

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

META PLATFORMS, INC., INSTAGRAM, INC., WHATSAPP LLC,
META PLATFORMS TECHNOLOGIES, LLC, and GIPHY, INC.,
Petitioner,

v.

VL COLLECTIVE IP LLC,
Patent Owner.

IPR2023-00923
Patent 7,266,682 B2

Before KARL D. EASTHOM, JEFFREY S. SMITH, and
DAVID C. McKONE, *Administrative Patent Judges*.

Opinion for the Board filed by *Administrative Patent Judge* SMITH

Opinion Dissenting filed by *Administrative Patent Judge* McKONE.

SMITH, *Administrative Patent Judge*.

DECISION
Granting Institution of *Inter Partes* Review
35 U.S.C. § 314

I. INTRODUCTION

A. *Background and Summary*

Meta Platforms, Inc, Instagram, Inc., WhatsApp LLC, Meta Platforms Technologies, LLC, and GIPHY, Inc. (collectively, “Petitioner”) filed a Petition (Paper 3, “Pet.”) requesting *inter partes* review of claims 1–28 of U.S. Patent No. 7,266,682 B2 (Ex. 1001, “the ’682 patent”) pursuant to 35 U.S.C. § 311(a). VL Collective IP LLC (“Patent Owner”) filed a Preliminary Response (Paper 11, “Prelim. Resp.”) pursuant to 35 U.S.C. § 313. We authorized Petitioner to file a Reply (Paper 14), and Patent Owner to file a Sur-Reply (Paper 15), to address whether the Petition sufficiently shows that Exhibits 1005 and 1007 qualify as prior art. Paper 13.

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 institute an *inter partes* review as to claims 1–28 of the ’682 patent on the grounds of unpatentability asserted in the Petition.

B. *Real Parties-In-Interest*

Petitioner identifies “Meta Platforms, Inc., Instagram, Inc., WhatsApp LLC, Meta Platforms Technologies, LLC, and GIPHY, Inc.” as its real parties-in-interest. Pet. 2.

Patent Owner identifies “VL Collective[,]. . . VL IP Holdings LLC, which is a parent company of VL Collective, and VideoLabs, Inc., which is

a parent company of VL IP Holdings LLC,” as its real parties-in-interest.
Paper 9, 2.

C. Related Matters

The Petition states that the ’682 patent is/was the subject of the following district court proceedings: *VideoLabs, Inc. v. Meta Platforms, Inc.*, No. 1-22-cv-00680 (D. Del.), filed May 24, 2022 (pending) (“Delaware Action”); and *VideoLabs Inc. v. Amazon.com Inc.*, No. 6-22-cv-01167 (W.D. Tex.) (completed). Pet. 2.

II. THE ’682 PATENT (Ex. 1001)

The ’682 patent discloses extending data sent from a transmitter to include authentication data on the application level by an application protocol. Ex. 1001, code(57). The authentication data is used by the receiver to determine whether the transmitter is known by the receiver. *Id.* If the transmitter is known by the receiver, the data is accepted. *Id.* If not, the data is rejected. *Id.*

Figure 3 is reproduced below.

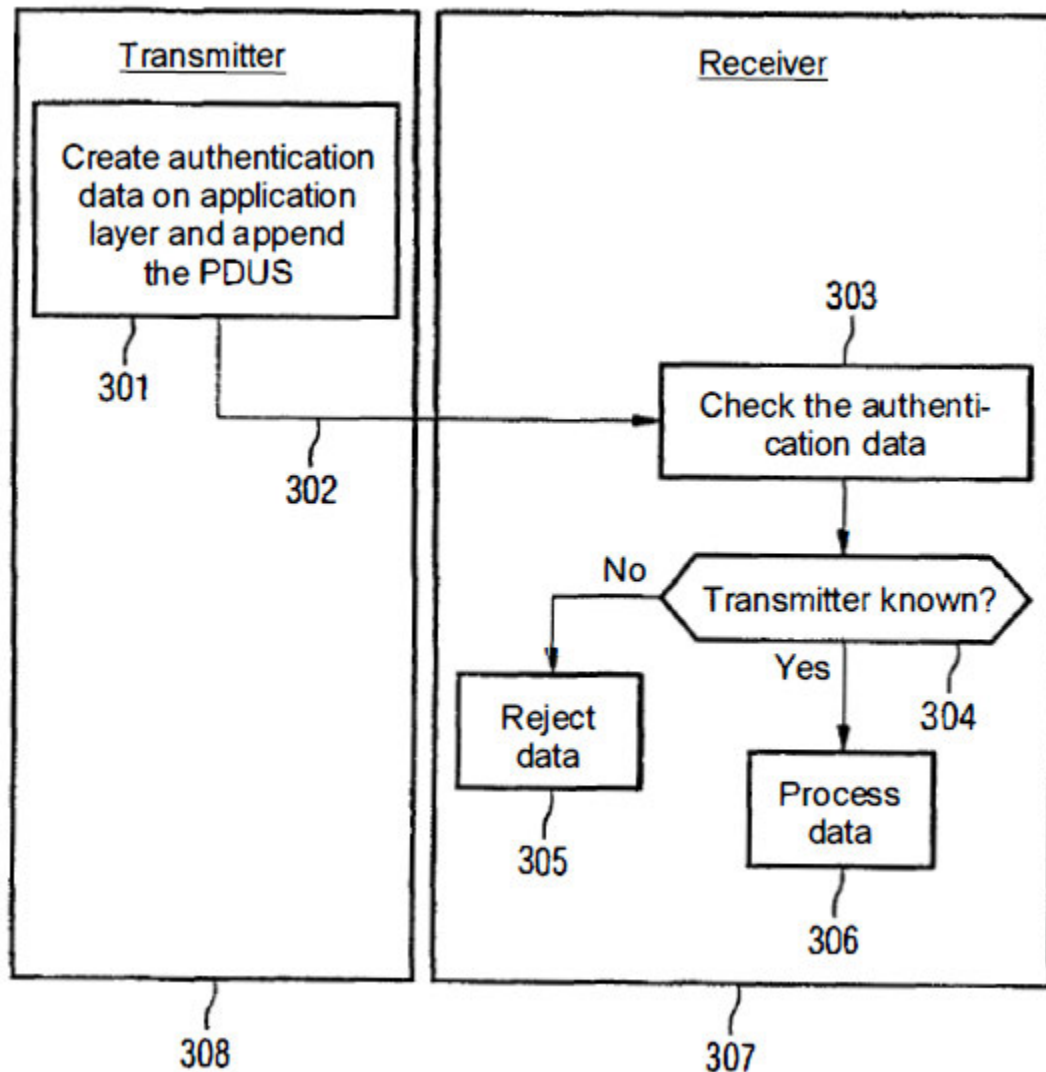


Figure 3 depicts “a flowchart for transmitting data from the transmitter **308** to the receiver **307**.” *Id.* at 7:6–7.

As shown in Figure 3 above, at step 301, “authentication data, are transmitted to the receiver **307** [over] connection **302** . . . using the . . . application protocol.” *Id.* at 7:7–10. At step 303, “the authentication data are checked in the receiver **307**.” *Id.* at 7:14–15. Step 304 “determine[s] whether the transmitter **308** is known to the receiver **307**.” *Id.*

at 7:15–17. “If this is not the case,” in step 305 “the data are rejected.” *Id.*
at 7:17–18. “If the transmitter **308** is known to the receiver **307**,” in step 306
“the data are processed further[; i.e., t]he authentication . . . was successful[]
and the transmitted data are not unwanted mass data.” *Id.* at 7:19–23.

Figure 4 is reproduced below.

