

EXHIBIT 4



US008141154B2

(12) **United States Patent**
Gruzman et al.

(10) **Patent No.:** **US 8,141,154 B2**
(45) **Date of Patent:** **Mar. 20, 2012**

(54) **SYSTEM AND METHOD FOR INSPECTING DYNAMICALLY GENERATED EXECUTABLE CODE**

(75) Inventors: **David Gruzman**, Ramat Gan (IL);
Yuval Ben-Itzhak, Tel Aviv (IL)

(73) Assignee: **Finjan, Inc.** (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.

(21) Appl. No.: **12/814,584**

(22) Filed: **Jun. 14, 2010**

(65) **Prior Publication Data**
 US 2010/0251373 A1 Sep. 30, 2010

(51) **Int. Cl.**
G06F 11/00 (2006.01)
(52) **U.S. Cl.** **726/22; 726/23; 726/24; 713/188**
(58) **Field of Classification Search** None
 See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

5,359,659	A	10/1994	Rosenthal	726/24
5,974,549	A	10/1999	Golan	726/23
5,983,348	A	11/1999	Ji	726/13
6,092,194	A	7/2000	Touboul	726/24
6,167,520	A	12/2000	Touboul	726/23
6,272,641	B1	8/2001	Ji	726/24
6,934,857	B1	8/2005	Bartleson et al.	726/5
6,965,968	B1	11/2005	Touboul	711/118
7,203,934	B2	4/2007	Souloglou et al.	717/146
7,287,279	B2	10/2007	Bertman et al.	726/23
7,313,822	B2	12/2007	Ben-Itzhak	726/24
7,739,682	B1 *	6/2010	Badenell	717/174
7,836,504	B2 *	11/2010	Ray et al.	726/24

2001/0005889	A1 *	6/2001	Albrecht	713/201
2002/0116635	A1	8/2002	Sheymov	726/24
2004/0133796	A1	7/2004	Cohen et al.	726/24
2004/0153644	A1	8/2004	McCorkendale et al.	713/156
2004/0158729	A1	8/2004	Szor	713/190
2005/0108562	A1	5/2005	Khazan et al.	726/23
2005/0149749	A1 *	7/2005	Van Brabant	713/200
2006/0015940	A1	1/2006	Zamir et al.	726/22
2006/0161981	A1	7/2006	Sheth et al.	726/22
2007/0016948	A1	1/2007	Dubrovsky et al.	726/22

