

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

PALO ALTO NETWORKS, INC., FORTINET, INC., and
WATCHGUARD TECHNOLOGIES, INC.

Petitioner,

v.

SELECTIVE SIGNALS, LLC,
Patent Owner.

Case IPR2018-00594
Patent 8,111,629 B2

Before KRISTEN L. DROESCH, MATTHEW R. CLEMENTS, and
MELISSA A. HAAPALA, *Administrative Patent Judges*.

CLEMENTS, *Administrative Patent Judge*.

DECISION
Instituting *Inter Partes* Review
35 U.S.C. § 314

I. INTRODUCTION

Palo Alto Networks, Inc., Fortinet, Inc., and WatchGuard Technologies, Inc. (“Petitioner”) filed a Petition requesting *inter partes* review of claims 15 and 17–22 (“the challenged claims”) of U.S. Patent No. 8,111,629 B2 (Ex. 1001, “the ’629 patent”). Paper 1 (“Pet.”). Selective Signals, LLC (“Patent Owner”) filed a Preliminary Response. Paper 9 (“Prelim. Resp.”). We review the Petition pursuant to 35 U.S.C. § 314, which provides that an *inter partes* review may be authorized only if “the information presented in the petition . . . and any [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.” 35 U.S.C. § 314(a); 37 C.F.R. § 42.4(a).

Upon consideration of the Petition and the Preliminary Response, we determine that the information presented by Petitioner establishes that there is a reasonable likelihood that Petitioner would prevail in showing the unpatentability of at least one of the challenged claims of the ’629 patent. Accordingly, pursuant to 35 U.S.C. § 314, we institute an *inter partes* review of claims 15 and 17–22 of the ’629 patent.

A. Related Proceedings

The ’629 patent is involved in *Selective Signals, LLC v. Palo Alto Networks, Inc.*, 6:17-cv-00065 (E.D. Tex. 2017) (now pending in D. Del. as Case No. 1:17-cv-01470); *Selective Signals, LLC., v. Fortinet, Inc.*, 6:17-cv-00064 (E.D. Tex. 2017) (now pending in N.D. Cal. as Case No. 4:18-cv-00222); *Selective Signals, LLC., v. WatchGuard Technologies, Inc.*, 6:17-cv-00067 (E.D. Tex. 2017) (now pending in W.D. Was. as Case No. 2;17-cv-

01823); and *Selective Signals, LLC v. Rohde & Schwarz USA, Inc.*, 6:17-cv-00066 (E.D. Tex. 2017) (dismissed with prejudice). Pet. 5; Paper 7, 2.

B. The '629 patent

The '629 patent, titled “Media Session Identification Method for IP Networks,” issued February 7, 2012, from U.S. Patent Application No. 12/513,510. Ex. 1001 at [54], [45], [21]. The '629 patent generally relates to “a media session identification method that identifies media sessions from the flow of packets and assigns specific packets to the media sessions.” *Id.* at 1:19–22.

According to the '629 patent, “traditional technologies for analyzing and identifying IP traffic (including IP media sessions) include packet header analysis,” in which “[p]ackets whose headers indicate the same destination may be assumed to belong to the same session,” but it is too “simplistic.” *Id.* at 2:4–9. “[T]here is also the so called ‘Deep Packet Inspection’ method, or the ‘Packet Content Analysis’” method, but this method “is depend[e]nt on elements that can be encrypted or altered by the application and can therefore be initially unreadable or the reading can become invalid if the application alters its content sequence.” *Id.* at 2:9–36. “[I]t is also known to use Complete Packet Inspection (CPI), which combines header analysis and deep packet inspection,” but doing so “requires strong powerful monitoring processing power as well as huge memory resources, as many thousands of IP sessions occur simultaneously,” which “renders the solution unfeasible in many cases.” *Id.* at 2:38–54.

To overcome these limitations, the '629 patent describes a method of “us[ing] the regularity and similarity characteristics of packet traffic, belonging to a media session, to identify the packets belonging to a given

media session” and to subsequently identify the kind of media session, “so that the media session can be provisioned and/or controlled (e.g allocating appropriate resources or not allocating at all, as required).” *Id.* at 3:23–29.