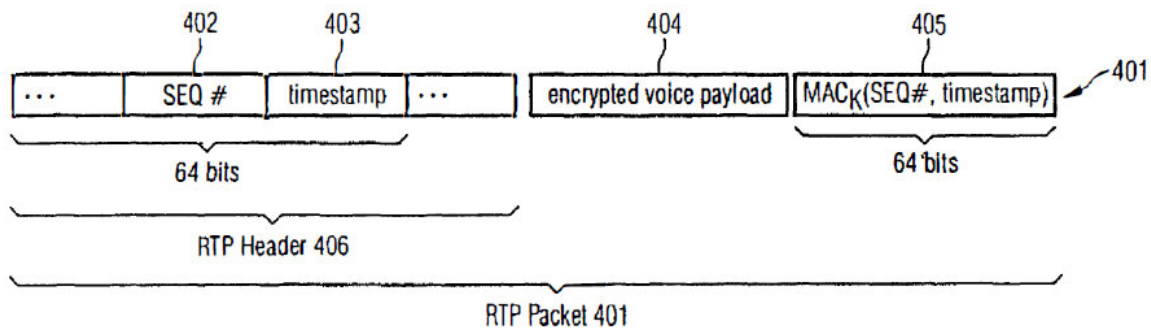


Figure 4 illustrates “a protocol data unit (PDU) of the application protocol with authentication data” and particularly “[the PDU] of the [RTP] **201** in FIG. 2.” *Id.* at 7:24–27.

As shown in Figure 4 above, the PDU is an “RTP packet **401** compris[ing] an RTP header **406**, encrypted media data **404** and authentication data **405**.” *Id.* at 7:27–29. “The RTP header **406** comprises, *inter alia*, a sequence number **402** and a timestamp **403**.” *Id.* at 7:29–30. “Both the transmitter and the receiver know a shared secret K , in this case indicated as a key, which is used to generate a message authentication code (MAC), [**405**] on the basis of the sequence number **402** and the timestamp **403**.” *Id.* at 7:3–34. “[S]uch a packet sent by the transmitter is authenticated at the receiver end such that (in relation to the application layer) a message authentication code is generated by field **402** (sequence number) and field **403** (timestamp) on the basis of the key (K) known to the receiver.” *Id.* at 7:37–42. “If this message authentication code is the same as the field **405**,

then the arriving RTP packet **401** is a data packet coming from a known transmitter, and the data are processed . . . [otherwise,] the transmitter is unknown to the receiver and the entire RTP packet is rejected.” *Id.* at 7:42–48.

III. ILLUSTRATIVE CLAIM

Independent claim 1 of the ’682 patent is reproduced, below, with bracketed annotations inserting Petitioner’s identifiers of claim limitations (Pet. 79–83):

[1] A method for transmitting data from a transmitter to a receiver, comprising:

[1.1] providing transmitter-to-receiver authentication at a Real Time Transport Protocol (RTP) packet level as an application protocol on an application layer

[1.2] by inserting, at the transmitter, authentication data at end of a whole RTP packet payload;

[1.3] ascertaining, by the receiver, whether the receiver knows the transmitter based on the RTP packet level authentication data; and

[1.4] accepting, by the receiver, the whole RTP packet payload, if the receiver knows the transmitter, and otherwise rejecting the whole RTP packet payload.

Ex. 1001, 7:55–67.

IV. ASSERTED GROUNDS

Petitioner asserts that claims 1–28 of the ’682 patent are unpatentable on the following grounds (Pet. 5, 10–72).

Claim(s) Challenged	35 U.S.C. § ¹	Reference(s)/Basis
1–21, 23, 25–28	103(a)	Handley, ² Basturk ³
1–28	103(a)	PacketCable, ⁴ Handley
1–28	103(a)	PacketCable, Basturk
22, 24	103(a)	Handley, Basturk, PacketCable

V. LEVEL OF ORDINARY SKILL

Petitioner identifies a person of ordinary skill as someone possessing: “[A] Bachelor’s degree in computer science, electrical engineering, or a related field, and two years of experience; or by obtaining a Master’s degree in electrical engineering or a related field, but having only one to two years of experience; or by having no formal education but experience in network data transmission and computer networking of at least eight years. . . .

¹ The Leahy-Smith America Invents Act, Pub. L. No. 112–29, 125 Stat. 284 (2011) (“AIA”), amended 35 U.S.C. §§ 102, 103. Because the ’682 patent has an effective filing date prior to the effective date of the applicable AIA amendment, we refer to the pre-AIA version of §§ 102, 103.

² M. Handley, J. Crowcroft, & C. Bormann, *Very Large Conferences on the Internet: The Internet Multimedia Conferencing Architecture and the MBONE*, Computer Networks, Feb. 11, 1999 (Ex. 1005).

³ Erol Basturk, Mihir Bellare, Chee-Seng Chow, & Roch Guérin, *Secure Transport Protocols for High-Speed Networks*, IBM Research Report RC 19981, March 1994. (Ex. 1006).

⁴ *PacketCable 1.0 Architecture Framework Technical Report*, Cable Television Laboratories, Inc. (“CableLabs”), Dec. 1, 1999 (Ex. 1007).

EX1003, ¶45.” Pet. 9. Petitioner further asserts that “[a]dditional education might compensate for less experience and vice-versa.” *Id.*

Patent Owner does not dispute the above level of ordinary skill. *See generally*, Prelim. Resp. Patent Owner rather asserts, “[f]or present purposes, [the] Preliminary Response establishes that institution should be denied even under Petitioners’ preferred definition of the level of ordinary skill.” Prelim. Resp. 16.

The level of ordinary skill in the art usually is evidenced by the references themselves. *See Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001); *In re GPAC Inc.*, 57 F.3d 1573, 1579 (Fed. Cir. 1995); *In re Oelrich*, 579 F.2d 86, 91 (CCPA 1978). As Petitioner’s description of a person of ordinary skill appears commensurate with the subject matter before us, we apply Petitioner’s definition for purposes of this Decision.

VI. CLAIM CONSTRUCTION

We interpret claim terms using “the same claim construction standard that would be used to construe the claim in a civil action under 35 U.S.C. [§] 282(b).” 37 C.F.R. § 42.100(b) (2019). In this context, claim terms “are generally given their ordinary and customary meaning” as understood by a person of ordinary skill in the art in question at the time of the invention. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312–13 (Fed. Cir. 2005) (citations omitted) (en banc). “In determining the meaning of the disputed claim limitation, we look principally to the intrinsic evidence of record, examining the claim language itself, the written description, and the prosecution history, if in evidence.” *DePuy Spine, Inc. v. Medtronic Sofamor Danek, Inc.*, 469 F.3d 1005, 1014 (Fed. Cir. 2006) (citing *Phillips*, 415 F.3d at 1312–17). Extrinsic evidence is “less significant than

the intrinsic record in determining ‘the legally operative meaning of claim language.’” *Phillips*, 415 F.3d at 1317 (citations omitted). 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).

“For purposes of [the] petition only, Petitioners present no terms for construction and further submit[] that the Board does not need to construe any claim term for purposes of evaluating the prior art in this Petition.” Pet. 9. Patent Owner provides a “preliminary claim construction analysis” (Prelim. Resp. 18), and therein asserts “[t]he inventors of the ’682 patent acted as their own lexicographers in defining ‘application layer,’ ‘application protocol,’ and ‘the receiver knows the transmitter’” (*id.*), and particularly asserts the following constructions for these terms:

Term	Patent Owner’s Proposed Preliminary Construction
“application layer”	“the layers above the transport layer (layers above 4)”
“application protocol”	“the protocol for communication between a transmitter application layer situated above the transport layer and a receiver application layer situated above the transport layer”
“the receiver knows the transmitter”	“the transmitter is successfully authenticated with respect to the receiver”

Prelim. Resp. 19.

As to the above “application layer” and “application protocol”, Patent Owner asserts that the Specification “expresses a clear intent to define” these terms because:

The specification states that “[w]hen referring to application layer below, this *denotes* the layers above the transport layer (layers above 4)” and “[t]he application protocol also denotes the protocol for communication between a transmitter application layer situated above the transport layer and a receiver application layer situated above the transport layer.” EX1001 2:6–11. Here, “layers above 4,” “application layer,” and “transport layer” refer to layers of the OSI reference model. *See id.* 1:19–45. The ’682 patent explains that “[t]he OSI reference model (OSI model for short) from the International Standards Organization (ISO) has seven layers *Id.* (describing layers 1 through 7). . . . Layer 4 of the OSI model is the “transport layer,” layer 7 is the “application layer,” and layers 5 and 6 are between them. *Id.* 1:19–45. The ’682 patent explains, however, that “[i]n practice . . . the three layers above the transport layer 4 [can] combine to form an ‘application layer’ for which . . . an ‘application protocol’ is used.” *Id.*; *see id.*, 5:65–6:2, Figure 1 (“protocol architecture”).

