US007346803B2

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

(10) **Patent No.: US 7,346,803 B2**
(45) **Date of Patent: Mar. 18, 2008**

(54) **ANOMALY DETECTION**

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(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 580 days.

(21) Appl. No.: **11/045,918**

(22) Filed: **Jan. 28, 2005**

(65) **Prior Publication Data**

US 2005/0193281 A1 Sep. 1, 2005

(30) **Foreign Application Priority Data**

Jan. 30, 2004 (JP) 2004-023081

(51) **Int. Cl.**
G06F 11/00 (2006.01)

(52) **U.S. Cl.** **714/4**; 714/38

(58) **Field of Classification Search** .... None
See application file for complete search history.

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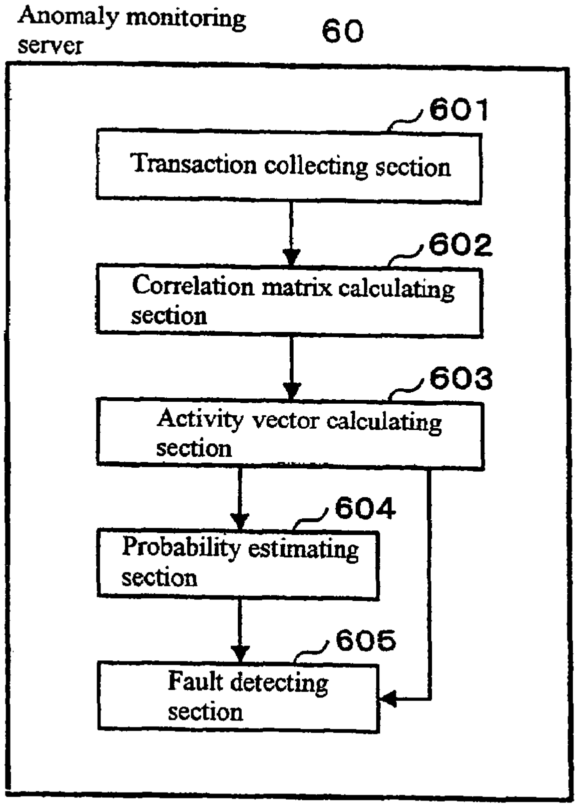
(57) **ABSTRACT**

A system such as a Web-based system in which a plurality of computers interact with each other is monitored to detect online an anomaly. Transactions of a service provided by each of a plurality of computers to another computer are collected, a matrix of correlations between nodes in the system is calculated from the transactions, and a feature vector representing a node activity balance is obtained from the matrix. The feature vector is monitored using a probability model to detect a transition to an anomalous state.

28 Claims, 9 Drawing Sheets


Anomaly monitoring server
60
601
Transaction collecting section
602
Correlation matrix calculating section
603
Activity vector calculating section
604
Probability estimating section
605
Fault detecting section