* cited by examiner

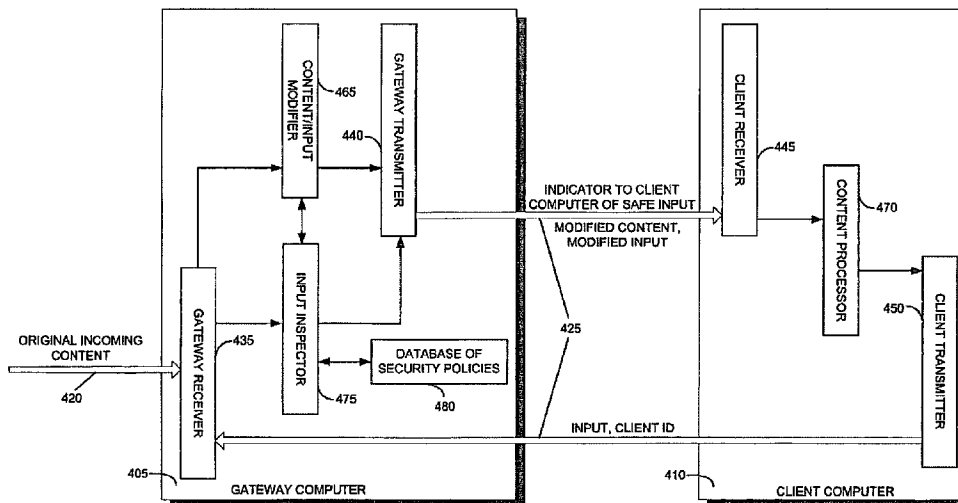
Primary Examiner — Ponnoreay Pich

(74) *Attorney, Agent, or Firm* — Dawn-Marie Bey; King & Spalding LLP

(57) **ABSTRACT**

A method for protecting a client computer from dynamically generated malicious content, including receiving at a gateway computer content being sent to a client computer for processing, the content including a call to an original function, and the call including an input, modifying the content at the gateway computer, including replacing the call to the original function with a corresponding call to a substitute function, the substitute function being operational to send the input to a security computer for inspection, transmitting the modified content from the gateway computer to the client computer, processing the modified content at the client computer, transmitting the input to the security computer for inspection when the substitute function is invoked, determining at the security computer whether it is safe for the client computer to invoke the original function with the input, transmitting an indicator of whether it is safe for the client computer to invoke the original function with the input, from the security computer to the client computer, and invoking the original function at the client computer with the input, only if the indicator received from the security computer indicates that such invocation is safe. A system and a computer-readable storage medium are also described and claimed.

12 Claims, 5 Drawing Sheets



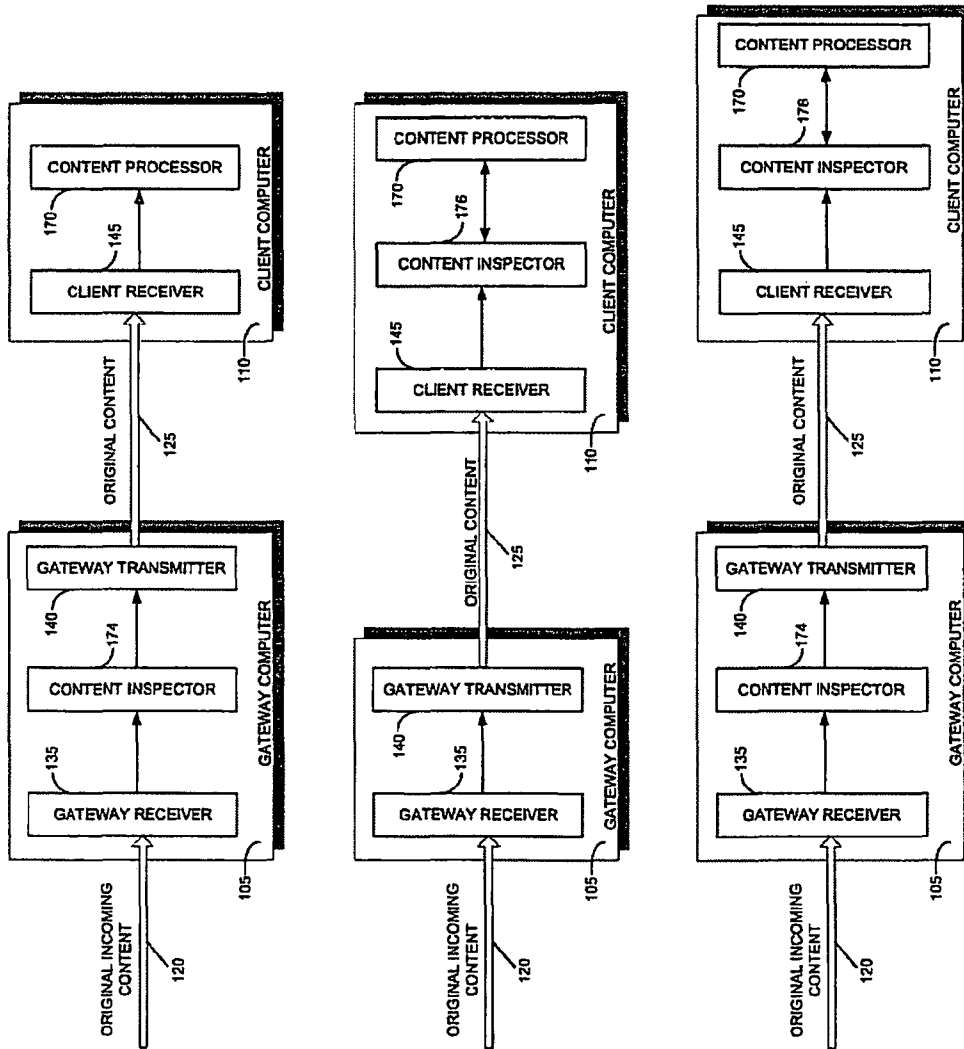


FIG. 1
(PRIOR ART)