Prelim. Resp. 19–20 (emphases added). Patent Owner adds that “the patent’s use of the word ‘denotes’ signals a clear intent to expressly define ‘application layer’ and ‘application protocol.’” Prelim. Resp. 21 (citing analysis of “denotes” by *Ecolab, Inc. v. FMC Corp.*, 569 F.3d 1335, 1344–45 (Fed. Cir. 2009)).

As to the above “the receiver knows the transmitter”, Patent Owner asserts that the Specification “signals an intent to define” this term because:

The patent explains that, in this context, “if the receiver . . . knows the transmitter, *i.e.* particularly if the transmitter is successfully authenticated with respect to the receiver, the message from the transmitter is accepted, in particular the data are stored.” [EX1001 4:3–7.] The patent sets off this definition using “*i.e.*” (*id est*, or “that is”). *See Tf3 Ltd. v. Tre Milano, LLC*, 894 F.3d 1366, 1372 (Fed. Cir. 2018). It is well-settled that “[t]he usage ‘*i.e.*’ in a patent specification “signals an intent to define the word to which it refers.” *Id.* (quoting

Edwards Lifesciences LLC v. Cook Inc., 582 F.3d 1322, 1334 (Fed. Cir. 2009)).

Prelim. Resp. 22–23 (emphasis added).

We construe only those claim terms that require analysis to determine whether to institute *inter partes* review. See *Vivid Techs., Inc. v. Am. Sci. & Eng'g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999) (holding that “only those terms need be construed that are in controversy, and only to the extent necessary to resolve the controversy”). At this stage, we do not need to construe any term in order to resolve a dispute and determine whether to institute because under either plain meaning or Patent Owner’s proposed construction, Petitioner has shown a reasonable likelihood that the prior art teaches these limitations.

VII. ANALYSIS

A. Legal Standards

“In an [*inter partes* review], the petitioner has the burden from the onset to show with particularity why the patent it challenges is unpatentable.” *Harmonic Inc. v. Avid Tech., Inc.*, 815 F.3d 1356, 1363 (Fed. Cir. 2016) (citing 35 U.S.C. § 312(a)(3) (requiring *inter partes* review petitions to identify “with particularity . . . the evidence that supports the grounds for the challenge to each claim”)); see also 37 C.F.R. § 42.104(b) (2019) (requiring a petition for *inter partes* review to identify how the challenged claim is to be construed and where each element of the claim is found in the prior art patents or printed publications relied upon).

A claim is unpatentable under 35 U.S.C. § 103(a) if “the differences between the subject matter sought to be patented and the prior art are such

that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.” *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007). The question of obviousness is resolved on the basis of underlying factual determinations, including: (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; (3) the level of skill in the art; and (4) when in evidence, objective evidence of obviousness or nonobviousness, i.e., secondary considerations.⁵ See *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966). An obviousness analysis “need not seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ.” *KSR*, 550 U.S. at 418.

Additionally, the obviousness inquiry typically requires an analysis of “whether there was an apparent reason to combine the known elements in the fashion claimed by the patent at issue.” *KSR*, 550 U.S. at 418 (citing *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2016) (requiring “articulated reasoning with some rational underpinning to support the legal conclusion of obviousness”)). Furthermore, Petitioner does not satisfy its burden of proving obviousness by employing “mere conclusory statements,” but “must instead articulate specific reasoning, based on evidence of record, to support the legal conclusion of obviousness.” *In re Magnum Oil Tools Int’l, Ltd.*, 829 F.3d 1364, 1380 (Fed. Cir. 2016).

⁵ The parties do not direct us to any objective evidence of non-obviousness at this stage of the proceeding.

B. Claims 1–21, 23, and 25–28 as Obvious over Handley and Basturk

1. Handley – Exhibit 1005

a. Publication Date

Petitioner contends that Handley was published February 11, 1999, in the Computer Networks Journal, and that the Declaration of Dr. Houh provides a detailed overview of the prior art, including Handley. Pet. 4 (citing Ex. 1003 ¶¶ 59–61). Petitioner contends that Dr. Houh testifies that he has personal knowledge that Handley’s publication was publicly disseminated on February 11, 1999, in a publicly disseminated journal, Computer Networks. Paper 14, 1 (citing Ex. 1003 ¶¶ 27, 59).

Patent Owner contends that Petitioner has provided only a bare assertion that Handley was published on February 11, 1999, in the Computer Networks journal, which is conclusory and unsupported by evidence. Prelim. Resp. 35. Patent Owner contends that the Petition does not cite Dr. Houh’s personal knowledge, and that Dr. Houh does not disclose the personal knowledge. Paper 15, 1.

To resolve this controversy, we turn to the decision in *Hulu, LLC, v. Sound View Innovations, LLC*, IPR2018-01039, Paper 29 (PTAB Dec. 20, 2019). In *Hulu*, the Board issued a decision denying institution of an *inter parties* review because the Board found that a petitioner failed to sufficiently show that a reference qualified as a printed publication. *Id.* at 2. The Board’s Precedential Opinion Panel (POP) ordered a review on rehearing to address the issue of what is required for a petitioner to establish that an asserted reference qualifies as a “printed publication” at the institution stage. *Id.* The POP determined that the statutory “reasonable likelihood” standard for institution applies to the issue of whether a reference is a printed

publication. *Id.* at 13. The POP “explained that it is a higher standard than mere notice pleading, but, . . . it is lower than the ‘preponderance’ standard to prevail in a final written decision.” *Id.*

In *Hulu*, Patent Owner argued that “the reasonable likelihood standard is satisfied only when a petitioner presents its ‘case in chief’ in the petition, including all evidence that will be used in any instituted review, with a few limited exceptions.” *Id.* at 11. The POP, however, determined that “[w]hile the petitioner must submit evidence sufficient to meet the reasonable likelihood standard, some limited opportunities exist for the petitioner to present new evidence later, including: (1) in a reply to a patent owner preliminary response; (2) in a reply to the patent owner response; and (3) in a motion to file supplemental information.” *Id.* at 14. The POP explained that, for example, “if the patent owner challenges a reference’s status as a printed publication, a petitioner may submit a supporting declaration with its reply to further support its argument that a reference qualifies as a printed publication.” *Id.* at 15. The POP also explained that, if a patent owner does not challenge the reference’s status as a printed publication, the petitioner may move to submit the declaration through the supplemental information process. *Id.*

We now apply the framework of *Hulu* to the facts of this case. Here, the Petition states that Handley was published on February 11, 1999, in the Computer Networks Journal, and cites to Dr. Houh’s Declaration testimony. Pet. 4 (citing Ex. 1003 ¶¶ 59–61). Dr. Houh testifies that Handley was published on February 11, 1999 in the Computer Networks Journal. Dr. Houh further testifies that all statements made in his Declaration of his knowledge are true. Ex. 1003 ¶ 327. Petitioner contends that the Computer

Networks Journal is an established publisher because the Board routinely accepts articles from this journal. Paper 14, 1. Petitioner contends that a person of ordinary skill, exercising reasonable diligence, would have found Handley in this journal. *Id.*

We agree with Petitioner that there is a reasonable likelihood that Dr. Houh’s sworn testimony that Handley was published on February 11, 1999 in the Computer Networks journal is true. Ex. 1003 ¶¶ 59, 327. We agree with Petitioner that there is a reasonable likelihood that the Computer Networks Journal is an established publisher because the Board routinely accepts articles from this Journal. Paper 14, 1 (citing *Resideo Tech. v. Ubiquitous Connectivity*, IPR2019-01336, Paper 7 at 7, 45, 63 (PTAB Jan. 27, 2020); *Cloudflare v. Blackbird Tech.*, IPR2018-00804, Paper 8 at 3, 21 (PTAB Oct. 3, 2018)). As Petitioner argues, Patent Owner does not “challenge [the Computer Networks’] status as an established periodical” in its Preliminary Response. *Id.* (citing *VidStream LLC v. Twitter Inc.*, 981 F.3d 1060, 1065–67 (Fed. Cir. 2020) (“presumption of public accessibility” for established publishers); *Bruckelmyer v. Ground Heaters Inc.*, 445 F.3d 1374, 1378 (Fed. Cir. 2006) (a reference is publicly accessible if disseminated or made available to a POSITA exercising reasonable diligence)).

