



US007207065B2

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

(10) **Patent No.:** **US 7,207,065 B2**
(45) **Date of Patent:** **Apr. 17, 2007**

(54) **APPARATUS AND METHOD FOR DEVELOPING SECURE SOFTWARE**

(75) Inventors: **Brian Chess**, Mountain View, CA (US); **Arthur Do**, Danville, CA (US); **Sean Fay**, San Francisco, CA (US); **Roger Thornton**, San Jose, CA (US)

(73) Assignee: **Fortify Software, Inc.**, Menlo Park, CA (US)

(*) 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.: **11/010,146**

(22) Filed: **Dec. 10, 2004**

(65) **Prior Publication Data**

US 2005/0273854 A1 Dec. 8, 2005

Related U.S. Application Data

(60) Provisional application No. 60/577,066, filed on Jun. 4, 2004.

(51) **Int. Cl.**

G06F 11/00 (2006.01)

H04L 9/32 (2006.01)

(52) **U.S. Cl.** **726/25; 726/3; 726/22**

(58) **Field of Classification Search** **726/22, 726/25**

See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

5,440,723 A 8/1995 Arnold et al.
5,502,815 A 3/1996 Cozza
2001/0027383 A1 10/2001 Maliszewski
2002/0066024 A1 5/2002 Schmall et al.

2002/0073330 A1 6/2002 Chandnani et al.
2003/0120951 A1 6/2003 Gartside et al.
2003/0159063 A1* 8/2003 Apfelbaum et al. 713/200
2004/0133777 A1* 7/2004 Kiriansky et al. 713/166
2004/0255163 A1* 12/2004 Swimmer et al. 713/201
2004/0255277 A1 12/2004 Berg et al.
2004/0260940 A1 12/2004 Berg et al.
2004/0268322 A1 12/2004 Chow et al.
2005/0010806 A1 1/2005 Berg et al.
2005/0015752 A1 1/2005 Alpern et al.
2005/0028002 A1 2/2005 Christodorescu et al.
2005/0273860 A1* 12/2005 Chess et al. 726/25

OTHER PUBLICATIONS

http://java.sun.com/docs/books/jls/second_edition/html/expressions.doc.html#20448 "Publication date unknown, but prior to Dec. 10, 2004."

<http://java.sun.com/products/ejb/docs.html> "Publication date unknown, but prior to Dec. 10, 2004."

<http://java.sun.com/products/jdbc/reference/index.html> "Publication date unknown, but prior to Dec. 10, 2004."

<http://java.sun.com/j2se/1.4.2/docs/api/java/lang/reflect/package-summary.html> "Publication date unknown, but prior to Dec. 10, 2004."

<http://java.sun.com/j2se/1.4.2/docs/api/java/rmi/package-summary.html> "Publication date unknown, but prior to Dec. 10, 2004."

* cited by examiner

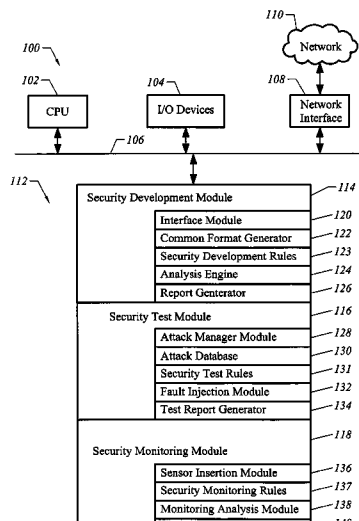
Primary Examiner—Kambiz Zand

(74) *Attorney, Agent, or Firm*—Cooley Godward Kronish LLP

(57) **ABSTRACT**

A computer readable medium includes executable instructions to analyze program instructions for security vulnerabilities. The executable instructions convert diverse program instruction formats to a common format. A system model is derived from the common format. A static analysis is performed on the system model to identify security vulnerabilities. Security vulnerabilities are then reported.

