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Touboul

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(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)

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This patent is subject to a terminal disclaimer.

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Related U.S. Application Data

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(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-archiVe/summer96/0338.html, p. 1-2.*

(List continued on next page.)

Primary Examiner—Ayaz Sheikh

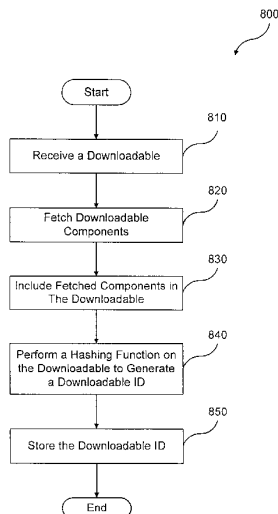
Assistant Examiner—Christopher Revak

(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.ihs.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

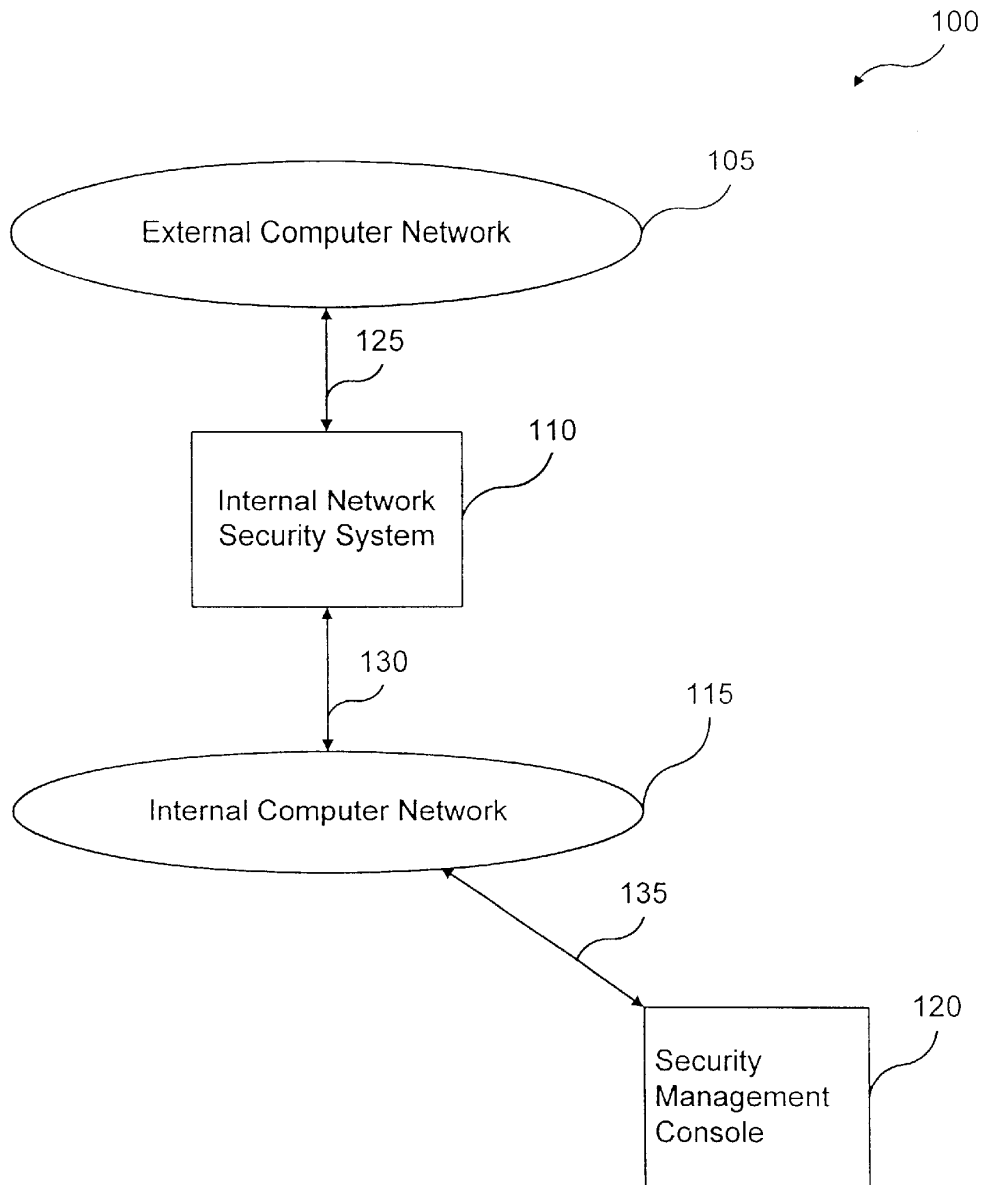


FIG. 1

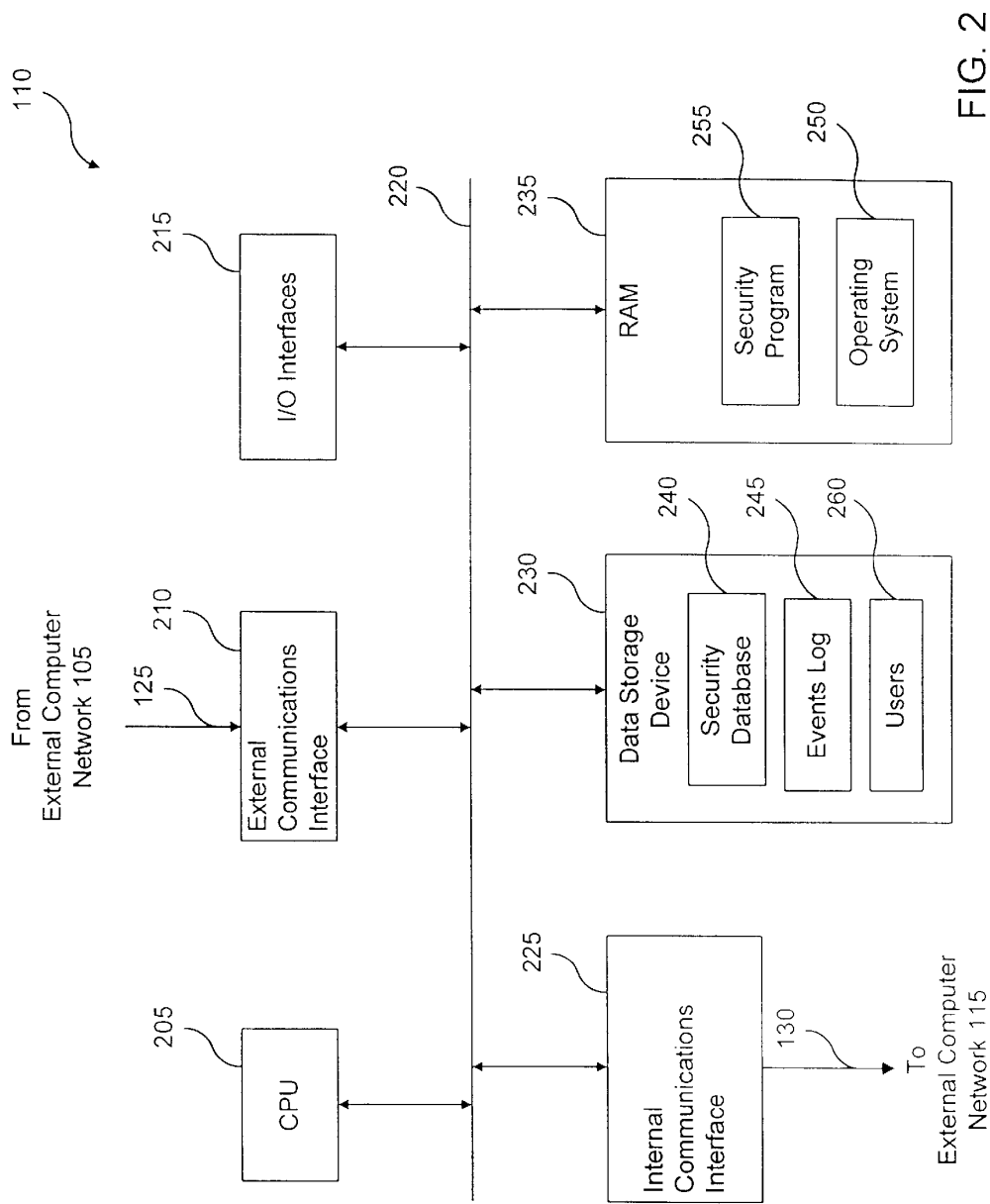
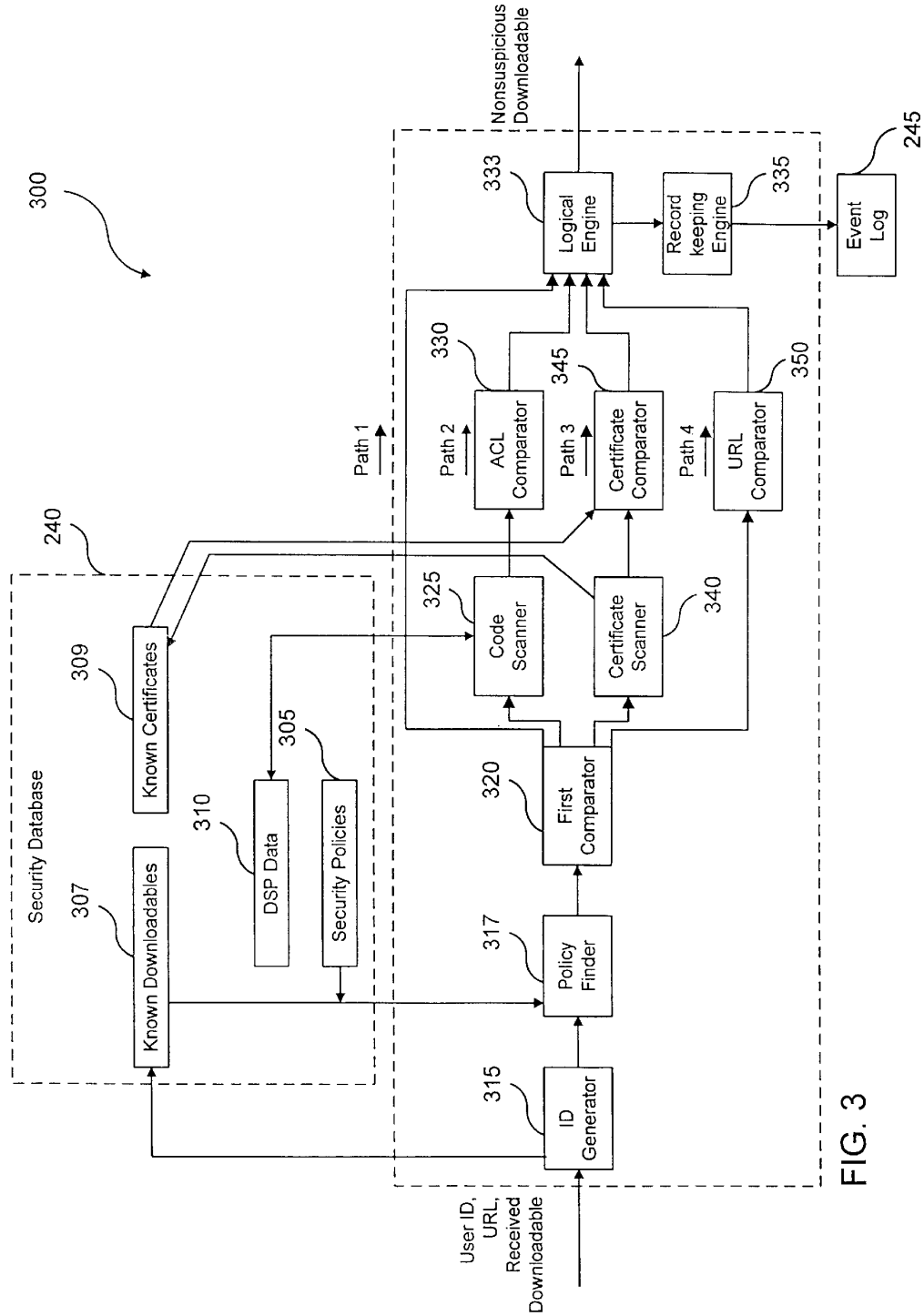


FIG. 2



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