Patent Owner contends that Petitioner cites no evidence to support the assertion that the Computer Networks journal was a publicly disseminated journal by a well-known publisher and that public accessibility was not challenged and analyzed by the Board in the cases cited by Petitioner. Paper 15, 1–2. However, the mere fact that Petitioners cited, and the Board recognized, Computer Networks in two separate cases is evidence that

artisans of ordinary skill had access to the publication. Further, Handley states, in an “Acknowledgments” section, that “[t]he earliest clear exposition of the ideas here was presented at ACM SIGCOMM 1994 in London by Van Jacobson.” Ex. 1005, 14. This further indicates that the authors of Handley intended to further publicly disseminate the similar information in the document.

We agree with Petitioner that there is a reasonable likelihood that a person of ordinary skill, exercising reasonable diligence, would have found Handley in the Computer Networks Journal. *Id.* The Petition and supporting evidence, taken together, provide more “than mere notice pleading.” *Hulu* at 13. Therefore, on this record, we are sufficiently persuaded that there is a reasonable likelihood that Handley qualifies as a printed publication. We do not opine at this stage of the proceeding as to the ultimate determination of whether Petitioner will establish by a preponderance of the evidence that Handley is a printed publication. Patent Owner may challenge Petitioner’s evidence, and Petitioner may respond as indicated in *Hulu*.

b. Teachings of Handley

Handley “provide[s] an overview of multimedia conferencing on the Internet.” Ex. 1005, 1. Handley discloses that “[t]he Internet is not currently very good at carrying audio and video[; t]his is hardly surprising as it was not designed or engineered with real-time traffic in mind.” *Id.* Handley denotes “the real interest in using the internet . . . for a single ubiquitous communications network that not only allows traditional telephony services, but also video, shared collaboration tools, and through IP Multicast, multi-party conferences and multimedia sessions that scale from

small group meetings through to television sized audiences.” *Id.* Handley overviews “the basic technologies . . . [thought] likely to bring about such changes.” *Id.*

Handley discloses that in a conference, “information must be distributed to all the conference participants.” Ex. 1005, 2. Handley discloses:

In addition, *security* measures may be required to actually enforce the conference policy, e.g., [.] to control who is listening and to authenticate contributions as actually originating from a specific person. In the Internet, there is little tendency to rely on the traditional “security” of distribution offered by the phone system. Instead, cryptographic methods are used for encryption and authentication, which need to be supported by additional conference setup and control mechanisms (section 8).

Id.

Handley discloses that the “transport protocol for real-time flows is RTP.” Ex. 1005, 8. Handley discloses that RTP “provides a standard format packet header which gives media specific timestamp data, as well as payload format information and sequence numbering amongst other things.” *Id.*

With respect to security, Handley discloses that “[i]f the application requirement (conference policy) is to communicate between some defined set of users, then strict privacy can only be enforced in any case through adequate end-to-end encryption.” Ex. 1005, 12. “RTP specifies a standard way to encrypt RTP and RTCP packets using private key encryption schemes such as [the Data Encryption Standard (DES)].” *Id.* Handley discloses that “[k]ey distribution is closely tied to authentication.” *Id.* “[S]ecured broadcasts can be performed by encrypting a hash (digitally signing) of each packet with the sender[’]s private key of a public-private

key pair. The public key is then given to the receivers, and they discard (and prune if possible) any packets that are unsigned.” *Id.* at 13.

2. *Basturk – Exhibit 1006*

a. Publication Date

Petitioner, relying on the testimony of Dr. Sylvia Hall-Ellis, contends that Basturk was publicly available on September 1, 1995. Pet. 5 (citing Ex. 1010). Dr. Hall-Ellis, who has been involved in the field of library sciences for over fifty years, testifies that Basturk was publicly available on September 1, 1995. Ex. 1010 ¶¶ 6, 64.

Patent Owner contends that “the Petition fails to identify, ‘*with particularity*,’ sufficient arguments or evidence to support the claim.” Prelim. Resp. 36. Patent Owner contends that Petitioner’s citation to the entire Declaration of Dr. Hall-Ellis amounts to an impermissible incorporation by reference. *Id.*; *see id.* at 36–40.

We do not consider the citation to the Declaration testimony of Dr. Hall-Ellis in Exhibit 1010 to be improper incorporation by reference. Not every statement made by an expert need be repeated in a brief to avoid incorporation by reference; otherwise, separate declarations would be unnecessary. *Sumitomo Elec. Indus., Ltd. v. United Techs. Corp.*, IPR2017-00966, Paper 7, at 11 (PTAB Sept. 13, 2017). The last section of the Declaration of Dr. Hall-Ellis, entitled “Summary of Opinions,” contains two paragraphs, one of which states that Basturk was publicly available on September 1, 1995, and the other of which states that all statements made in her Declaration are true. Ex. 1010 ¶¶ 64–65. We are sufficiently persuaded that these two paragraphs, written by a librarian with over 50 years of experience, show a reasonable likelihood that Basturk qualifies as a printed

publication. The remaining testimony and supporting documentation that Dr. Hall-Ellis provides to support her Summary of Opinions further shows a reasonable likelihood that Basturk qualifies as a printed publication.

The Petition states that Basturk was publicly available on September 1, 1995, and cites to the testimony of Dr. Hall-Ellis for support. Dr. Hall-Ellis testifies that Basturk was publicly available on September 1, 1995, and provides additional testimony and evidence to support her testimony. On this record, we are sufficiently persuaded that there is a reasonable likelihood that Basturk was publicly available on September 1, 1995. We do not opine at this stage of the proceeding as to the ultimate determination of whether Petitioner will establish by a preponderance of the evidence that Basturk is a printed publication. Patent Owner may challenge Petitioner's evidence, and Petitioner may respond as indicated in *Hulu*.

b. Teachings of Basturk

Basturk discloses that the increasingly widespread use of networks is leading to new security concerns such as secure delivery. Ex. 1006, Abstract. Basturk discloses that application level security features are usually provided by application level security, where the sender applies cryptographic functions to data before passing it to the transport for conveyance. *Id.* at 3. Basturk discloses that integrity is usually guaranteed by signing the data before passing it to the transport level. *Id.* at 3–4.

Basturk discloses providing the standard application level security features as options. Ex. 1006, 5. Basturk discloses that if the integrity option is selected, then data is signed under the session key. *Id.* at 9. On receiving a signed packet, the receiver uses the session key to verify the signature, or message authentication code (MAC). *Id.* Basturk discloses

keeping the overhead involved in computing the signature to a minimum by computing the signature on-the-fly; i.e., MAC generation is carried out as data transmission proceeds. *Id.* at 12. Basturk discloses that this avoids slowing down the regular flow of data, and allows off-loading signature computations to dedicated hardware. *Id.*

Basturk discloses that encryption is done prior to packetization, and the signature of an outgoing packet is computed after data encryption, which complies with computing the signature “on the fly.” Ex. 1006, 14. Basturk discloses that “[f]ollowing data, a trailer [is] added [to the packet] that contains the packet signature.” *Id.* at 16. Basturk discloses that if the signature checking fails at the receiver, then the packet is corrupted, and the packet is simply dropped. *Id.* at 14.

3. *Reasons to Combine the Teachings of Handley and Basturk*

Petitioner contends a person of ordinary skill in the art (POSITA) would have had reason to combine the teachings of Handley and Basturk because:

Although Handley does not expressly disclose “inserting, at the transmitter, authentication data at [the] end of a whole RTP packet payload” A POSITA would have been motivated to use Basturk’s “on-the-fly” signature computation with *Handley’s* internet conferencing architecture due to the known communication benefits, which include faster data transmission, reduced jitter, and reductions in computing power. EX1003, ¶64.