20 Claims, 7 Drawing Sheets



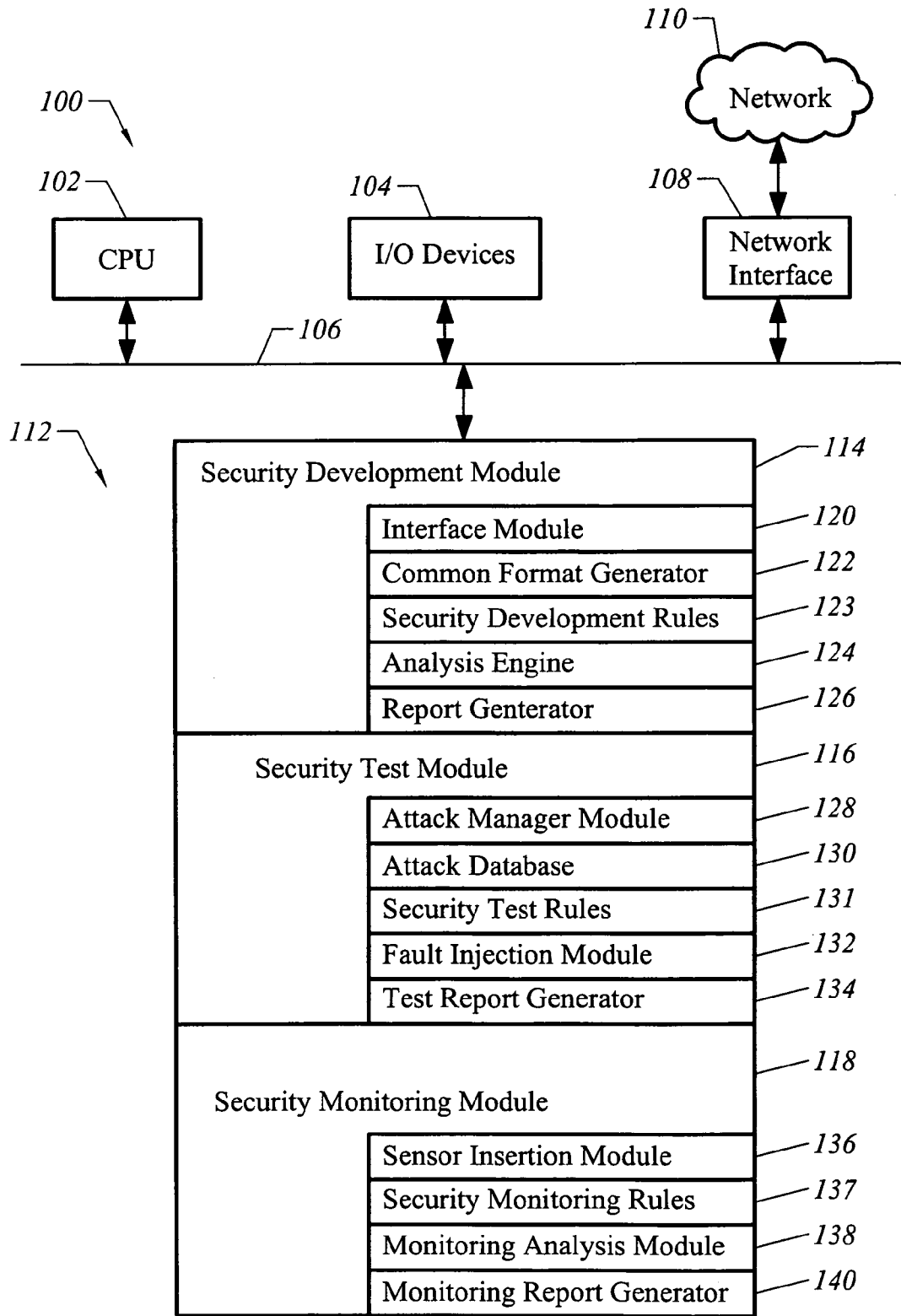


FIG. 1

