



US006804780B1

(12) **United States Patent**
Touboul

(10) **Patent No.:** **US 6,804,780 B1**
(45) **Date of Patent:** ***Oct. 12, 2004**

(54) **SYSTEM AND METHOD FOR PROTECTING A COMPUTER AND A NETWORK FROM HOSTILE DOWNLOADABLES**

(75) Inventor: **Shlomo Touboul, Kefar-haim (IL)**

(73) Assignee: **Finjan Software, Ltd., Netanya (IL)**

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

This patent is subject to a terminal disclaimer.

(21) Appl. No.: **09/539,667**

(22) Filed: **Mar. 30, 2000**

Related U.S. Application Data

(63) Continuation of application No. 08/964,388, filed on Nov. 6, 1997, now Pat. No. 6,092,194.

(60) Provisional application No. 60/030,639, filed on Nov. 8, 1996.

(51) **Int. Cl.**⁷ **H04L 9/00; G06F 11/30**

(52) **U.S. Cl.** **713/181; 713/201; 713/176; 717/178**

(58) **Field of Search** **713/200, 201, 713/176, 181; 709/223, 225, 227, 229; 717/168-178**

(56) **References Cited**

U.S. PATENT DOCUMENTS

5,077,677 A 12/1991 Murphy et al.
5,359,659 A 10/1994 Rosenthal
5,361,359 A 11/1994 Tajalli et al.
5,485,409 A 1/1996 Gupta et al.
5,485,575 A 1/1996 Chess et al.

5,572,643 A 11/1996 Judson
5,579,509 A * 11/1996 Furtney et al. 703/27
5,606,668 A 2/1997 Shwed
5,623,600 A 4/1997 Ji et al.
5,638,446 A 6/1997 Rubin
5,692,047 A 11/1997 McManis
5,692,124 A 11/1997 Holden et al.
5,720,033 A 2/1998 Deo
5,724,425 A 3/1998 Chang et al.
5,740,248 A 4/1998 Fieres et al.
5,761,421 A 6/1998 van Hoff et al.

(List continued on next page.)

FOREIGN PATENT DOCUMENTS

EP 1091276 A1 * 4/2001 G06F/1/00
EP 1132796 A1 * 9/2001 G06F/1/00

OTHER PUBLICATIONS

Khare, "Microsoft Authenticode Analyzed" Jul. 22, 1996, xent.com/FoRK-archivе/summer96/0338.html, p. 1-2.*

(List continued on next page.)

Primary Examiner—Ayaz Sheikh

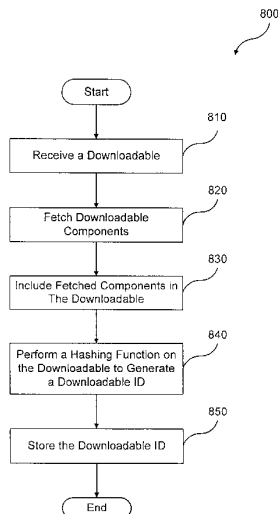
Assistant Examiner—Christopher Revak

(74) *Attorney, Agent, or Firm*—Squire, Sanders & Dempsey, L.L.P.

(57) **ABSTRACT**

A computer-based method for generating a Downloadable ID to identify a Downloadable, including obtaining a Downloadable that includes one or more references to software components required by the Downloadable, fetching at least one software component identified by the one or more references, and performing a function on the Downloadable and the fetched software components to generate a Downloadable ID. A system and a computer-readable storage medium are also described and claimed.

18 Claims, 10 Drawing Sheets



U.S. PATENT DOCUMENTS

5,765,205	A	6/1998	Breslau et al.	
5,784,459	A	7/1998	Devarakonda et al.	
5,796,952	A	8/1998	Davis et al.	
5,805,829	A	9/1998	Cohen et al.	
5,832,208	A	11/1998	Chen et al.	
5,832,274	A	* 11/1998	Cutler et al.	717/171
5,850,559	A	12/1998	Angelo et al.	
5,859,966	A	1/1999	Hayman et al.	
5,864,683	A	1/1999	Boebert et al.	
5,892,904	A	4/1999	Atkinson et al.	
5,951,698	A	9/1999	Chen et al.	
5,956,481	A	9/1999	Walsh et al.	
5,974,549	A	10/1999	Golan	
5,978,484	A	* 11/1999	Apperson et al.	705/54
5,983,348	A	11/1999	Ji	
6,092,194	A	* 7/2000	Touboul	713/200
6,154,844	A	* 11/2000	Touboul et al.	713/201
6,339,829	B1	* 1/2002	Beadle et al.	713/201