Pet. 10.

Patent Owner contends that Basturk teaches away from providing authentication as an application protocol on an application layer because Basturk discloses that the presence of application level security features does not necessarily imply the security of delivery, which shows the need for

security at the transport layer. Prelim. Resp. 43–53. However, Basturk discloses that application level security features are provided by application level security. Ex. 1006, 3. For example, Basturk discloses guaranteeing integrity by signing the data before passing it to the transport level. *Id.* at 3–4. Basturk further discloses “a method to transform any transport protocol into a ‘secure’ version, equipped not only with the new security features discussed above, but providing, at least as options, the standard application level security features.” *Id.* at 5. At this stage, we are sufficiently persuaded that Basturk teaches providing standard application level security features such as authentication.

Patent Owner contends that on-the-fly processing as taught by Basturk is not enabled by the use of a trailer. Prelim. Resp. 52–55. Basturk discloses computing signatures as data transmission proceeds, to achieve the goals of avoiding slowing down the regular flow of data, and allowing the possible off-load of signature computations. Ex. 1006, 7, 12. Basturk discloses that the signature of an outgoing packet is computed after data encryption, which complies with the requirement that the signature is computed “on-the-fly.” *Id.* at 14. Dr. Houh testifies that computing the signature “on-the-fly,” as data is being transmitted, provides the benefits of faster data transmission, reduced jitter, and reductions in computing power. Ex. 1003 ¶ 64. Dr. Houh testifies that calculating the signature of Handley’s RTP packet “on-the-fly” and placing the signature at the end of the packet as taught by Basturk yields the benefit of transmitting data while computing the signature, which minimizes latency as taught by Basturk. *Id.* ¶ 85. At this stage, we are sufficiently persuaded that a person of ordinary skill would have placed the authentication information of Handley’s RTP packet at the

end of the packet as taught by Basturk to yield the benefits of faster data transmission, reduced jitter, and reductions in computing power.

Accordingly, for purposes of this Decision, we are persuaded that Petitioner cites sufficient evidence to support its contention that a person of ordinary skill would have had reason to combine the teachings of Handley and Basturk.

4. *Independent Claim 1*

The preamble of claim 1 recites a “method for transmitting data from a transmitter to a receiver.” Petitioner contends that Handley teaches the preamble in disclosing that data is transmitted by senders to receivers in packets over the Internet. Pet. 14 (citing Ex. 1005, 2, 4).

Patent Owner does not contend otherwise at this stage of the proceeding. Based on the evidence and arguments currently of record, for purposes of institution, Petitioner has sufficiently demonstrated that Handley teaches the features recited in the preamble.⁶

Claim 1 recites [1.1] “providing transmitter-to-receiver authentication at a Real Time Transport Protocol (RTP) packet level as an application protocol on an application layer.” Petitioner contends that Handley teaches this limitation in disclosing RTP packets that include security measures to control who is listening and to authenticate contributions as actually originating from a specific person. Pet. 15–17 (citing Ex. 1005, 2, 4, 8, 12). Petitioner further contends that Basturk teaches providing the application

⁶ Because Petitioner has shown that the features in the preamble are satisfied by the prior art, we need not determine whether the preamble is limiting at this time. *See Vivid Techs.*, 200 F.3d at 803.

level security feature of authentication by signing data at the application level. Pet. 18–19 (citing Ex. 1006, 3).

Patent Owner contends that the combination of Handley and Basturk does not teach this limitation. Prelim. Resp. 43–55. We addressed Patent Owner’s contention above in our analysis of the reason to combine. Based on the evidence and arguments currently of record, for purposes of institution, Petitioner has sufficiently demonstrated that the combination of Handley and Basturk teaches this limitation.

Claim 1 recites [1.2] “by inserting, at the transmitter, authentication data at end of a whole RTP packet payload.” Petitioner contends that Basturk teaches inserting authentication information at the end of a whole packet payload in disclosing that “[f]ollowing data, a trailer has been added that contains the packet signature.” Pet. 20 (citing Ex. 1006, 16). Petitioner contends that a person of ordinary skill in the art would have added Handley’s authentication data to the end of Handley’s RTP packet as taught by Basturk to yield the benefit of allowing the transmitter to transmit data while simultaneously computing the authentication data as taught by Basturk. *Id.* (citing Ex. 1005, 12; Ex. 1006, 12; Ex. 1003 ¶ 85).

Patent Owner contends that the combination of Handley and Basturk does not teach this limitation. Prelim. Resp. 43–55. We addressed Patent Owner’s contention above in our analysis of the reason to combine. Based on the evidence and arguments currently of record, for purposes of institution, Petitioner has sufficiently demonstrated that the combination of Handley and Basturk teaches this limitation.

Claim 1 recites [1.3] “ascertaining, by the receiver, whether the receiver knows the transmitter based on the RTP packet level

authentication data.” Petitioner contends that Handley teaches this limitation in disclosing that secured broadcasts can be performed by digitally signing each packet, and that the receivers discard any packets that are unsigned. Pet. 22 (citing Ex. 1003, 13). Petitioner further contends that Basturk teaches this limitation in disclosing that the transmitter “attaches to each packet p the value of $MAC_{\alpha}(\bar{p})$ where $\bar{p}$ is the subset of p which includes the transport header, the full data payload, and the trailer of the packet p ” and that “the transport header contains information which identifies the sender so that the identity of the sender is covered by the MAC as well.” Pet. 23 (citing Ex. 1006, 12).

Patent Owner contends that the combination of Handley and Basturk does not teach this limitation because the combination does not teach “*inserting, at the transmitter, authentication data at the end of a whole RTP packet payload.*” Prelim. Resp. 55–56. We addressed Patent Owner’s contention above in our analysis of the reason to combine. Based on the evidence and arguments currently of record, for purposes of institution, Petitioner has sufficiently demonstrated that the combination of Handley and Basturk teaches this limitation.

Claim 1 recites [1.4] “accepting, by the receiver, the whole RTP packet payload, if the receiver knows the transmitter, and otherwise rejecting the whole RTP packet payload.” Petitioner contends that Handley teaches this limitation in disclosing that unsigned packets are discarded. Pet. 24–25 (citing Ex. 1005, 13). Petitioner contends that Basturk teaches this limitation in disclosing that “[o]n receiving p , τ the receiver checks that $\tau = MAC_{\alpha}(\bar{p})$ and **rejects** the packet unless this is true,” where p and τ are the transmitted packet and MAC signature, respectively. Pet. 25 (citing

Ex. 1006, 12). Petitioner contends that Basturk discloses that “[i]f the signature checking at reception fails, it means the [] packet is corrupted, and the packet is simply dropped: decryption is avoided.” *Id.*

Patent Owner does not contend otherwise at this stage of the proceeding. Based on the evidence and arguments currently of record, for purposes of institution, Petitioner has sufficiently demonstrated that the combination of Handley and Basturk teaches this limitation.

Based on the evidence and arguments currently of record, for purposes of institution, we are persuaded that Petitioner has demonstrated a reasonable likelihood of prevailing for this challenge to claim 1.

5. *Claims 2–21, 23, and 25–28*

Petitioner challenges claims 2–21, 23, and 25–28 as unpatentable over the combination of Handley and Basturk. Pet. 26–41. Patent Owner does not separately argue against Petitioner’s showing with respect to these claims. *See* Prelim. Resp.

At this stage, because Petitioner demonstrates a reasonable likelihood of prevailing with respect to its challenge of independent claim 1 as unpatentable over Handley and Basturk, and because Patent Owner does not separately argue the patentability of the other challenged claims of this ground, we do not see the need to further address the challenges to claims 2–21, 23, and 25–28 on this ground. Further analysis is best left for trial after full development of the record.

C. Claims 1–28 As Obvious Over PacketCable and Handley

1. PacketCable – Exhibit 1007

a. Publication Date

Petitioner contends that PacketCable was published on December 1, 1999. Pet. 4–5 (citing Ex. 1003 ¶¶ 59–61). Dr. Houh testifies that PacketCable was published on December 1, 1999. Ex. 1003 ¶ 61.