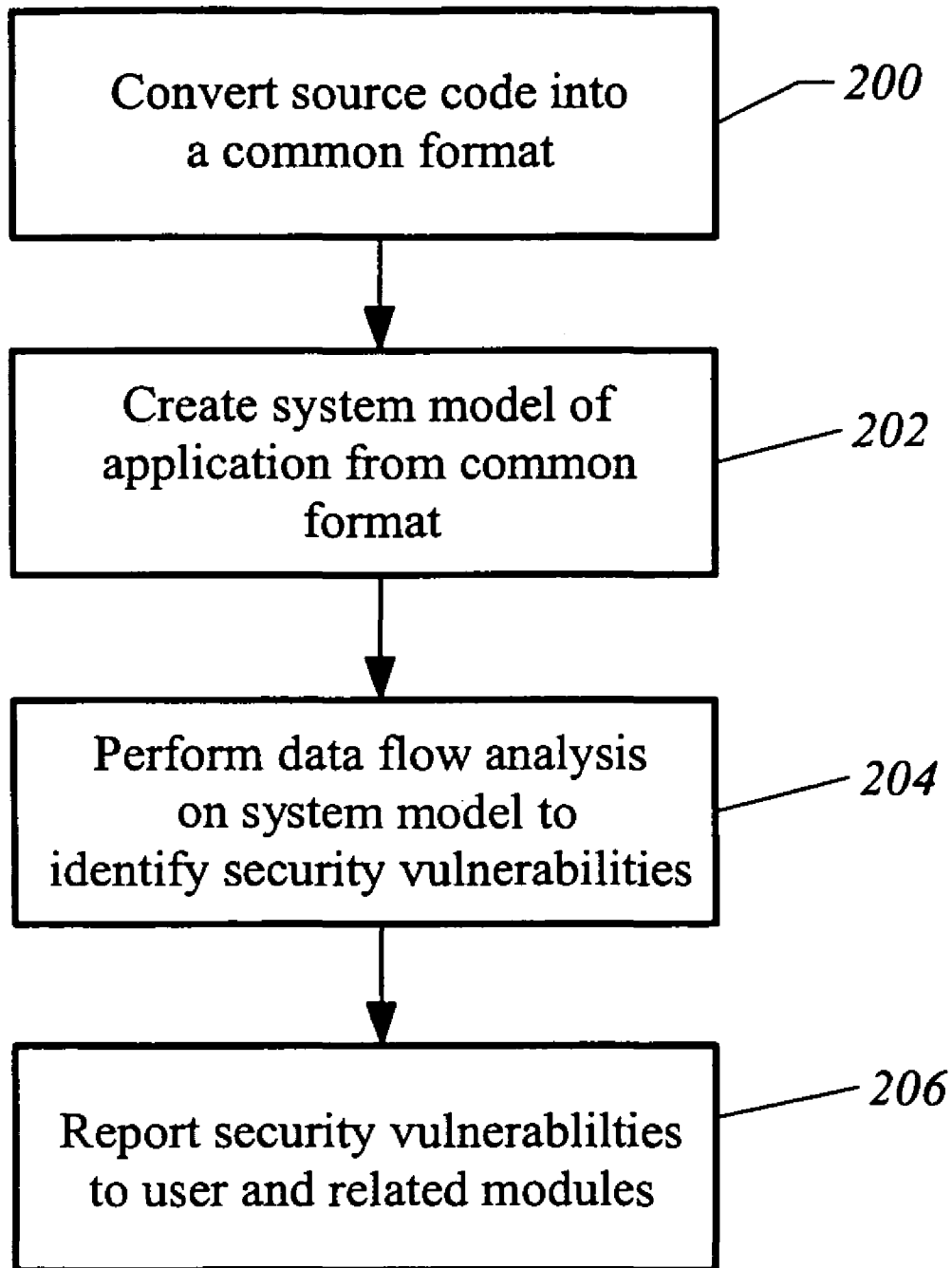


FIG. 2

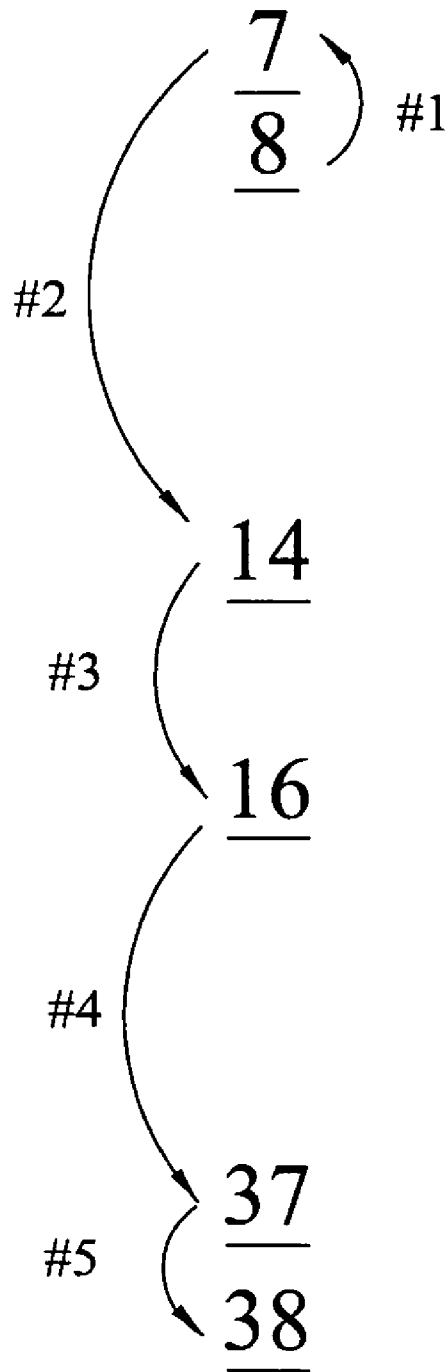


FIG. 2A