According to the '629 patent

[t]raffic characteristics relate to those parameters inherent to packets traffic flow as it travels from source to destination and includes features such as packet length, inter-arrival period, bandwidth and statistical and other derivations thereof as well as certain header characteristics such as source address and destination address but excludes packet payload content whose inspection is common in deep packet inspection (packet content inspection) techniques.

Id. at 6:11–19 (emphasis added).

Figure 1 is reproduced below.

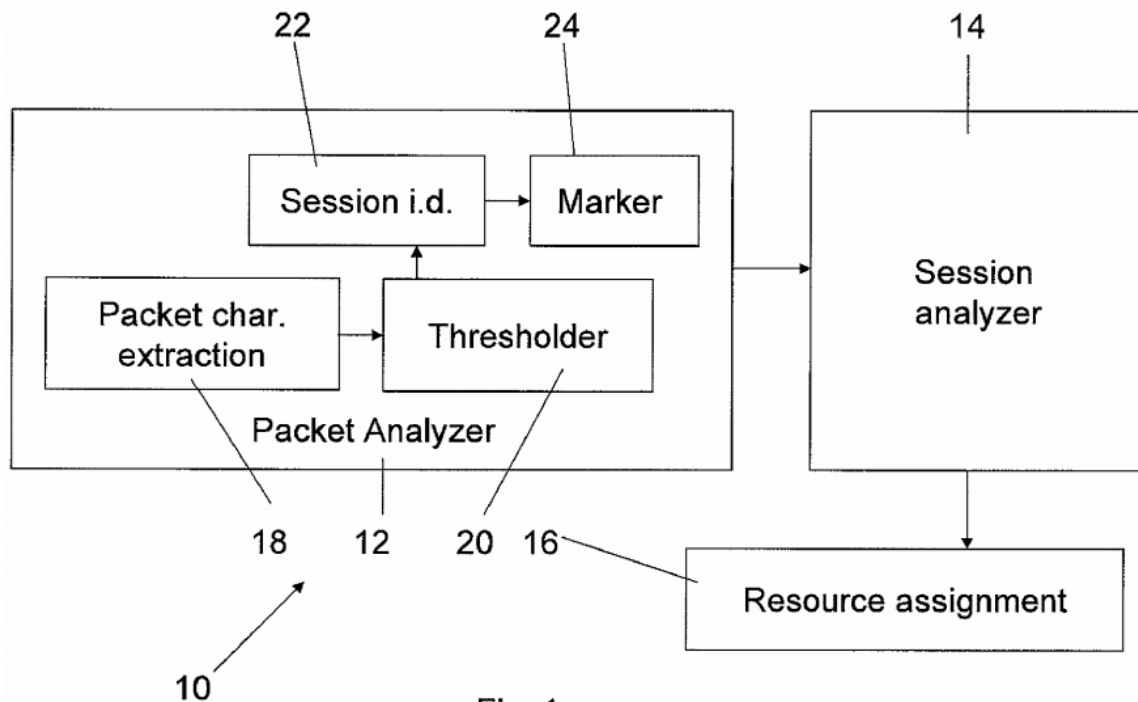


Fig. 1

Figure 1 is a simplified block diagram showing a packet and session identification apparatus according to a first embodiment. *Id.* at 5:57–59.

“Apparatus 10 comprises a packet analyzer unit 12 and a session analyzer unit 14.” *Id.* at 6:36–37. Resource assignment unit 16 assigns, limits, or refuses network resources to the identified media session “so that individual packets are given a priority level according to the needs of the media session to which they are found to belong, or may provide other provisioning or control actions for the session.” *Id.* at 6:37–42.

The packet analyzer 12 analyzes incoming data packets and determines which packets belong to a common session. The packet analyzer 12 includes a packet characteristic extractor 18 which extracts readily available *packet traffic characteristics such as packet length or inter-arrival period, or source or destination addresses or other traffic characteristics of the packets*. Readily available characteristics are those characteristics that do not require deep analysis of the packet content. Preferably, characteristics that can be obtained from mere observable traffic behavior examination, without opening the packet, are used. The packet characteristic extraction unit obtains these packet characteristics from a succession of packets.