OTHER PUBLICATIONS

"Release Notes for the Microsoft ActiveX Development Kit", Aug. 13, 1996, activex.adsp.or.jp/inetsdk/readme.txt, p. 1-10.*

"Microsoft ActiveX Software Development Kit" Aug. 12, 1996, activex.adsp.or.jp/inetsdk/help/overview.htm, p. 1-6.*

Doyle et al., "Microsoft Press Computer Dictionary" 1993, Microsoft Press, 2nd Edition, p. 137-138.*

Schmitt, ".EXE files, OS-2 style" Nov. 1988, PC Tech Journal via dialog search, vol. 6, #11, p. 76-78.*

Jim K. Omura, "Novel Applications of Cryptography in Digital Communications", IEEE Communications Magazine, May, 1990; pp. 21-29.

Okamoto, E. et al., "ID-Based Authentication System For Computer Virus Detection", IEEE/IEE Electronic Library online, Electronics Letters, vol. 26, Issue 15, ISSN 0013/5194, Jul. 19, 1990, Abstract and pp. 1169-1170. URL: <http://iel.ihb.com:80/cgi-bin/iel.cgi?se2ehts%26ViewTemplate%3ddocview%5fb%2ehts>.

IBM AntiVirus User's Guide Version 2.4, International Business Machines Corporation, Nov. 15, 1995, pp. 6-7.

Norvin Leach et al., "IE 3.0 Applets Will Earn Certification", PC Week, vol. 13, No. 29, Jul. 22, 1996, 2 pages.

"Finjan Software Releases SurfinBoard, Industry's First JAVA Security Product For the World Wide Web", Article published on the Internet by Finjan Software Ltd., Jul. 29, 1996, 1 page.

"Powerful PC Security for the New World of Java™ and Downloadables, Surfin Shield™" Article published on the Internet by Finjan Software Ltd., 1996, 2 Pages.

Microsoft® Authenticode Technology, "Ensuring Accountability and Authenticity for Software Components on the Internet", Microsoft Corporation, Oct. 1996, including Abstract, Contents, Introduction and pp. 1-10.

"Finjan Announces a Personal Java™ Firewall For Web Browsers—the SurfinShield™ 1.6 (formerly known as SurfinBoard)", Press Release of Finjan Releases SurfinShield 1.6, Oct. 21, 1996, 2 pages.

Company Profile "Finjan—Safe Surfing, The Java Security Solutions Provider", Article published on the Internet by Finjan Software Ltd., Oct. 31, 1996, 3 pages.

"Finjan Announces Major Power Boost and New Features for SurfinShield™ 2.0" Las Vegas Convention Center/Pavilion 5 P5551, Nov. 18, 1996, 3 pages.

"Java Security: Issues & Solutions" Article published on the Internet by Finjan Software Ltd., 1996, 8 pages.

"Products" Article published on the Internet, 7 pages.

Mark LaDue, "Online Business Consultant: Java Security: Whose Business Is It?" Article published on the Internet, Home Page Press, Inc. 1996, 4 pages.

Web Page Article "Frequently Asked Questions About Authenticode", Microsoft Corporation, last updated Feb. 17, 1997, Printed Dec. 23, 1998. URL: <http://www.microsoft.com/workshop/security/authcode/signfaq.asp#9>, pp. 1-13.

Zhang, X.N., "Secure Code Distribution", IEEE/IEE Electronic Library online, Computer, vol. 30, Issue 6, Jun., 1997, pp. 76-79.