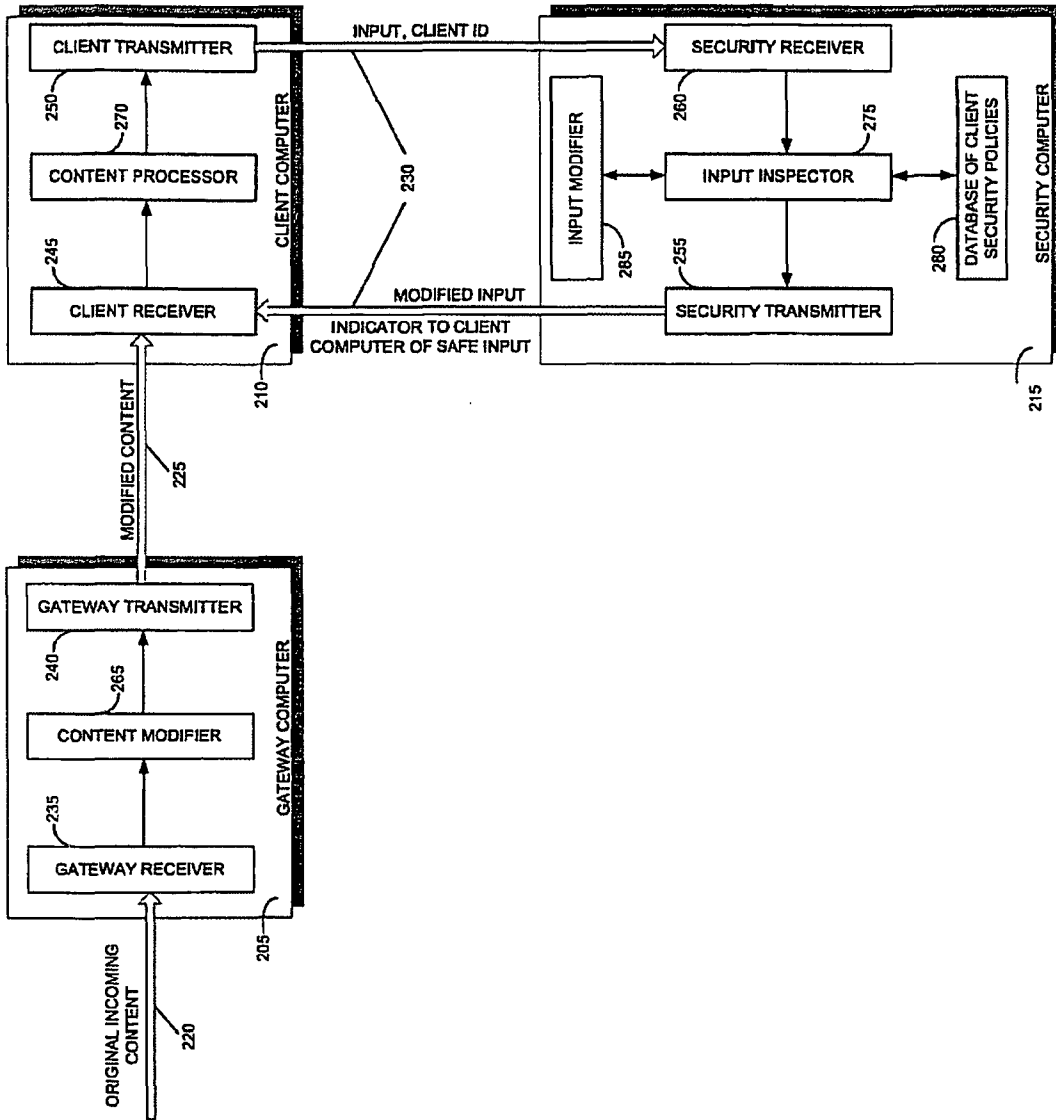


FIG. 2

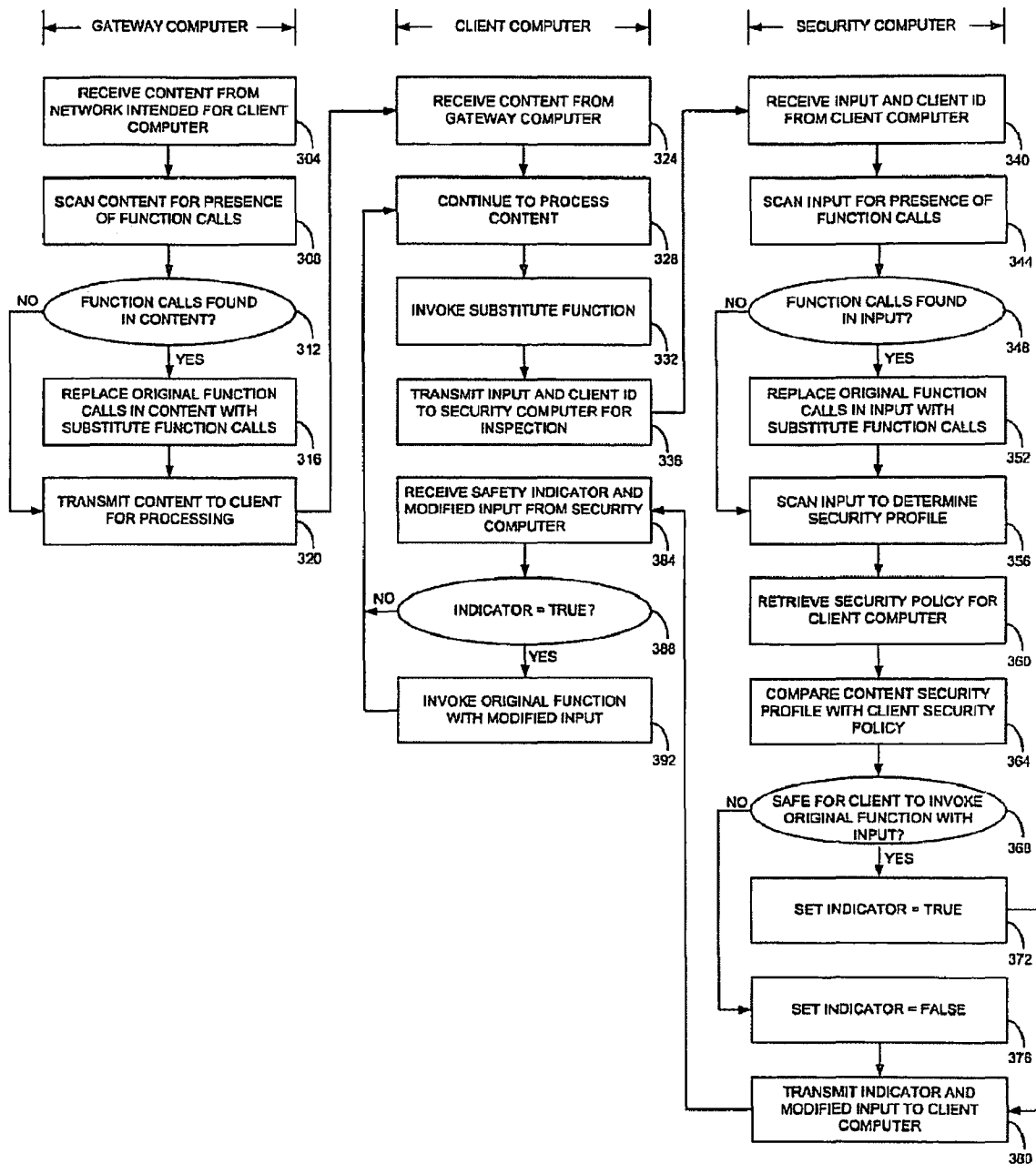


FIG. 3

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.