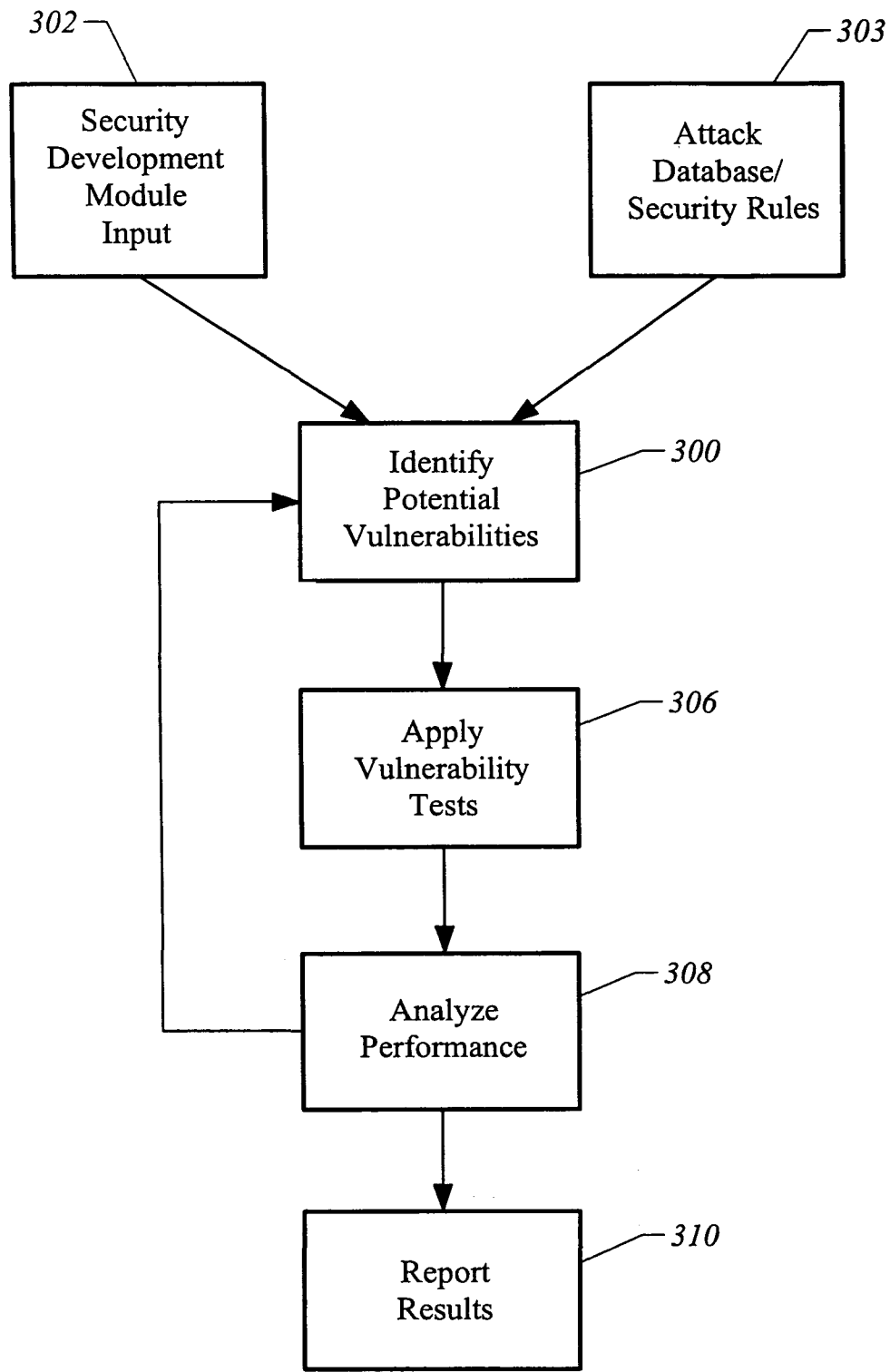


FIG. 3

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.