

Cloudflare, Inc. and Splunk
Petitioners

v.

Sable Networks, Inc.
Patent Owner

Case IPR2021-00909
Patent No. 8,243,593

Oral Argument

September 7, 2022
Petitioners' Demonstrative Slide

U.S. Patent No. 8,243,593



(12) **United States Patent**
Natchu

(10) **Patent No.:** US 8,243,593 B2
 (45) **Date of Patent:** Aug. 14, 2012

(54) **MECHANISM FOR IDENTIFYING AND PENALIZING MISBEHAVING FLOWS IN A NETWORK**

(75) Inventor: **Vishnu Natchu**, Santa Clara, CA (US)

(73) Assignee: **Sable Networks, Inc.**, Santa Clara, CA (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 1098 days.

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(21) Appl. No.: **11/022,599**

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

(65) **Prior Publication Data**
 US 2006/0133280 A1 Jun. 22, 2006

(51) **Int. Cl.**
G01R 31/08 (2006.01)
G06F 11/00 (2006.01)
H04L 15/00 (2006.01)
H04L 1/16 (2006.01)
H04L 3/14 (2006.01)
H04L 1/00 (2006.01)
H04L 12/26 (2006.01)

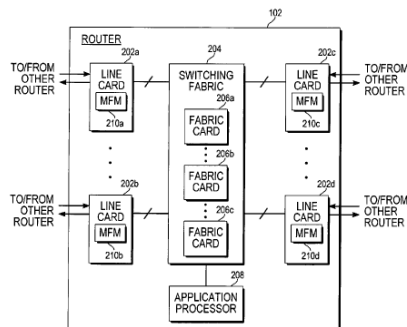
(52) **U.S. Cl.** **370/229**

(58) **Field of Classification Search** 370/229-236
 See application file for complete search history.

(57) **ABSTRACT**

A mechanism is disclosed for identifying and penalizing misbehaving flows in a network. In one implementation, a set of behavioral statistics are maintained for each flow. These behavioral statistics are updated as information packets belonging to a flow are processed. Based upon these behavioral statistics, a determination is made as to whether a flow is exhibiting undesirable behavior. If so, a penalty is imposed on the flow. In one implementation, this penalty causes packets belonging to the flow to have a higher probability of being dropped than packets belonging to other flows that do not exhibit undesirable behavior. In one implementation, in addition to penalizing the flow, this penalty also has the effect of correcting the flow's behavior such that the flow exhibits less undesirable behavior after the penalty than before. By correcting the flow's behavior, the penalty makes it possible for the flow to become a non-misbehaving flow.

44 Claims, 5 Drawing Sheets



EX1001

(10) **Patent No.:**
 (45) **Date of Patent:**

(54) **MECHANISM FOR IDENTIFYING AND PENALIZING MISBEHAVING FLOWS IN A NETWORK**

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

Petitioner's Remaining Grounds of Un

Ground	Challenged Claims
2	Independent claim 9 with dependent claims 10-13 and 17-24, and independent claim 29 with dependent claims 30-33 and 37-44
3	Independent claim 3

Patent Owner voluntarily disclaimed claims 1, 2, 4-8, 14-16,

Copeland Discloses a “Badness

Petitioners Established Reason
Combine Yung and Copela

The Four-Steps Whitepaper
Was Publicly Accessible

Ground 2 Should Include
Claims 17, 18, 37, and 38

Yung Discloses Claim 9 Except a “Back

9. A machine implemented method for processing a flow, the flow comprising a series of information packets, the method comprising:

maintaining a set of behavioral statistics for the flow, wherein the set of behavioral statistics is updated based on each information packet belonging to the flow, as each information packet belonging to the flow is processed, regardless of the presence or absence of congestion; and

computing, based at least partially upon the set of behavioral statistics, a badness factor for the flow, wherein the badness factor provides an indication of whether the flow is exhibiting undesirable behavior.

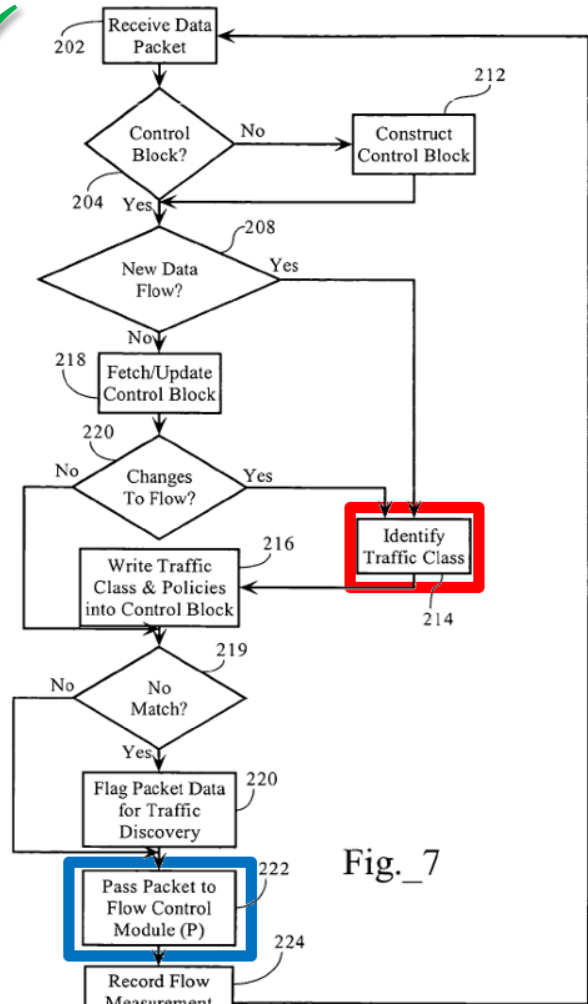


Fig. 7

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