

# EXHIBIT 1

**United States Patent** [19]

[11] **Patent Number:** **6,154,844**

**Touboul et al.**

[45] **Date of Patent:** **Nov. 28, 2000**

[54] **SYSTEM AND METHOD FOR ATTACHING A DOWNLOADABLE SECURITY PROFILE TO A DOWNLOADABLE**

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[57] **ABSTRACT**

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A system comprises an inspector and a protection engine. The inspector includes a content inspection engine that uses a set of rules to generate a Downloadable security profile corresponding to a Downloadable, e.g., Java™ applets, ActiveX™ controls, JavaScript™ scripts, or Visual Basic scripts. The content inspection engine links the Downloadable security profile to the Downloadable. The set of rules may include a list of suspicious operations, or a list of suspicious code patterns. The first content inspection engine may link to the Downloadable a certificate that identifies the content inspection engine which created the Downloadable security profile. Additional content inspection engines may generate and link additional Downloadable security profiles to the Downloadable. Each additional Downloadable security profile may also include a certificate that identifies its creating content inspection engine. Each content inspection engine preferably creates a Downloadable ID that identifies the Downloadable to which the Downloadable security profile corresponds. The protection includes a Downloadable interceptor for receiving a Downloadable, a file reader coupled to the interceptor for determining whether the Downloadable includes a Downloadable security profile, an engine coupled to the file reader for determining whether to trust the Downloadable security profile, and a security policy analysis engine coupled to the verification engine for comparing the Downloadable security profile against a security policy if the engine determines that the Downloadable security profile is trustworthy. A Downloadable ID verification engine retrieves the Downloadable ID that identifies the Downloadable to which the Downloadable security profile corresponds, generates the Downloadable ID for the Downloadable and compares the generated Downloadable to the linked Downloadable. The protection engine further includes a certificate authenticator for authenticating the certificate that identifies a content inspection engine which created the Downloadable security profile as from a trusted source. The certificate authenticator can also authenticate a certificate that identifies a developer that created the Downloadable.

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**Related U.S. Application Data**

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[51] **Int. Cl.**<sup>7</sup> ..... **H04L 9/36**

[52] **U.S. Cl.** ..... **713/201**; 714/38; 713/164

[58] **Field of Search** ..... 713/201, 200, 713/202, 164, 165, 166, 167, 176; 714/38, 704, 207, 33; 709/229; 380/4, 25, 24; 705/51, 54, 55

**References Cited**

**U.S. PATENT DOCUMENTS**

5,077,677 12/1991 Murphy et al. .... 395/10  
 5,359,659 10/1994 Rosenthal ..... 380/4  
 5,361,359 11/1994 Tajalli et al. .... 395/700

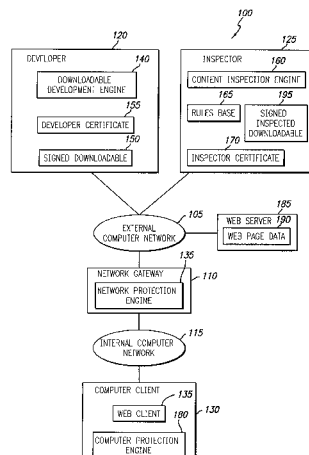
(List continued on next page.)

**OTHER PUBLICATIONS**

X.N. Zhang, "Secure Code Distribution," Computer, pp. 76-79, Jun. 1997.  
 IBM AntiVirus User's Guide Version 2.4, International Business Machines Corporation, Nov. 15, 1995, pp. 6-7.  
 Jim K. Omura, "Novel Applications of Cryptography in Digital Communications", IEEE Communications Magazine, May, 1990; pp. 21-27.  
 Norvin Leach et al, "IE 3.0 Applets Will Earn Certification", PC Week, v13, n29, 1998, 2 pages.  
 Microsoft Authenticode Technology, "Ensuring Accountability and Authenticity for Software Components on the Internet", Microsoft Corporation, Oct. 1996, including contents, Introduction and pp. 1-10.

(List continued on next page.)

**44 Claims, 7 Drawing Sheets**



6,154,844

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## U.S. PATENT DOCUMENTS

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
5,859,966	1/1999	Hayman et al. ....	713/200
5,864,683	1/1999	Boebert et al. ....	395/200.79
5,892,904	4/1999	Atkinson et al. ....	713/201
5,956,481	9/1999	Walsh et al. ....	713/200
5,974,549	10/1999	Golan .....	713/200
5,983,348	11/1999	Ji .....	713/200

## OTHER PUBLICATIONS

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

Web page: <http://iel.ihs.com:80/cgi-bin/iel13.cgi?se...2ehts%26ViewTemplate%3ddocview%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.

“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.