Patent Owner contends that Petitioner does not show that PacketCable was published on December 1, 1999. Prelim. Resp. 40. In response, Petitioner contends that PacketCable includes reliable indicia of publication on its face, including copyright, dated revision history and release date, and consecutive footer date stamps. Paper 14, 3. Patent Owner does not challenge Petitioner’s statements about the publication date in its Sur-Reply.

Patent Owner contends that Petitioner does not show how PacketCable would have been publicly accessible. Prelim. Resp. 40; Paper 15, 3. Dr. Houh testifies that CableLabs is a research lab funded by cable industry member companies. Ex. 1003 ¶ 61. Dr. Houh testifies that PacketCable is a technical report that defines specifications for interoperable equipment. *Id.* Petitioner contends that the standard’s purpose is to be adopted, thus inferring public accessibility. Paper 14, 3.

Dr. Houh’s testimony, that PacketCable was published on December 1, 1999, is consistent with the markers of publication that PacketCable bears. PacketCable shows a copyright date of 1999, and a release date of December 1, 1999. Ex. 1007, 1, 3. Dr. Houh’s testimony, that CableLabs is a research lab funded by cable industry member companies and defines specifications for interoperable equipment, is consistent with PacketCable’s disclosure that this “PacketCable technical report is a cooperative effort undertaken at

the direction of Cable Television Laboratories, Inc. (CableLabs®) for the benefit of the cable industry” (*id.* at 1) and “describes the architecture framework for PacketCable™ networks including all major system components and network interfaces necessary for delivery of PacketCable services” (*id.* at 2). “PacketCable™ is a project conducted by Cable Television Laboratories, Inc. (CableLabs®)” and “is aimed at defining interface specifications that can be used to develop interoperable equipment capable of providing packet-based voice, video and other high-speed multimedia services over hybrid fiber coax (HFC) cable systems utilizing the DOCSIS protocol.” *Id.* at 9; *see id.* at 55 (recognizing companies that contributed to PacketCable). These indicia further corroborate Petitioner’s sufficient showing for institution that CableLabs intended to disseminate the document at least to the listed member companies of the project and artisans of ordinary skill in those companies seeking to design and/or sell applicable networks.

We are sufficiently persuaded at this stage that the conventional markers of publication found in PacketCable, including the release date and the copyright date, show a reasonable likelihood that PacketCable was published on December 1, 1999. We are sufficiently persuaded at this stage that PacketCable’s aim of defining interface specifications that can be used to develop interoperable equipment for the benefit of the cable industry, shows a reasonable likelihood that PacketCable was disseminated to the cable industry on its release date in order to provide this benefit to the cable industry. We are sufficiently persuaded, on this record, that there is a reasonable likelihood that PacketCable qualifies as a printed publication. We do not opine at this stage of the proceeding as to the ultimate

determination of whether Petitioner will establish by a preponderance of the evidence that PacketCable is a printed publication. Patent Owner may challenge Petitioner’s evidence, and Petitioner may respond as indicated in *Hulu*.

b. Teachings of PacketCable

PacketCable discloses that the “IETF standard RTP (RFC 1899 — Real-Time Transport Protocol) is used to transport all media streams in the PacketCable network[32]. PacketCable utilizes the RTP profile for audio and video streams as defined in RFC 1990[35].” Ex. 1007, 31. Figure 7 is reproduced below.

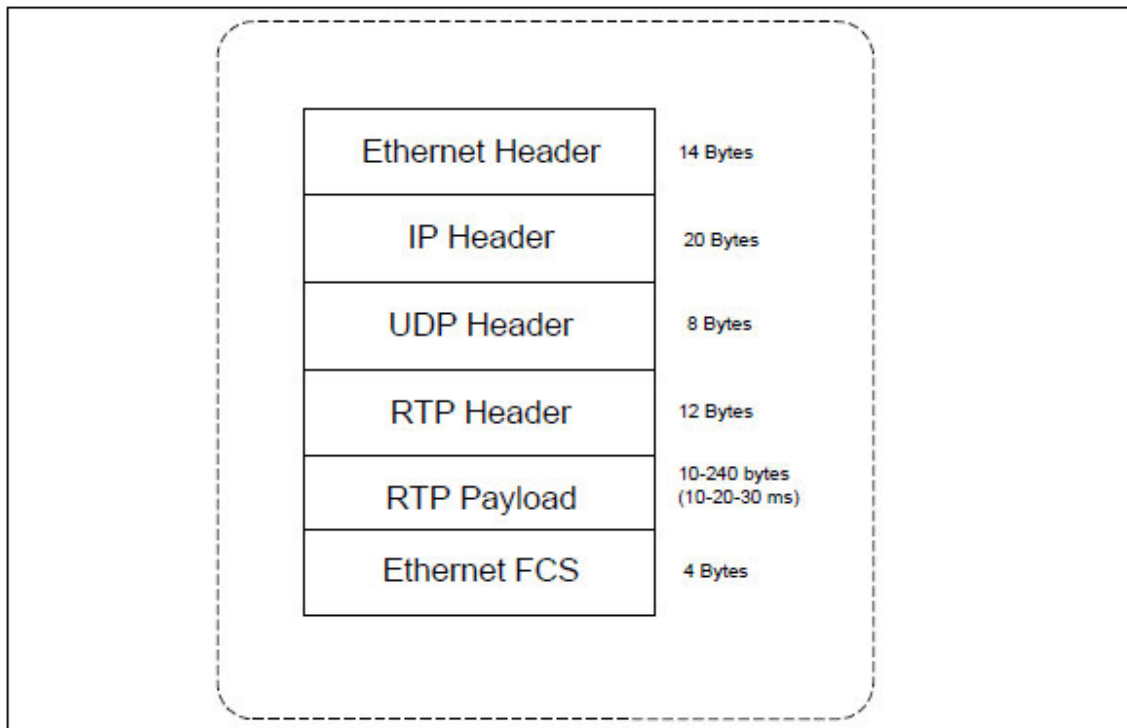


Figure 7. RTP Packet Format

Figure 7 depicts “[t]he packet format for RTP data transmitted over IP over Ethernet.” *Id.* at 32.

PacketCable discloses that RTP packets are encrypted without any additional security layers. Ex. 1007, 45. PacketCable discloses that a message authentication code (MAC) provides message integrity. *Id.*; *see id.* at 47.

2. *Reasons to Combine the Teachings
of PacketCable and Handley*

Petitioner contends that a person of ordinary skill would have included Handley’s teaching of using signatures to accept or reject packets in an RTP Internet conferencing architecture to provide authentication in PacketCable’s high-speed multimedia data architecture to yield the benefit of improving PacketCable’s network security. Pet. 42–43 (citing Ex. 1003 ¶ 168). For purposes of this Decision, we are persuaded that Petitioner cites sufficient evidence to support its contention that a person of ordinary skill would have had reason to combine the teachings of PacketCable and Handley. Further, as discussed below in our analysis of claim 1, we are sufficiently persuaded at this stage that PacketCable alone teaches the limitations of claim 1.

3. *Independent Claim 1*

The preamble of claim 1 recites a “method for transmitting data from a transmitter to a receiver, comprising.” Petitioner contends that PacketCable teaches the preamble in disclosing multimedia terminal adapters connected with a pkt-6 interface to send end-to-end media packets between one another. Pet. 44. Patent Owner does not contend otherwise at this stage of the proceeding. Based on the evidence and arguments currently

of record, for purposes of institution, Petitioner has sufficiently demonstrated that PacketCable teaches the features recited in the preamble.⁷

Claim 1 recites [1.1] “providing transmitter-to-receiver authentication at a Real Time Transport Protocol (RTP) packet level as an application protocol on an application layer.” Petitioner contends that PacketCable teaches this limitation in disclosing that “RTP packets are encrypted directly with RC4, without any additional security layers. An MMH-based MAC (Message Authentication Code) optionally provides message integrity.” Pet. 45 (citing Ex. 1007, 45).