Id. at 6:43–55 (emphasis added).

C. Illustrative Claim

Of the challenged claims, claim 15 is independent and claims 17–22 depend directly from claim 15. Independent claim 15 is illustrative of the challenged claims and is reproduced below:

15. A method of identifying session type, comprising
 - obtaining passing packets of respectively unknown sessions and unknown session types;
 - obtaining traffic packet characteristics of said passing packets of respectively unknown session types;
 - comparing said obtained packets with each other using respectively obtained traffic packet characteristics;

grouping together those packets having similar values of said traffic packet characteristics into a presumed session; []

analyzing said grouped packets of said presumed session for session characteristic; [and]

using said session characteristics to identify a session type of said presumed session.

Ex. 1001, 13:26–39.

D. Evidence Relied Upon

Petitioner relies upon the following prior art references:

Pappu	US 8,085,775 B1	Dec. 27, 2011	Ex. 1004
Peleg	US 2006/0262789 A1	Nov. 23, 2006	Ex. 1006

Pet. 26–27. Petitioner also relies upon the Declaration of Dr. Samuel H. Russ, signed February 7, 2018 (Ex. 1003). Patent Owner relies upon the Declaration of Dr. Gabi Nakibly, signed May 18, 2018 (Ex. 2001).

E. Asserted Grounds of Unpatentability

Petitioner asserts that the challenged claims are unpatentable under 35 U.S.C. § 103 as obvious over Pappu alone or in combination with Peleg. Pet. 26.

II. ANALYSIS

A. Claim Construction

In an *inter partes* review, a claim in an unexpired patent shall be given its broadest reasonable construction in light of the specification of the patent in which it appears. 37 C.F.R. § 42.100(b). Under the broadest reasonable construction standard, claim terms are given their ordinary and customary meaning, as would be understood by one of ordinary skill in the art in the context of the entire disclosure. *In re Translogic Tech., Inc.*, 504 F.3d 1249,

1257 (Fed. Cir. 2007). Any special definition for a claim term must be set forth in the specification with reasonable clarity, deliberateness, and precision. *In re Paulsen*, 30 F.3d 1475, 1480 (Fed. Cir. 1994). We must be careful not to read a particular embodiment appearing in the written description into the claim if the claim language is broader than the embodiment. *See In re Van Geuns*, 988 F.2d 1181, 1184 (Fed. Cir. 1993). Only terms that are in controversy need to be construed, and then only to the extent necessary to resolve the controversy. *Vivid Techs., Inc. v. Am. Sci. & Eng'g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999).

Petitioner does not propose explicit constructions for any terms. Pet. 20–21. Patent Owner proposes we construe “traffic packet characteristics” to mean “parameters associated with a traffic packet, the parameters including more than packet header information and excluding packet payload content whose inspection is common in deep packet inspection techniques.” Prelim. Resp. 6–11.

Patent Owner argues that the '629 patent “explicitly discounts the use of (and therefore teaches away from) relying only on packet header information.” *Id.* at 7 (citing Ex. 1001, 2:4–11). Patent Owner also argues that the '629 patent teaches the use of “more than packet header information,” such as packet length and inter-arrival period, which “are not found in the packet header.” *Id.* at 7–8 (citing Ex. 2001 ¶ 36. According to Dr. Nakibly

[a]lthough there is a field in the packet's IP header that denotes the packet's length, this field only refers to the length of the IP header and its payload. It does not include the sum of lengths of other headers and trailers of layer 2 the packet may have.

Ex. 2001 ¶ 36. Patent Owner argues that the methods disclosed in the '629 patent “rely on such non-header information (e.g., packet length, inter-arrival time, etc.).” Prelim. Resp. 8. Patent Owner also relies on the '629 patent’s disclosure that “[t]raffic characteristics . . . include[] features such as packet length . . . *as well as* certain header characteristics such as source address and destination address,” by interpreting “as well as” to permit “certain header characteristics” but to require “features such as packet length, inter-arrival period, bandwidth and statistical and other derivations thereof” *Id.* at 10 (quoting Ex. 1001, 6:8–19).

