



US006092194A

**United States Patent** [19]  
**Touboul**

[11] **Patent Number:** **6,092,194**  
[45] **Date of Patent:** **\*Jul. 18, 2000**

[54] **SYSTEM AND METHOD FOR PROTECTING A COMPUTER AND A NETWORK FROM HOSTILE DOWNLOADABLES**

5,864,683 1/1999 Boebert et al. .... 395/200.79  
5,892,904 4/1999 Atkinson et al. .... 395/187.01

**OTHER PUBLICATIONS**

Web page: [http://icl.ihs.com:80/cgi-bin/icl\\_cgi?se...2ehts%26ViewTemplate%3ddocvie%5fb%2ehts](http://icl.ihs.com:80/cgi-bin/icl_cgi?se...2ehts%26ViewTemplate%3ddocvie%5fb%2ehts), 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.

(List continued on next page.)

[75] Inventor: **Shlomo Touboul**, Kefar-Haim, Israel  
[73] Assignee: **Finjan Software, Ltd.**, Netanya, Israel  
[\*] Notice: This patent issued on a continued prosecution application filed under 37 CFR 1.53(d), and is subject to the twenty year patent term provisions of 35 U.S.C. 154(a)(2).

[21] Appl. No.: **08/964,388**  
[22] Filed: **Nov. 6, 1997**

**Related U.S. Application Data**

[60] Provisional application No. 60/030,639, Nov. 8, 1996.

[51] **Int. Cl.**<sup>7</sup> ..... **H04L 1/00**

[52] **U.S. Cl.** ..... **713/200**

[58] **Field of Search** ..... 395/187.01, 186; 713/200, 201, 202; 714/38, 704; 709/229

[56] **References Cited**

**U.S. PATENT DOCUMENTS**

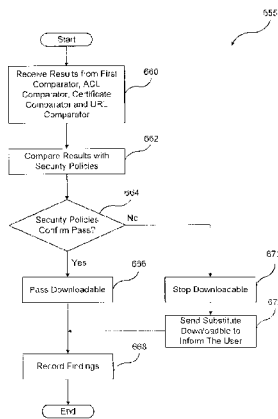
5,077,677	12/1991	Murphy et al. ....	395/10
5,361,359	11/1994	Tajalli et al. ....	395/700
5,485,409	1/1996	Gupta et al. ....	395/186
5,485,575	1/1996	Chess et al. ....	395/183.14
5,572,643	11/1996	Judson .....	395/793
5,623,600	4/1997	Ji et al. ....	395/187.01
5,638,446	6/1997	Rubin .....	380/25
5,692,047	11/1997	McManis .....	380/4
5,692,124	11/1997	Holden et al. ....	395/187.01
5,720,033	2/1998	Deo .....	395/186
5,724,425	3/1998	Chang et al. ....	380/25
5,740,248	4/1998	Fieres et al. ....	380/25
5,761,421	6/1998	van Hoff et al. ....	395/200.53
5,765,205	6/1998	Breslau et al. ....	711/203
5,784,459	7/1998	Devarakonda et al. ....	380/4
5,796,952	8/1998	Davis et al. ....	395/200.54
5,805,829	9/1998	Cohen et al. ....	395/200.32
5,832,208	11/1998	Chen et al. ....	395/187.01
5,850,559	12/1998	Angelo et al. ....	395/750.03

*Primary Examiner*—Robert W. Beausoliel, Jr.  
*Assistant Examiner*—Christopher Revak  
*Attorney, Agent, or Firm*—Graham & James LLP

[57] **ABSTRACT**

A system protects a computer from suspicious Downloadables. The system comprises a security policy, an interface for receiving a Downloadable, and a comparator, coupled to the interface, for applying the security policy to the Downloadable to determine if the security policy has been violated. The Downloadable may include a Java™ applet, an ActiveX™ control, a JavaScript™ script, or a Visual Basic script. The security policy may include a default security policy to be applied regardless of the client to whom the Downloadable is addressed, or a specific security policy to be applied based on the client or the group to which the client belongs. The system uses an ID generator to compute a Downloadable ID identifying the Downloadable, preferably, by fetching all components of the Downloadable and performing a hashing function on the Downloadable including the fetched components. Further, the security policy may indicate several tests to perform, including (1) a comparison with known hostile and non-hostile Downloadables; (2) a comparison with Downloadables to be blocked or allowed per administrative override; (3) a comparison of the Downloadable security profile data against access control lists; (4) a comparison of a certificate embodied in the Downloadable against trusted certificates; and (5) a comparison of the URL from which the Downloadable originated against trusted and untrusted URLs. Based on these tests, a logical engine can determine whether to allow or block the Downloadable.