Patent Owner contends that Petitioner has not sufficiently shown that (1) implementing RC4 or adding a MAC as taught by PacketCable results in authentication at the packet level and (2) RTP packets are created at the application layer because RTP is an application protocol. Prelim. Resp. 59–60. However, PacketCable discloses that “RTP packets are encrypted directly with RC4, without any additional security layers. An MMH-based MAC . . . provides message integrity.” Ex. 1007, 45. On this record, we are sufficiently persuaded that implementing RC4 or adding a MAC as taught by PacketCable results in “providing . . . authentication at [an RTP] packet level as an application protocol on an application layer” as claimed. Pet. 79–83.

Based on the evidence and arguments currently of record, for purposes of institution, Petitioner has sufficiently demonstrated that PacketCable teaches this limitation.

⁷ Because Petitioner has shown that the features in the preamble are satisfied by the prior art, we need not determine whether the preamble is limiting at this time. *See Vivid Techs.*, 200 F.3d at 803.

Claim 1 recites [1.2] “by inserting, at the transmitter, authentication data at end of a whole RTP packet payload.” Petitioner contends that PacketCable teaches this limitation in disclosing that authentication is added to the whole RTP packet in a pkt-6 interface. Pet. 45–46 (citing Ex. 1007, Fig. 13, 44, 47). Petitioner contends that a person of ordinary skill would have understood that placing the authentication data in the middle of the packet payload would cause packet fragmentation issues as well as other problems. Pet. 46 (citing Ex. 1003 ¶ 178). Petitioner contends that a person of ordinary skill would have understood that the authentication data placement options are either at the beginning or the end of the payload. *Id.* Petitioner contends that a person of ordinary skill would have recognized that the benefits of placing the authentication data at the end of the payload include increasing transmission speeds and decreasing memory usage needed to encrypt and decrypt the data. *Id.* at 46–47.

Patent Owner contends that Petitioner attempts to supply this limitation by citing Dr. Houh’s opinion about what a person of ordinary skill would have understood, but Dr. Houh only makes conclusory assertions. Prelim. Resp. 61–62 (citing Ex. 1003 ¶ 178). Dr. Houh identifies three possible locations to place the authentication data, at the beginning of the payload, in the middle of the payload, and at the end of the payload. Ex. 1003 ¶ 178. Dr. Houh testifies that when authentication data is placed in the middle of the packet, the payload data would be interrupted, and extra data fields would be needed to identify the location of the authentication data within the payload data, therefore, a person of ordinary skill would not place authentication data in the middle of the payload data. *Id.* Because Patent Owner offers attorney argument rather than evidence in opposing Dr.

Houh's testimony, we are sufficiently persuaded at this stage by Dr. Houh's testimony. *See* Ex. 1003 ¶¶ 16–23.

Dr. Houh further testifies that, given the remaining choices of placing the authentication data at the beginning or the end of the payload data, a person of ordinary skill would have recognized that placing the authentication data at the end of the payload data would reduce latency because this allows the packet to be transmitted while the authentication data is calculated. Ex. 1003 ¶ 178. To support this testimony, Dr. Houh relies on other protocols that use integrity checks, such as the Frame Check Sequence located at the end of an Ethernet Frame. *Id.* (citing Ex. 1014). We are sufficiently persuaded at this stage, based on Dr. Houh's testimony and supporting evidence, that a person of ordinary skill would have placed the authentication data at the end of the whole RTP packet payload as claimed.

Further, on this record, given the choice between placing authentication data at the beginning, middle, or end of the packet, we are sufficiently persuaded that it would have been obvious to place the authentication data at the end. *See KSR*, 550 U.S. at 421 (“When there is a design need or market pressure to solve a problem and there are a finite number of identified, predictable solutions, a person of ordinary skill has good reason to pursue the known options within his or her technical grasp. If this leads to the anticipated success, it is likely the product not of innovation but of ordinary skill and common sense.”); *Uber Techs., Inc. v. XOne, Inc.*, 957 F.3d 1334, 1340 (Fed. Cir. 2020) (Reversing the Board's determination of lack of motivation, stating that “because Okubo's terminal-side plotting and Konishi's server-side plotting were both well known in the art, and were the only two identified, predictable solutions for transmitting a map and

plotting locations, it would have been obvious to substitute server-side plotting for terminal-side plotting in a combination of Okubo and Konishi.”) (citing *KSR*, 550 U.S. at 421).

Patent Owner contends that Dr. Houh does not explain why a person of ordinary skill would have combined the teachings of the Ethernet standard with the application layer taught by PacketCable. Prelim. Resp. 62. The Supreme Court has held that “if a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill.” *KSR*, 550 U.S. at 417. Here, an Ethernet frame places integrity data at the end of the frame, and we are sufficiently persuaded on this record that a person of ordinary skill would have recognized that placing integrity data at the end of the RTP packet of PacketCable would improve PacketCable’s architecture in the same way.

Based on the evidence and arguments currently of record, for purposes of institution, Petitioner has sufficiently demonstrated that PacketCable teaches this limitation.

Claim 1 recites [1.3] “ascertaining, by the receiver, whether the receiver knows the transmitter based on the RTP packet level authentication data.” Petitioner contends that PacketCable teaches this limitation in disclosing that each RTP packet may include a MAC. Pet. 48 (citing Ex. 1007, 47). Petitioner contends that PacketCable discloses that the keys for the encryption and MAC calculation are derived from the end-to-end secret, which is exchanged between sending and receiving MTAs as part of the call signaling. Pet. 49 (citing Ex. 1007, 47). Patent Owner contends

that a person of ordinary skill would have understood that a receiver MTA knows the shared secret key, which it then uses with the received message to see if the computed MAC matches the MAC received from the transmitter MTA. Pet. 49–50 (citing Ex. 1003 ¶ 182).

Patent Owner contends that the combination of PacketCable and Handley does not teach this limitation because the combination does not teach inserting authentication data at the end of the RTP packet. Prelim. Resp. 63. We disagree with Patent Owner for the reasons given above.

Based on the evidence and arguments currently of record, for purposes of institution, Petitioner has sufficiently demonstrated that PacketCable teaches this limitation.

Claim 1 recites [1.4] “accepting, by the receiver, the whole RTP packet payload, if the receiver knows the transmitter, and otherwise rejecting the whole RTP packet payload.” Petitioner, relying on the testimony of Dr. Houh, contends that a person of ordinary skill would have understood that if the MAC of PacketCable is not verified and accepted by the receiver, then the receiver would reject the data, meaning that it would not process or decrypt the data. Pet. 50 (citing Ex. 1003 ¶¶ 184–186).

Patent Owner does not contend otherwise at this stage of the proceeding. Based on the evidence and arguments currently of record, for purposes of institution, Petitioner has sufficiently demonstrated that PacketCable teaches this limitation.

Because Petitioner has sufficiently shown that PacketCable alone teaches all elements of claim 1, Petitioner has sufficiently shown that the combination of PacketCable and Handley teaches claim 1. Based on the evidence and arguments currently of record, for purposes of institution,

we are persuaded that Petitioner has demonstrated a reasonable likelihood of prevailing for this challenge to claim 1.

4. *Claims 2–28*

Petitioner challenges claims 2–28 as unpatentable over the combination of PacketCable and Handley. Pet. 50–64. Patent Owner does not separately argue against Petitioner’s showing with respect to these claims. *See* Prelim. Resp.

At this stage, because Petitioner demonstrates a reasonable likelihood of prevailing with respect to its challenge of independent claim 1 as unpatentable over PacketCable and Handley, and because Patent Owner does not separately argue the patentability of the other challenged claims of this ground, we do not see the need to further address the challenges to claims 2–28 on this ground. Further analysis is best left for trial after full development of the record.

D. Claims 1–28 as Obvious over PacketCable and Basturk

We are sufficiently persuaded at this stage that PacketCable alone teaches all elements of claim 1 as discussed in our analysis of ground 2, therefore, we are sufficiently persuaded that the combination of PacketCable and Basturk teaches claim 1.