We decline to construe “traffic packet characteristics” to require more than packet header information. Although the '629 patent identifies packet header analysis as traditional technology (Ex. 1001, 2:4–7) that is “simplicistic” (*id.* at 2:9), it characterizes packet header analysis as focusing on destination (*id.* at 2:7–8 (“Packets whose headers indicate the same destination may be assumed to belong to the same session.”)) and identifies the problem as “[t]he same user may be running several different sessions simultaneously and mere packet header analysis may not be able to distinguish between them” (*id.* at 2:9–11). As a result, we understand the '629 patent to disparage the use of destination only, as opposed to the use of header information only.

Moreover, we are not persuaded, on this record, that “packet length” is not found in the header. Dr. Nakibly acknowledges that packet length is an IP packet field that “refers to the length of the IP header and its payload.” Ex. 2001 ¶ 36. Dr. Nakibly faults this header information for “not includ[ing] the sum of lengths of other headers and trailers of layer 2 the packet may have” (*id.*), but does not explain why the length of the layer 2

frame would matter for purposes of the packet analysis method disclosed in the '629 patent. The '629 patent discloses a “media session identification method *for IP networks*” (*id.* at 1:17–18) and “relates to IP traffic inspection” (*id.* at 6:9). In some places, the '629 patent refers to “higher layers” of the OSI network model (*see, e.g., id.* at 9:20, 9:66), but it never once refers to “lower layers” or to Layer 2 specifically. We therefore understand “packet length,” as used in the '629 patent, to refer to the length of an IP packet (*i.e.*, layer 3), not to the length of a layer 2 frame. As a result, we are not persuaded that “packet length” is not found in the header and, therefore, are not persuaded that the embodiments describing the use of packet length require more than header information.

Finally, even if “packet length” was not header information, the '629 patent states explicitly that “[t]raffic characteristics . . . includes features such as packet length, inter-arrival period, bandwidth and statistical and other derivations thereof *as well as certain header characteristics* such as source address and destination address.” Ex. 1001, 6:11–17 (emphasis added). Contrary to Patent Owner’s assertion, the most natural interpretation of this sentence is that “traffic characteristics” includes certain header information. Moreover, this interpretation is consistent with the '629 patent’s disclosure that packet characteristic extractor 18 “extracts readily available packet traffic characteristics such as packet length or inter-arrival period, *or source or destination addresses* or other traffic characteristics of the packets.” *Id.* at 6:45–49 (emphasis added).

As a result, we construe “traffic packet characteristics” to encompass characteristics derived exclusively from header information.

B. Obviousness over Pappu and Peleg

Petitioner argues that claims 15 and 17–22 are unpatentable under 35 U.S.C. § 103(a) as obvious over the combination of Pappu alone or in combination with Peleg. Pet. 27–56. In light of the arguments and evidence of record, we are persuaded that Petitioner has established a reasonable likelihood that claims 15 and 17–22 are unpatentable as obvious over the combination of Pappu and Peleg.

1. Pappu (Ex. 1004)

Pappu is titled “Identifying Flows Based on Behavior Characteristics and Applying User-Defined Actions.” Ex. 1004 [54]. It describes “a mechanism for effectively identifying, classifying, and controlling information packet flows in a network.” *Id.* at 2:35–36. “In one embodiment of the invention, flows are identified and classified based upon their observed behavior” such that “the traffic type that a flow represents can be estimated with relatively high accuracy even if the contents of the packets that represent the traffic type are dissimilar.” *Id.* at 2:41–47.

In one embodiment of the invention, a flow is processed as follows. One or more information packets belonging to the flow are received and processed. As the information packets are processed, a set of behavioral statistics are maintained for the flow. These behavioral statistics reflect the empirical behavior of the flow. In one embodiment, the behavioral statistics include a total byte count (sum of all of the bytes in all of the packets of the flow that have been processed up to the current time), a life duration (how long the flow has been in existence since inception), a flow rate (derived by dividing the total byte count by the life duration of the flow), and an average packet size (derived by dividing the total byte count by the total number of packets in the flow that have been processed and forwarded). These behavioral statistics are updated as information packets

belonging to the flow are processed; thus, these statistics provide a current reflection of the flow's behavior.