* cited by examiner

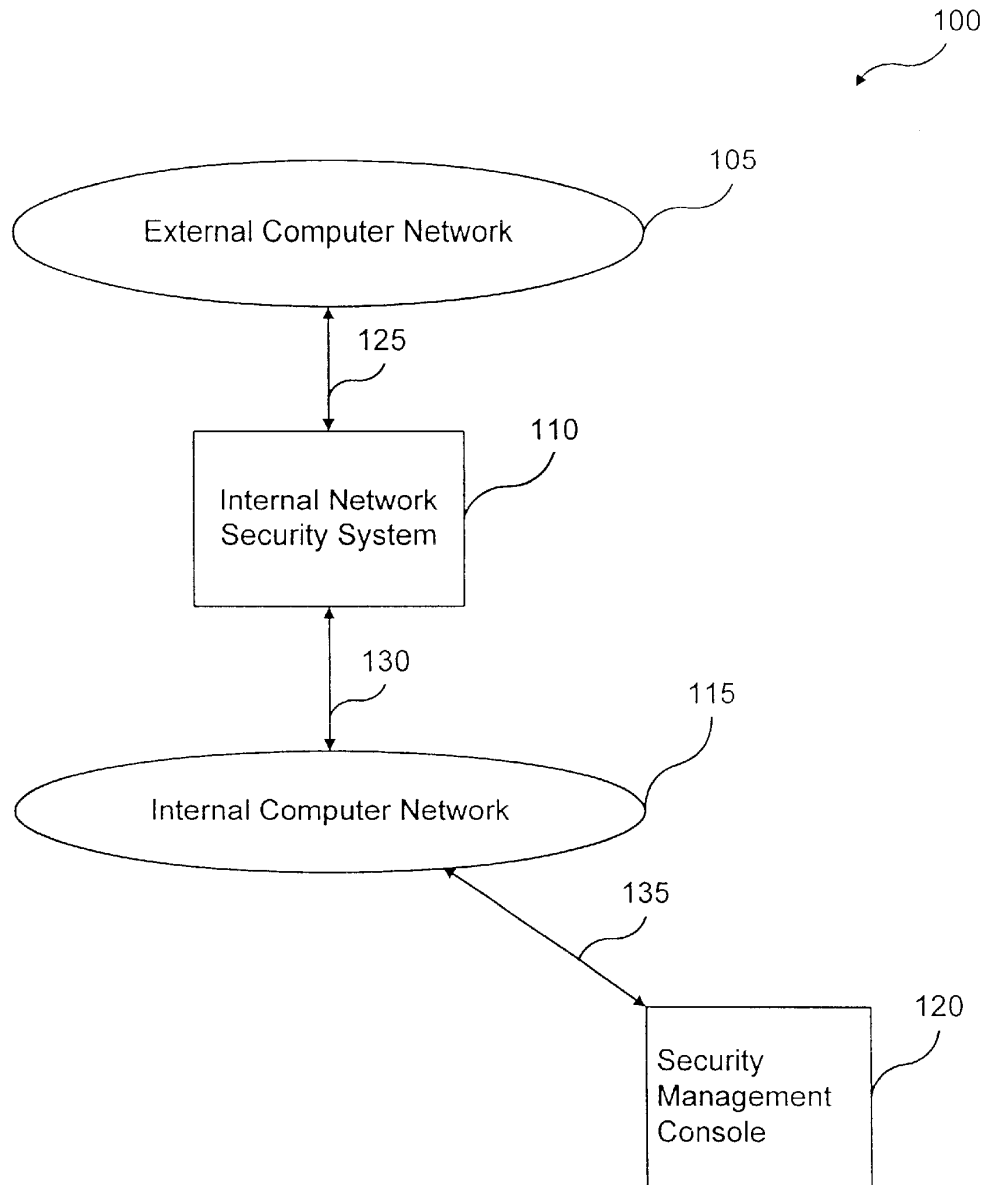


FIG. 1

