

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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SANDVINE CORPORATION and SANDVINE INCORPORATED ULC,  
Petitioner,

v.

PACKET INTELLIGENCE, LLC,  
Patent Owner.

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Case IPR2017-00451  
Patent 6,839,751 B1

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Before ELENI MANTIS MERCADER, JUSTIN T. ARBES, and  
WILLIAM M. FINK, *Administrative Patent Judges*.

ARBES, *Administrative Patent Judge*.

DECISION  
Denying Institution of *Inter Partes* Review  
37 C.F.R. § 42.108

Sandvine Corporation and Sandvine Incorporated ULC (collectively, “Petitioner”) filed a Petition (Paper 2, “Pet.”) requesting *inter partes* review of claims 1–21 of U.S. Patent No. 6,839,751 B1 (Ex. 1002, “the ’751 patent”) pursuant to 35 U.S.C. § 311(a). Patent Owner Packet Intelligence, LLC filed a Preliminary Response (Paper 6, “Prelim. Resp.”) pursuant to 35 U.S.C. § 313. Pursuant to 35 U.S.C. § 314(a), the Director may not authorize an *inter partes* review unless the information in the petition and preliminary response “shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.” For the reasons that follow, we have decided not to institute an *inter partes* review.

## I. BACKGROUND

### A. The ’751 Patent<sup>1</sup>

The ’751 patent discloses “[a] method of and monitor apparatus for analyzing a flow of packets passing through a connection point on a computer network.” Ex. 1002, Abstract. The ’751 patent explains that there was a need in the art for “a real-time network monitor that can provide details as to the application programs being used.” *Id.* at col. 1, ll. 54–59. The disclosed monitor receives packets passing in either direction through its connection point on the network and “elucidate[s] what application programs are associated with each packet” by extracting information from the packet, using selected parts of the extracted information to “build[] a

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<sup>1</sup> Petitioner challenges patents related to the ’751 patent in Cases IPR2017-00450, IPR2017-00629, IPR2017-00630, IPR2017-00769, IPR2017-00862, and IPR2017-00863.

signature for identifying the conversational flow of the packet,” and performing a lookup of “a database of flow records for previously encountered conversational flows to determine whether [the] signature is from an existing flow.” *Id.* at col. 2, ll. 11–43, col. 6, ll. 5–19, Fig. 1.

Figure 3 of the '751 patent is reproduced below.