Id. at 2:54–3:3. “Thus, different flows that are associated with similar behavioral statistics may be handled in similar ways.” *Id.* at 3:22–23.

2. *Peleg (Ex. 1006)*

Peleg is titled “Method and Corresponding Device for Packets Classification.” Ex. 1006 [54]. Peleg describes “[m]ethods and corresponding devices for packets classification featuring pattern recognition, and not content recognition or port matching.” *Id.* at Abstract. “In accordance with the present invention, an exemplary classifier classifies the packets based on their length and/or the time intervals between successive packets belonging to the same session.” *Id.* ¶ 22.

3. *Petitioner’s Contentions*

Claim 15 recites “obtaining passing packets of respectively unknown sessions and unknown session types.” Petitioner relies upon Pappu’s teaching that flow manager (“FM”) 210 is “on a line card that is acting as an egress line card (i.e., the line card is receiving packets from an ingress line card and sending packets out to another router)” and “receives and processes a packet that does not match any previously established flow.” Pet. 39–40.

Claim 15 also recites “obtaining traffic packet characteristics of said passing packets of respectively unknown session types.” Petitioner relies upon Pappu’s teaching of obtaining a “five tuple” of a passing packet consisting of “the same source address, the same source port number, the same destination address, the same destination port number, and the same transport layer protocol.” Pet. 40 (citing Ex. 1004, 6:17–26).

Claim 15 also recites “comparing said obtained packets with each other using respectively obtained traffic packet characteristics.” Petitioner relies upon Pappu’s teaching that “packets are grouped into a flow if those packets share a sufficient amount of header information,” and “in one embodiment of the invention, . . . if two or more packets have the same source address, the same source port number, the same destination address, the same destination port number, and the same transport layer protocol, then those packets are deemed to belong to the same flow.” Pet. 41–42 (citing Ex. 1004, 6:17–26). According to Petitioner, a person of ordinary skill in the art would have understood that determining “if those packets share a sufficient amount of header information” is a comparison of traffic packet characteristics. *Id.* at 42 (citing Ex. 1003 ¶ 98).

Claim 15 also recites “grouping together those packets having similar values of said traffic packet characteristics into a presumed session.” Petitioner relies upon Pappu’s teaching that “packets are grouped into a flow if those packets share a sufficient amount of header information,” and “in one embodiment of the invention, . . . if two or more packets have the same source address, the same source port number, the same destination address, the same destination port number, and the same transport layer protocol, then those packets are deemed to belong to the same flow.” Pet. 42–43 (citing Ex. 1004, 6:17–26). Petitioner asserts that “this grouping into a flow is not necessarily sufficient to identify the specific session and therefore the grouping is only a *presumed* session.” *Id.* at 43 (emphasis added) (citing Ex. 1004, 8:16–25 (“the packet’s five tuple alone does not necessarily determine which actions router 102 will apply to that packet. This is because the five

tuple lacks the information that categorizes the traffic as being P2P, VOIP, online gaming traffic, or another kind of traffic.”)).

Petitioner also relies, in the alternative, on Peleg’s teaching of using criteria to initially group packets into “potential sessions.” Pet. 43–44 (citing Ex. 1006 ¶¶ 41, 47). Peleg teaches that:

[m]oreover, in an alternative embodiment, there is looking for the appropriate IP source, IP destination, and port numbers, in a sessions table. In an embodiment of the present invention, the sessions table stores the identified and potential sessions. In case there is no entry for the specific session in the sessions table, a new entry in the sessions table is created. Actually, the new entry represents *a new potential session*.