**68 Claims, 10 Drawing Sheets**



OTHER PUBLICATIONS

“Finjan Announces a Personal Java™ Firewall For Web Browsers—the SurfinShield™ 1.6”, Press Release of Finjan Releases SurfinShield, Oct. 21, 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.

“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/Pavillion 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” Article published on the Internet, Home Page, Inc. 1996, 4 pages.

Jim K. Omura, “Novel Applications of Cryptography in Digital Communications”, IEEE Communications Magazine, p 27, May 1990.

Norvin Leach et al, “IE 3.0 applets will earn certification”, PC Week, v13, n29, p1(2), Jul. 1996.

Microsoft Authenticode Technology, “Ensuring Accountability and Authenticity for Software Components on the Internet”, Microsoft Corporation, Oct. 1996.

Frequently Asked Questions About Authenticode, Microsoft Corporation, Feb. 1997.

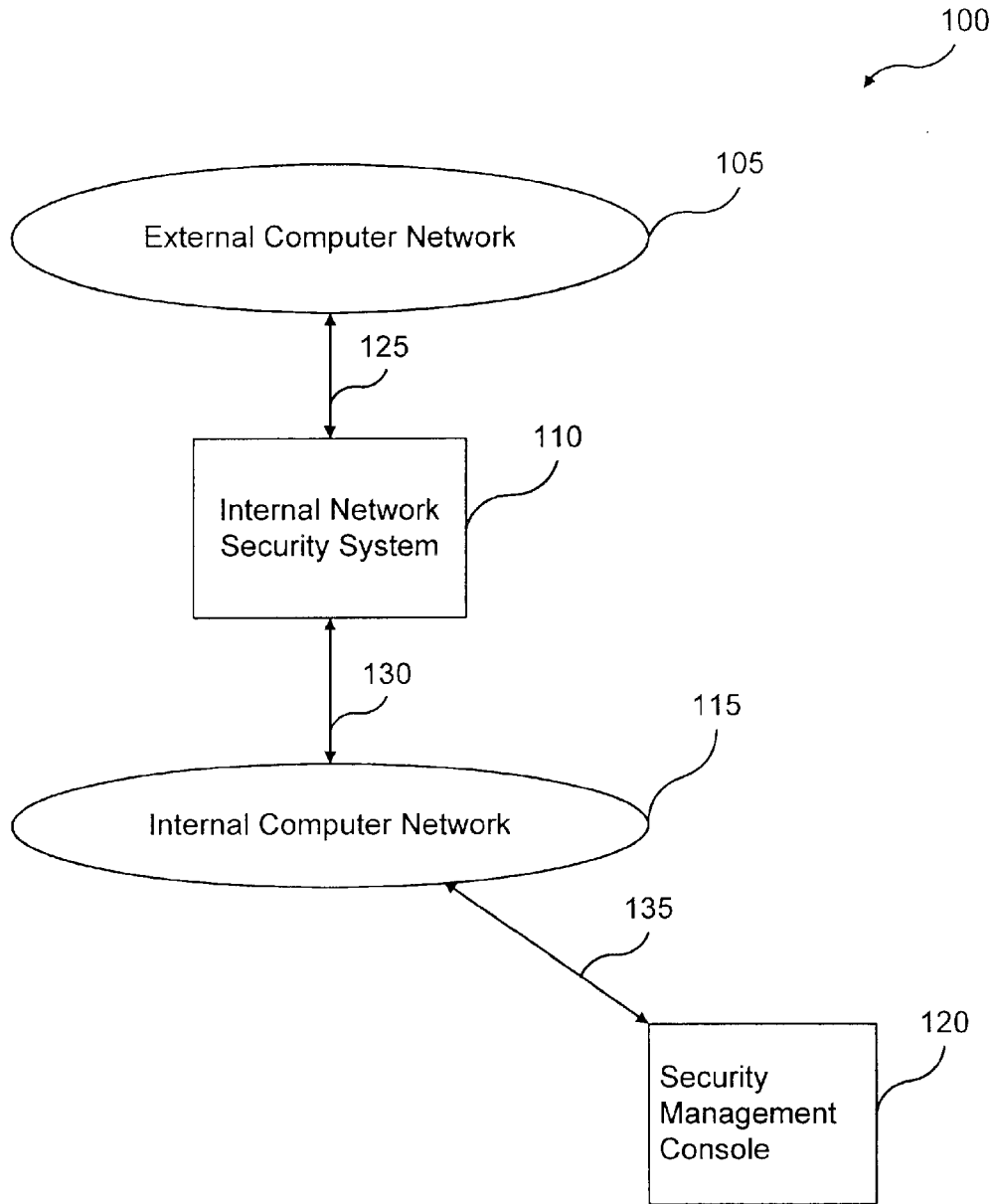


FIG. 1

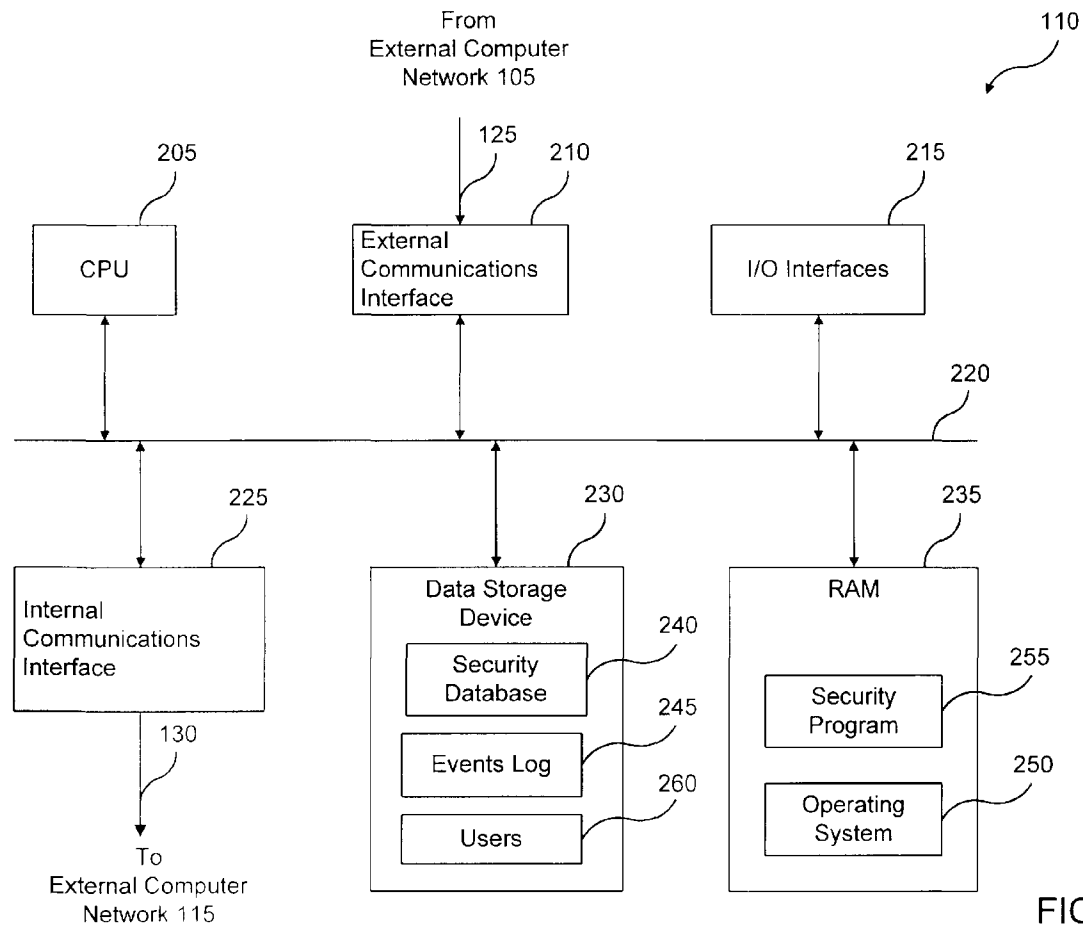


FIG.