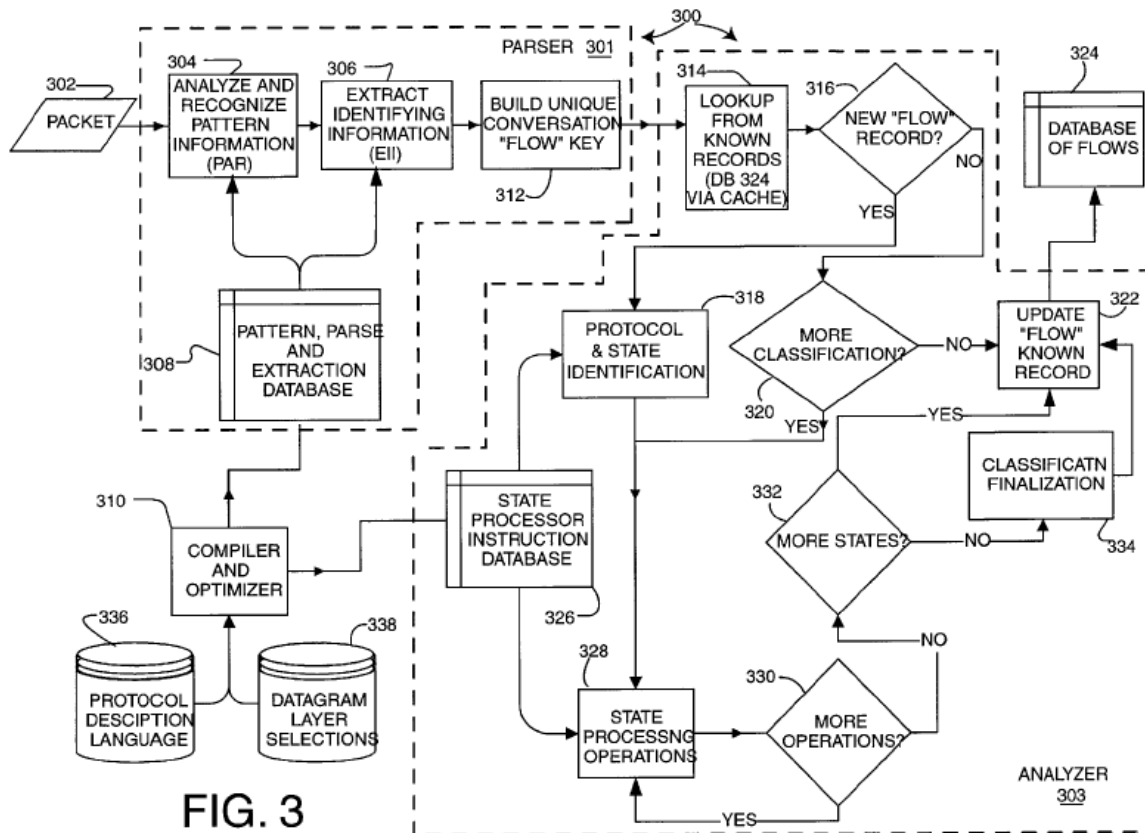


Figure 3 depicts various components of network packet monitor 300, including parser subsystem 301, analyzer subsystem 303, and database of known flows 324. *Id.* at col. 8, l. 47–col. 9, l. 2. Parser subsystem 300 “parses the packet and determines the protocol types and associated headers for each protocol layer that exists in the packet 302,” “extracts characteristic portions (signature information) from the packet 302,” and builds the “unique flow signature (also called a ‘key’) for this flow.” *Id.* at col. 9, l. 16–col. 10, l. 39, col. 29, l. 9–col. 31, l. 6 (describing an example of how

the disclosed monitor builds signatures and flow states in the context of a Sun Remote Procedure Call (RPC), where, after all of the required processing, “KEY-2 may . . . be used to recognize packets that are in any way associated with the application ‘a<sup>2</sup>’”), Fig. 2.

Analyzer system 303 then determines whether the packet has a matching flow-entry in database of flows 324, and processes the packet accordingly, including, for example, determining whether the packet belongs to an existing conversational flow or a new (i.e., not previously encountered) flow and, in the case of the latter, performing state processing to determine whether the conversational flow has been “fully characterized” and should be finalized. *Id.* at col. 10, l. 56–col. 13, l. 44. The ’751 patent discloses that

[f]uture packets that are part of the same conversational flow have their state analysis continued from a previously achieved state. When enough packets related to an application of interest have been processed, a final recognition state is ultimately reached, i.e., a set of states has been traversed by state analysis to completely characterize the conversational flow. The signature for that final state enables each new incoming packet of the same conversational flow to be individually recognized in real time.

In this manner, one of the great advantages of the present invention is realized. Once a particular set of state transitions has been traversed for the first time and ends in a final state, a short-cut recognition pattern—a signature—[c]an be generated that will key on every new incoming packet that relates to the conversational flow. Checking a signature involves a simple operation, allowing high packet rates to be successfully monitored on the network.

*Id.* at col. 13, ll. 11–27.

*B. Illustrative Claim*

Claim 1 of the '751 patent<sup>2</sup> recites:

1. A method of analyzing a flow of packets passing through a connection point on a computer network, the method comprising:

(a) receiving a packet from a packet acquisition device coupled to the connection point;

(b) for each received packet, looking up a flow-entry database for containing one or more flow-entries for previously encountered conversational flows, the looking up to determine if the received packet is of an existing flow, a conversational flow including an exchange of a sequence of one or more packets in any direction between two network entities as a result of a particular activity using a particular layered set of one or more network protocols, a conversational flow further having a set of one or more states, including an initial state;

(c) if the packet is of an existing flow, identifying the last encountered state of the flow, performing any state operations specified for the state of the flow, and updating the flow-entry of the existing flow including storing one or more statistical measures kept in the flow-entry; and

d) if the packet is of a new flow, performing any state operations required for the initial state of the new flow and storing a new flow-entry for the new flow in the flow-entry database, including storing one or more statistical measures kept in the flow-entry,

wherein every packet passing through the connection point is received by the packet acquisition device, and

wherein at least one step of the set consisting of of step (a) and step (b) includes identifying the protocol being used in the packet from a plurality of protocols at a plurality of protocol layer levels,

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<sup>2</sup> Claim 6 of the '751 patent was corrected in a Certificate of Correction dated March 8, 2005.

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