 1/66 (2008.01)

USPC - 709/223, 455/410

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)
USPC: 709/223; 455/410

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
USPC: 455/403,410,423; 709/217, 219, 223-226; 726/22-27 (text search see terms below)

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
PubWEST(USPT,PGPB,EPAB,JPAB); Google Scholar, Google
Search Terms: malware, worm, virus, trojan, rootkit, spyware, adware, mobile, cell, bluetooth, wifi, network, firewall, analyzer, switch, router, gateway, device, phone, telephone, pda, packet

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X --- Y	US 2003/0115483 A1 (LIANG) 19 June 2003 (19.06.2003), para [0044], [0059]-[0063] and [0068]-[0073]	1, 4-5, 7-9, 19 ----- 2-3, 6, 10, 13, 15, 20
Y	US 6,970,697 B2 (KOUZNETSOV et al.) 29 November 2005 (29.11.2005), col 3, ln 2-22; col 20, ln 60-67 and col 21 ln 1-14	2-3, 10, 17-18, 20
X --- Y	US 2006/0174028 A1 (ZHU) 03 August 2006 (03.08.2006), para [0018], [0040]-[0041], [0050], [0061]-[0063], [0083] and [0093]	11-12, 14, 16 ----- 6, 13, 15, 17-18

Further documents are listed in the continuation of Box C.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance	"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
"E" earlier application or patent but 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	

Date of the actual completion of the international search
20 March 2008 (20.03.2008)

Date of mailing of the international search report
08 MAY 2008

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. 571-273-3201

Authorized officer:
Lee W. Young

PCT Helpdesk: 571-272-4300
PCT OSP: 571-272-7774