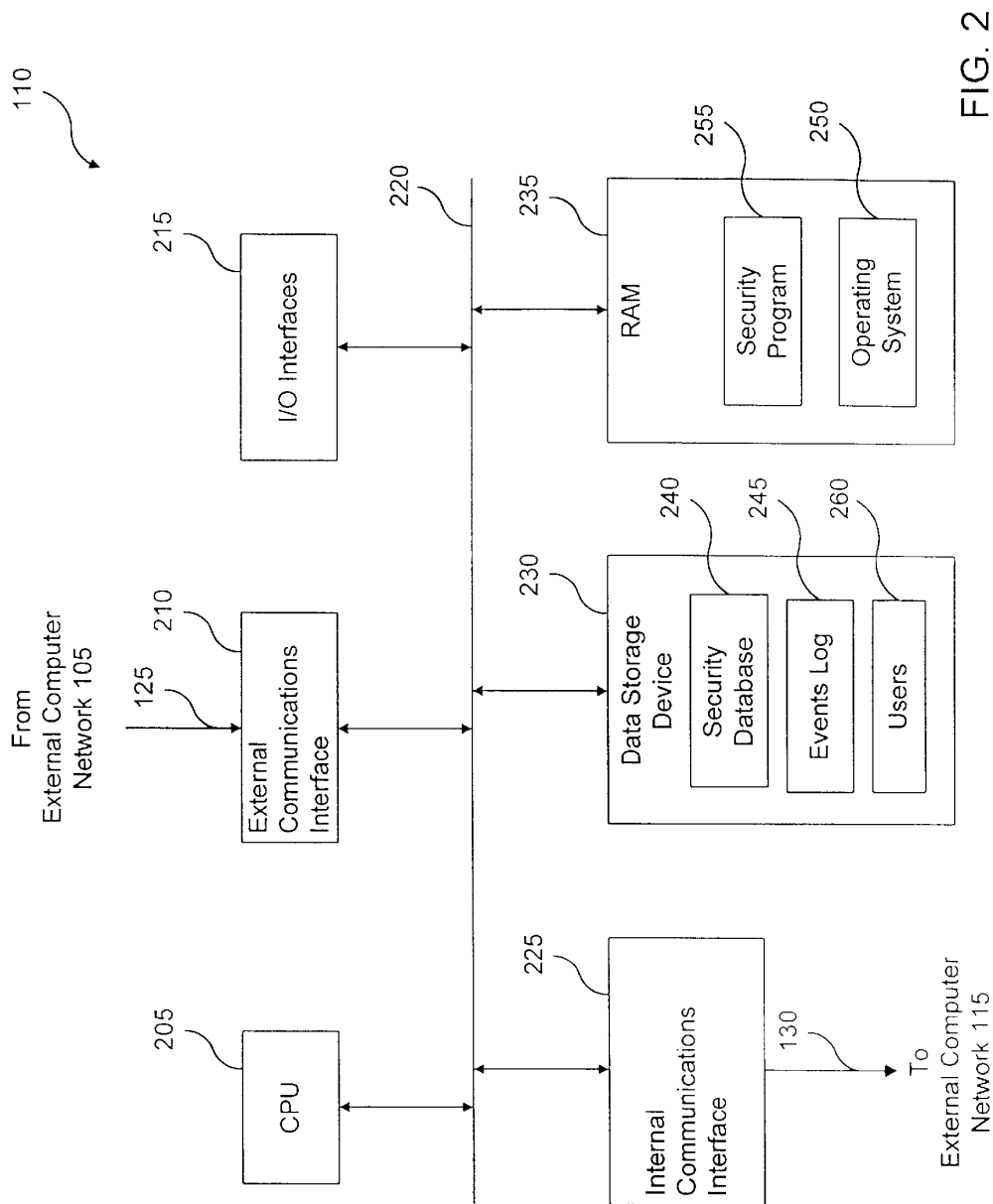
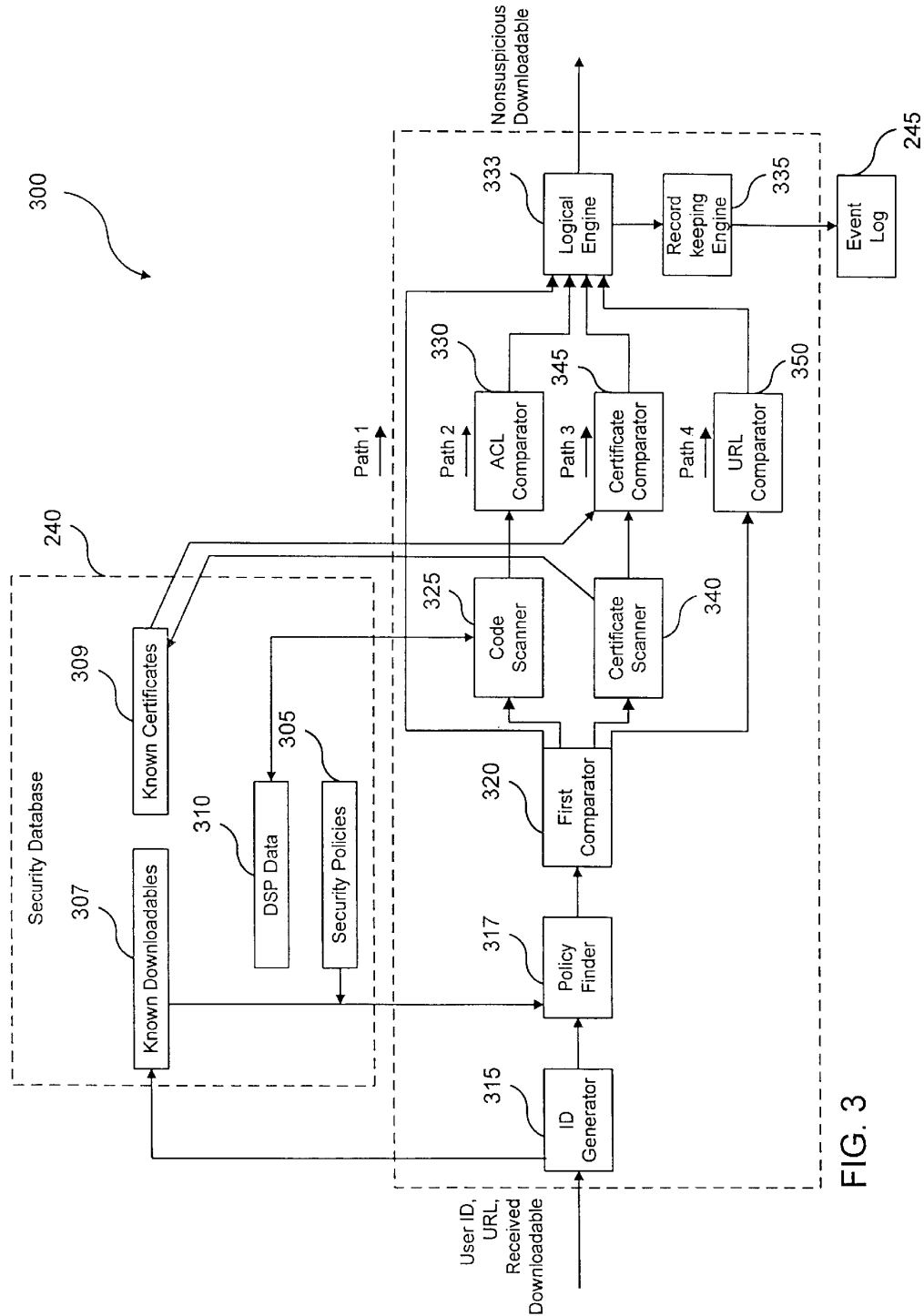