Ex. 1006 ¶ 41 (emphasis added). According to Petitioner

[a] POSA would be motivated to modify the teachings of Pappu (grouping packets in flows) with the teachings of Peleg (initially grouping packets in potential sessions, and then deciding if there is an identified session) to thereby allow treating the identified sessions differently from potential sessions in order to allocate resources more efficiently. PAN-1003 ¶103. Specifically, Pappu explains that a router would benefit from an ability to identify different types of traffic, and to take specified appropriate actions relative to those types of traffic, because it would make the best use of available resources best control the traffic that passes through router 102. PAN-1004 6:38-42; PAN-1003 ¶103. A POSA would have understood that taking into consideration that packets can belong to an identified or a potential session is a better use of available resources than treating all flows interchangeably. PAN-1003 ¶103. For example, it may be more efficient to focus resources on identified sessions since their resource demands are known and more predictable. PAN-1003 ¶103. Moreover, Pappu and Peleg are in the same field of endeavor (e.g., routing different types of packet flows), address the same problems (e.g., efficiently allocating resources network resources to packet flows), and propose the same solutions (e.g., identifying and classifying packet flows

using traffic characteristics). Accordingly, modifying the teachings of Pappu with the teachings of Peleg results in a more efficient use of resources using a known technique to improve a similar system and to yield predictable results. *PAN-1003* ¶103.

Therefore, in view of the above, it would have been obvious to a POSA to group the packets of Pappu in a potential session (*presumed session*) as taught by Peleg. *PAN-1003* ¶104. A POSA would have been motivated to make the modification to more efficiently allocate resources as described above. *PAN-1003* ¶104.

Pet. 44–45.

Claim 15 also recites “analyzing said grouped packets of said presumed session for session characteristic.” Petitioner relies upon Pappu’s teaching of creating a flow block including the Flow ID and a set of behavioral statistics for the flow. Pet. 46–47 (citing Ex. 1004, 7:21–50, 14:50–15:5, Fig. 3, Fig. 4). The behavioral statistics include Total Byte Count, Life Duration, Flow Rate, Number, Average Packet Size, Average Packet Rate, Average Inter-Packet Gap, Moving Average Flow Rate, Instantaneous Flow Rate, and Flow Block Creation Timestamp. *Id.* Petitioner also cites Pappu’s teaching that FM 210 “keep[s] track of flows, determin[es] what behavior those flows are exhibiting, and appl[ies] user-specified actions to those flows based on those flows’ exhibited behavior.” Pet. 48 (quoting Ex. 1004, 6:44–49).

Claim 15 also recites “using said session characteristics to identify a session type of said presumed session.” Petitioner relies upon Pappu’s teaching that “[t]he type of traffic that a particular flow represents can be estimated from that flow’s behavioral statistics.” Pet. 48 (Ex. 1004, 8:26–27). Pappu teaches determining whether flows are, e.g., “VOIP traffic” or “online gaming traffic.” Pet. 48 (Ex. 1004, 9:39–48, 10:17–27).

Petitioner has provided a similar detailed analysis of claims 17, 18, and 20–22. Pet. 49–56. Notwithstanding Patent Owner’s arguments, which we have considered and which we address below, we are persuaded, on this record, that Petitioner has established a reasonable likelihood that claims 15, 17, 18, and 20–22 are unpatentable under 35 U.S.C. § 103(a) as obvious over the combination of Pappu and Peleg. We are not persuaded that Petitioner has established a reasonable likelihood that claim 19 is unpatentable under 35 U.S.C. § 103(a) as obvious over the combination of Pappu and Peleg for the reasons discussed below.

4. Patent Owner’s Arguments

i. “traffic packet characteristics”

Patent Owner argues that Pappu does not disclose any of the limitations reciting “traffic packet characteristics” because it teaches the use of header-only information whereas “traffic packet characteristics” requires more than header-only information. Prelim. Resp. 11–15, 34. These arguments are not persuasive because they are predicated upon Patent Owner’s proposed construction of “traffic packet characteristics,” which we declined to adopt for the reasons discussed above.

ii. “session”

Patent Owner argues Pappu does not disclose any of the limitations reciting “sessions” because Pappu discloses flows, which “are distinct from and are not sessions.” Prelim. Resp. 15–25. Even assuming Patent Owner is correct about flows not teaching sessions, these arguments are not persuasive because Petitioner also relies upon Peleg for teaching “sessions.” Pet. 43–45. Although Patent Owner argues that Petitioner does not account for Peleg for the “analyzing” and “using” limitations (Prelim. Resp. 21–25), we are

persuaded that Pappu is teaching analyzing and using, and that a person of ordinary skill in the art would have understood how to substitute Peleg's sessions in for Pappu's flows in each of the "analyzing" and "using" steps.