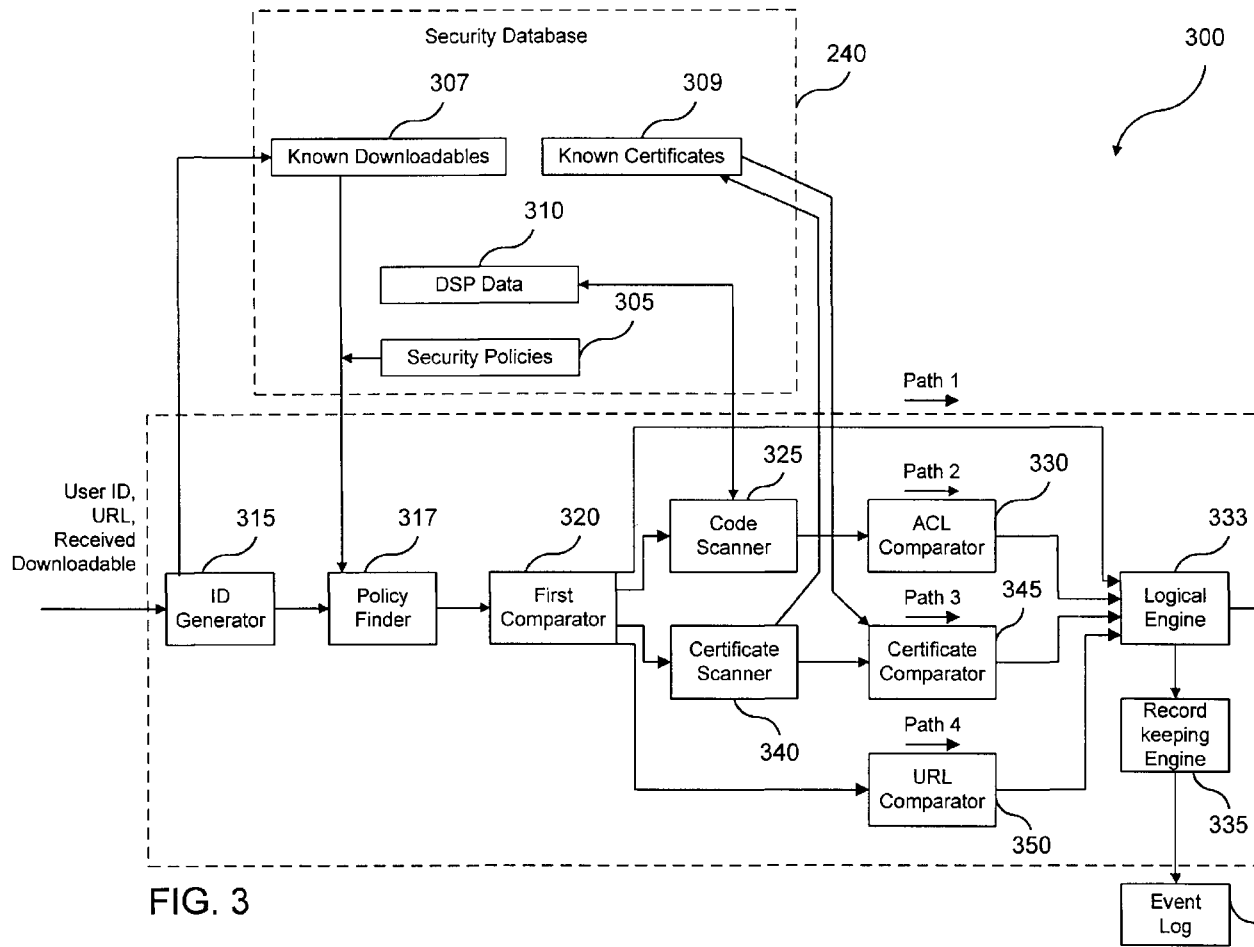


FIG. 3

# 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.