FIG. 2



Explore Litigation Insights

Docket Alarm provides insights to develop a more informed litigation strategy and the peace of mind of knowing you're on top of things.

Real-Time Litigation Alerts



Keep your litigation team up-to-date with **real-time alerts** and advanced team management tools built for the enterprise, all while greatly reducing PACER spend.

Our comprehensive service means we can handle Federal, State, and Administrative courts across the country.

Advanced Docket Research



With over 230 million records, Docket Alarm's cloud-native docket research platform finds what other services can't. Coverage includes Federal, State, plus PTAB, TTAB, ITC and NLRB decisions, all in one place.

Identify arguments that have been successful in the past with full text, pinpoint searching. Link to case law cited within any court document via Fastcase.

Analytics At Your Fingertips



Learn what happened the last time a particular judge, opposing counsel or company faced cases similar to yours.

Advanced out-of-the-box PTAB and TTAB analytics are always at your fingertips.

API

Docket Alarm offers a powerful API (application programming interface) to developers that want to integrate case filings into their apps.

LAW FIRMS

Build custom dashboards for your attorneys and clients with live data direct from the court.

Automate many repetitive legal tasks like conflict checks, document management, and marketing.

FINANCIAL INSTITUTIONS

Litigation and bankruptcy checks for companies and debtors.

E-DISCOVERY AND LEGAL VENDORS

Sync your system to PACER to automate legal marketing.