With respect to Peleg, Patent Owner argues Peleg does not disclose a "presumed session" because "although Peleg uses the term 'session,' the disclosure describes flows." Prelim. Resp. 31–32. Specifically, Patent Owner argues that Peleg states "sessions, by definition, are unidirectional," but the claimed "session" is not unidirectional. *Id.* at 31; *see also id.* at 32–33 (arguing "there is insufficient disclosure in Peleg to explain how Peleg would actually manage a session" and "[t]he proposed combination would only function for simple unidirectional flows"). On this record, we are not persuaded that the "session" taught in Peleg is different from the "session" described in the '629 patent and recited in the claims. Peleg states, for example, that "[i]n an embodiment of the invention, the session are VoIP sessions, and/or Multimedia over IP sessions." Ex. 1006 ¶ 20. This usage of "session" is consistent with the usage of "session" in the '629 patent.

Patent Owner also argues that Peleg does not teach an "unknown" session because Peleg's session types are already known. Prelim. Resp. 31. This argument is not persuasive on this record because Peleg teaches grouping initially into a "potential session," at which point its type is unknown. Pet. 43–45.

iii. Claim 18

Patent Owner also argues that claim 18 would not have been obvious over the combination of Pappu and Peleg because it does not teach "thresholding," as recited by claim 18. Prelim. Resp. 25–26. Specifically, Patent Owner argues that Pappu teaches a "binary choice of 'everything

either matches or it doesn't” and argues that a binary choice “does not constitute a ‘threshold.’” *Id.* On this record, we are persuaded Pappu teaches a “threshold” because it teaches that packets are grouped into a flow “if those packets share a *sufficient* amount of header information.” Ex. 1004, 6:15–19 (emphasis added). The word “sufficient” indicates a threshold, above which the packets are grouped into a flow.

iv. Claim 19

Patent Owner also argues that claim 19 would not have been obvious because Pappu does not teach “at least one member of the group consisting of packet length, inter-arrival period, and average bandwidth,” as recited. Prelim. Resp. 26–27. Specifically, Patent Owner argues that (1) Pappu does not teach average bandwidth; and (2) Pappu teaches “average” packet length and “average” inter-arrival period, which are different from the recited “packet length” and “inter-arrival period.” *Id.* We agree. Moreover, we interpret “said characteristics” recited in claim 19 as referring to the “traffic packet characteristics” recited in claim 15. Petitioner relied upon Pappu’s five-tuple for teaching “traffic packet characteristics,” so its reliance, in claim 19, on Pappu’s teaching of average packet size and average inter-arrival period is inconsistent with its earlier reliance on Pappu’s five-tuple. Moreover, Pappu’s five-tuple does not include at least one of packet length, inter-arrival period, and average bandwidth.

v. Reason to combine

Patent Owner also argues that the combination of Pappu and Peleg is improper because (1) Peleg “teaches away” from combination with Pappu; (2) Peleg and Pappu “address different problems;” and (3) Petitioner fails to

identify any differences between claim 15 and Pappu. Prelim. Resp. 27–30. We address each argument in turn.

We disagree that Peleg “disparages reliance on header-only information.” Prelim. Resp. 28. Peleg states that “[a]n additional significant limitation of prior art devices operating on the basis of ports identification, is that port identification is not a robust mechanism.” Ex. 1006 ¶ 5. At most, Peleg disparages reliance only on ports; it does not disparage explicitly reliance on header-only information, ports are only two parts of Pappu’s five-tuple, and the other three parts (source address, destination address, and transport layer protocol are harder to “go around” (Ex. 1006 ¶ 5) than port numbers.