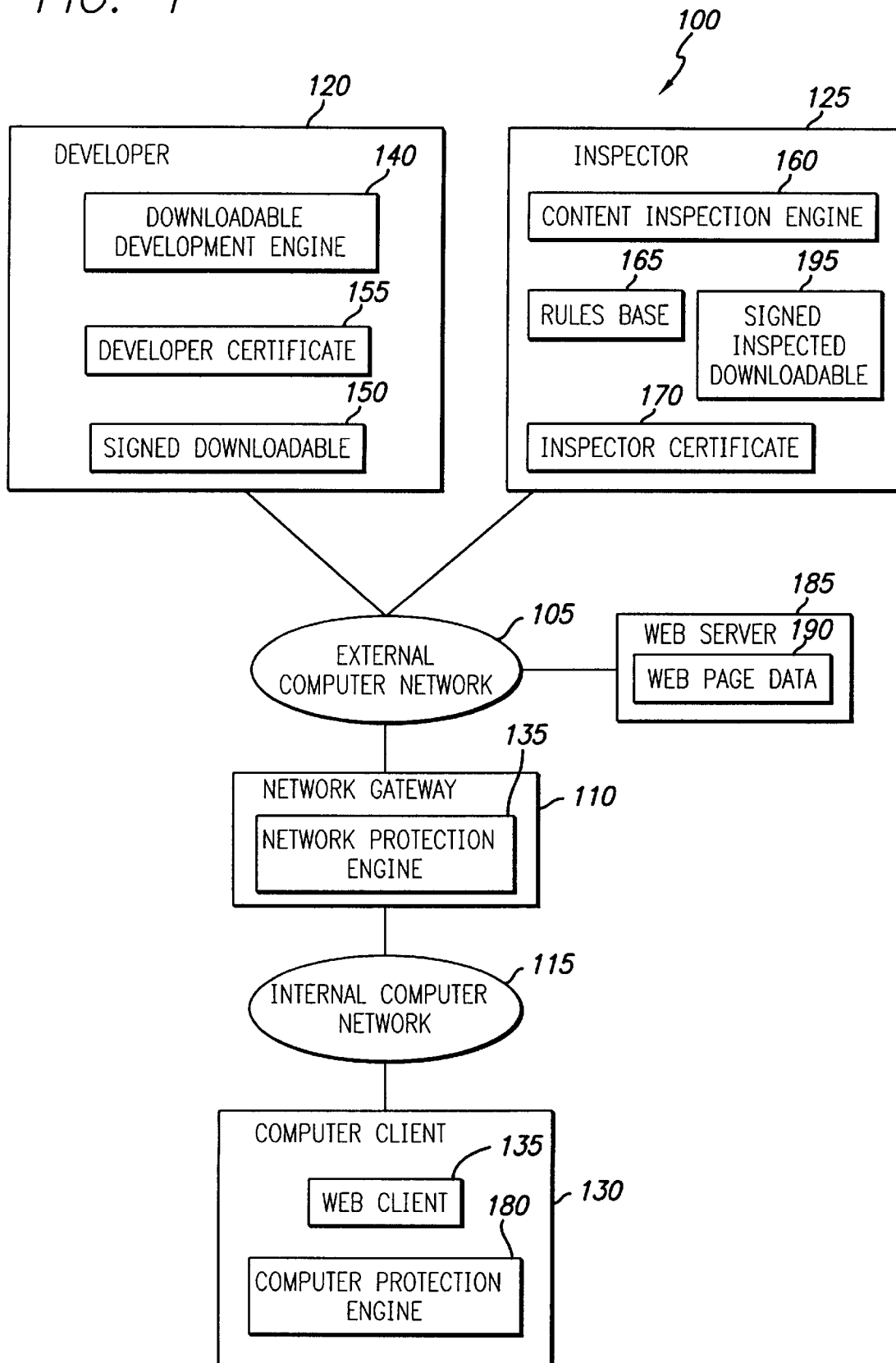
“Finjan Announces Major Power Boost and New Features for SurfinShield™ 2.0” Las Vegas Convention Center/Pavillion 5 P5551, Nov. 18, 1996, 3 pages.