We also are not persuaded, on this record, that Pappu and Peleg address different problems. Patent Owner argues that “[f]low management and session management are different problems requiring different solutions” and that “[n]either [Pappu nor Peleg] addresses sessions.” Prelim. Resp. 28–29. Peleg teaches explicitly, “classifying sessions based on the pattern and/or characteristics of traffic, rather than traffic contents.” Ex. 1006 ¶¶ 7, 8. This problem is very similar to the ’629 patent’s disclosure of “IP traffic inspection by means of identifying those packets having similar traffic characteristics as probabilistically belonging to the same media session.” Ex. 1001, 6:9–11. The problem common to the ’629 patent, Pappu, and Peleg is that of identifying related packets without looking at payloads. *See, e.g.*, Ex. 1001, 2:12–58 (problems with deep packet inspection); Ex. 1004, 1:40–43 (problems with payload inspection); Ex. 1006 ¶ 7 (“rather than traffic contents”).

Finally, we disagree that “Petitioner has failed to identify any differences between Claim 15 and Pappu.” Prelim. Resp. 29. Petitioner argued that Pappu taught the limitation and, in the alternative, argued that Peleg taught that limitation. Pet. 42–45. Thus, in the combination with Peleg, the difference between Pappu and claim 15 is that Pappu’s grouping of packets into “flows” does not teach “grouping together those packets having similar values of said traffic packet characteristics into a presumed session.” In other words, if the Board determines that Pappu’s “flow” is different than the recited “session,” Petitioner relies on Peleg’s teachings of grouping into a “session.” Under these circumstances, where Peleg is relied upon for only a single limitation, Petitioner’s contentions are sufficiently clear.

5. Conclusion

On this record, we are persuaded that Petitioner has established a reasonable likelihood that it would prevail in showing that claims 15, 17, 18, and 20–22 are unpatentable as obvious over the combination of Pappu and Peleg. We are not persuaded that Petitioner has established a reasonable likelihood that it would prevail in showing that claim 19 is unpatentable as obvious over the combination of Pappu and Peleg.

C. Institution

On April 24, 2018, the Supreme Court held that a decision to institute under 35 U.S.C. § 314 may not institute on less than all claims challenged in the petition. *SAS Inst., Inc. v. Iancu*, 2018 WL 1914661, at *10 (U.S. Apr. 24, 2018). After considering the evidence and arguments presented in the Petition and Preliminary Response, we determine that Petitioner has demonstrated a reasonable likelihood of success in proving that at least

claims 15, 17, 18, and 20–22 of the '629 patent are unpatentable. Accordingly, an *inter partes* review of all challenged claims and all grounds presented in the Petition is hereby instituted.

III. CONCLUSION

For the foregoing reasons, we are persuaded that Petitioner has demonstrated that there is a reasonable likelihood that Petitioner would prevail in establishing the unpatentability of claims 15, 17, 18, and 20–22 of the '629 patent. At this stage of the proceeding, we have not made a final determination with respect to the patentability of the challenged claims or to the construction of any claim term.

IV. ORDER

Accordingly, it is

ORDERED that pursuant to 35 U.S.C. § 314, an *inter partes* review of claims 15 and 17–22 of the '629 patent is instituted with respect to the sole ground set forth in the Petition; and

FURTHER ORDERED that pursuant to 35 U.S.C. § 314(c) and 37 C.F.R. § 42.4, *inter partes* review of the '629 patent shall commence on the entry date of this Order, and notice is hereby given of the institution of a trial.

IPR2018-00594
Patent 8,111,629 B2

For PETITIONER:

Patrick D. McPherson
Patrick Craig Muldoon
David C. Dotson
DUANE MORRIS LLP
pdmcperson@duanemorris.com
pcmuldoon@duanemorris.com

James H. Hall
BLANK ROME LLP
jhall@blankrome.com

For PATENT OWNER:

Jeffrey G. Toler
Benjamin R. Johnson
TOLER LAW GROUP, PC
jtoler@tlgiplaw.com
bjohnson@tlgiplaw.com