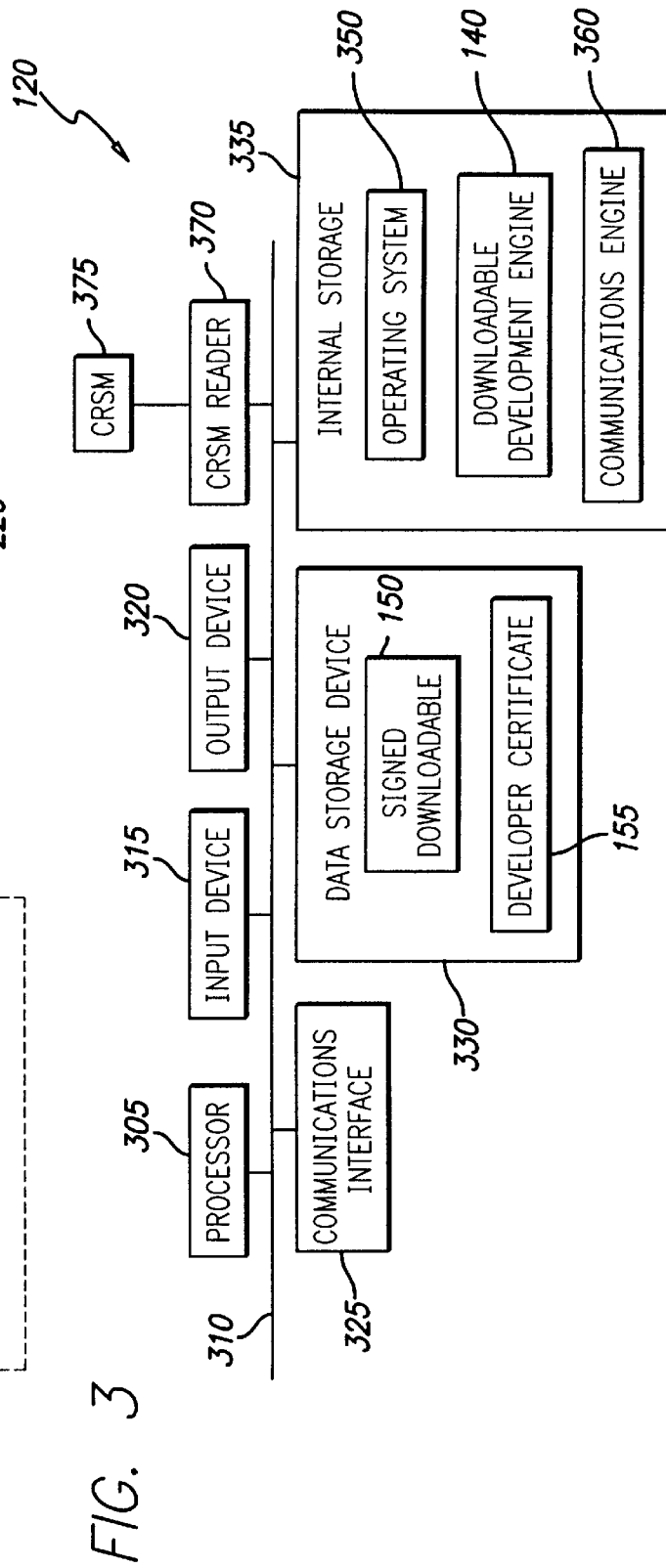
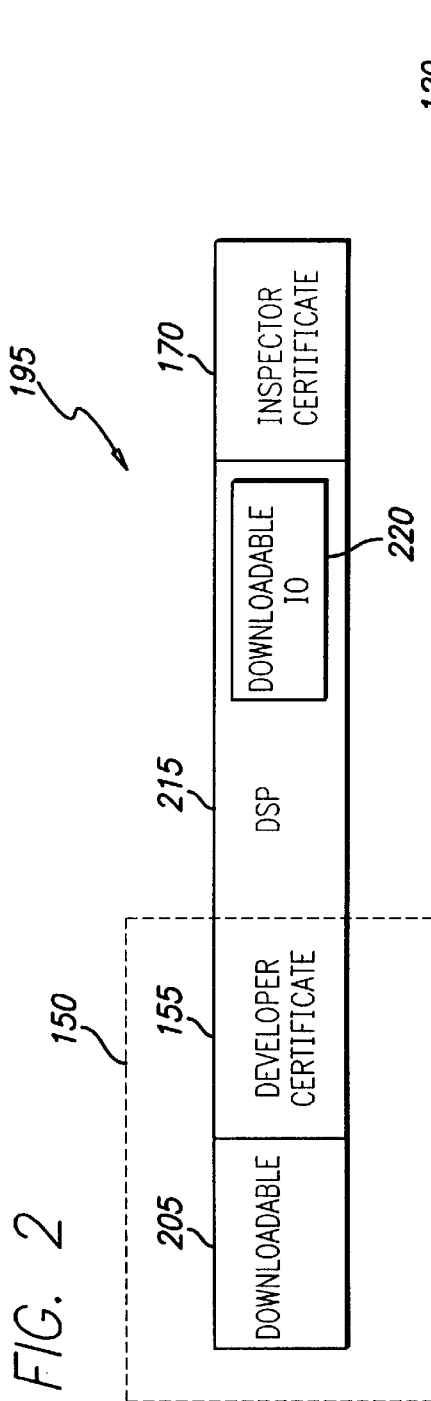
“Java Security: Issues & Solutions” Article published on the Internet by Finjan Software Ltd., 1996, 8 pages.

“Products” Article published on the Internet, 7 pages.

Mark LaDue, “Online Business Consultant” Article published on the Internet, Home Page, Inc. 1996, 4 pages.

FIG. 1





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