Patent Owner contends that this ground is unclear because of Petitioner’s incorporation by reference of the arguments for grounds 1 and 2. Prelim. Resp. 31. We disagree. Ground 1 of the Petition identifies where Petitioner contends that Basturk teaches the limitations of challenged claims 1–21, 23, and 25–28, and Ground 2 identifies where Petitioner contends that PacketCable teaches the limitations of challenged claims 1–28.

Patent Owner contends that the Petition is unclear about how the references are being combined. Prelim. Resp. 31. We disagree. The Petition contends, that to the extent that PacketCable does not expressly disclose accepting or rejecting the whole RTP packet payload, Basturk teaches this by disclosing computing signatures of incoming packets “on-the-fly” at reception and discarding packets that fail signature checking for the benefit of avoiding decryption of corrupted packets. Pet. 64–65; Ex. 1006, 12, 14.

Based on the evidence and arguments currently of record, for purposes of institution, we are persuaded that Petitioner has demonstrated a reasonable likelihood of prevailing for this challenge to claim 1.

E. Claims 22 and 24 as Obvious over Handley, Basturk, and PacketCable

Petitioner contends that the combination of Handley, Basturk, and PacketCable teaches the limitations of claims 22 and 24. Pet. 72–73. Petitioner contends that a person of ordinary skill would have added the media gateway of PacketCable to the combination of Handley and Basturk to yield the benefit of having data network devices communicate with pre-existing public switched telephone lines so that the data network devices can conduct a telephone call with users beyond just those on the data network. Pet. 73.

Patent Owner contends that Petitioner’s arguments for claims 22 and 24 are merely citations to arguments in grounds 1–3 without explaining which reference the Petition relies on to teach each element, or how the elements are being combined. Prelim. Resp. 31–32. We disagree. Ground 1 of the Petition identifies where the combination of Handley and Basturk teaches the limitations of challenged claims 1–21, 23, and 25–28, and

Ground 2 of the Petition identifies where PacketCable teaches the limitations of challenged claims 1–28.

Based on the evidence and arguments currently of record, for purposes of institution, we are persuaded that Petitioner has demonstrated a reasonable likelihood of prevailing for this challenge to claims 22 and 24.

VIII. CONCLUSION

Based on the arguments presented in the Petition, we conclude that Petitioner has demonstrated a reasonable likelihood of prevailing with respect to at least one claim of the '682 patent challenged in the Petition. Accordingly, we institute a trial on all claims and all grounds asserted in the Petition. The Board has not made a final determination under 35 U.S.C. § 318(a) with respect to the patentability of any challenged claim. Any final determination will be based on the record developed during trial. We place Patent Owner on express notice that any argument not asserted in a timely filed Response to the Petition, or in another manner permitted during trial, may be deemed waived, even if that argument was presented in the Preliminary Response.

IX. ORDER

In consideration of the foregoing, it is hereby:

ORDERED that, pursuant to 35 U.S.C. § 314(a), an *inter partes* review of claims 1–28 of the '682 patent is instituted with respect to the grounds set forth in the Petition; and

FURTHER ORDERED that, pursuant to 35 U.S.C. § 314(c) and 37 C.F.R. § 42.4(b) (2019), *inter partes* review of the '682 patent shall commence on the entry date of this Decision, and notice is hereby given of the institution of a trial.

McKONE, *Administrative Patent Judge*, dissenting.

I respectfully dissent from my colleagues because I would find that Petitioner is not reasonably likely to show that either Handley or PacketCable is a printed publication and prior art to the '682 patent.

I agree with Patent Owner that Petitioner improperly incorporates by reference the arguments it wishes to make in support of its assertions that Handley and PacketCable are prior art. Our rules are clear that “[a]rguments must not be incorporated by reference from one document into another document.” 37 C.F.R. § 42.5(a)(3). Yet the extent of the argument Petitioner presents on behalf of its contentions is “Petitioners’ challenge is based on the following prior art, for which a detailed overview is provided in the Declaration of Dr. Houh, which is incorporated by reference. EX1003, Section VI.” Pet. 4. Petitioner then lists its alleged prior art references and the dates of public availability it would ascribe them. *Id.* at 4–5. Section VI of Dr. Houh’s declaration constitutes approximately four pages of what purports to be technical overviews of Handley, Basturk, and PacketCable. Ex. 1003 ¶¶ 58–61.

“[A]t the institution stage, the petition must identify, with particularity, evidence sufficient to establish a reasonable likelihood that the reference was publicly accessible before the critical date of the challenged patent and therefore that there is a reasonable likelihood that it qualifies as a printed publication.” *Hulu, LLC v. Sound View Innovations, LLC*, IPR2018-01039, Paper 29 at 13 (PTAB Dec. 20, 2019) (precedential); *see also id.* at 16 (same). “This standard is far more than is required in typical notice pleading, which only requires that a party make plausible claims.” *Id.* at 13. Moreover, “there is no presumption . . . in favor of finding a reference to be

a printed publication under [37 C.F.R.] § 42.108(c) or any other authority.”
Id. at 16.

Hulu also recognizes that determining whether a document is a printed publication involves “a case-by-case inquiry into the facts and circumstances surrounding the reference’s disclosure to members of the public,” and is satisfied in different ways depending on the particularities of the document. *Id.* at 9 (quoting *Medtronic, Inc. v. Barry*, 891 F.3d 1368, 1380 (Fed. Cir. 2018)). For example, for manuscripts and dissertations, we might inquire whether a reference was sufficiently indexed, catalogued, and shelved, while for other documents such as information displayed at meetings, we might look to other facts to determine whether the reference has been disseminated or otherwise been made available to the extent that persons interested and ordinarily skilled can locate it exercising reasonable diligence. *Id.* at 9–11.

An example of sufficient evidence at the institution stage is “a package insert for a drug, supported with a screenshot of an FDA webpage from the Wayback Machine, a declaration from the office manager of the Internet Archive including the site’s archival records, and expert testimony asserting its public accessibility.” *Id.* at 18 (citing *Sandoz Inc. v. Abbvie Biotechnology Ltd.*, IPR2018-00156, Paper 11 at 8–13 (PTAB June 5, 2018)). Another example is “a user manual, supported with a copyright notice, metadata information from the reference on the company’s website, the release date of the printed version, a declaration from the office manager of the Internet Archive, and a declaration from an expert stating that she located and obtained a copy of the reference before the patent’s filing date.” *Id.* at 18–19 (citing *Syncro Soft SRL v. Altova GmbH*, IPR2018-00660,

Paper 6 at 8–10 (PTAB Sept. 5, 2018)). An example of insufficient evidence at the institution stage is “a conference paper, bearing a copyright date of 2012 and including a date of September 2012 on its cover, . . . to show that the paper had been disseminated prior to the conference (November 2012).” *Id.* at 19 (citing *In-Depth Geophysical, Inc. v. Conocophillips Co.*, IPR2019-00849, Paper 14 at 4–13 (PTAB Sept. 6, 2019)).

I would conclude that Petitioner has not met the institution standard set forth in *Hulu*. The Petition simply states conclusions that each of Handley and PacketCable was publicly available by a certain date. Pet. 4–5. This is akin to notice pleading. *See Hulu*, IPR2018-01039, Paper 29 at 13. The Petition wholly lacks any argument identifying evidence with particularity or explaining how that evidence would establish public accessibility before the critical date under a particular theory. To the extent that the argument missing from the Petition is, instead, provided in Dr. Houh’s declaration, I would find that argument improperly incorporated by reference. *See* 37 C.F.R. § 42.5(a)(3).

Even if Dr. Houh’s arguments are considered, I would find them insufficient to show a reasonable likelihood that Handley or PacketCable were publicly accessible. First, Dr. Houh did not opine on public accessibility. Rather, he testifies that he “ha[s] been informed that *Handley*, *Basturk*, and *PacketCable* qualify as prior art under 35 U.S.C. § 103 for the purposes of this IPR.” Ex. 1003 ¶ 58. Thus, he assumes that these references are prior art, rather than provides evidence that they are prior art.

Second, his opinions on the references would not support a finding of public accessibility in any event. Handley itself provides no indicia from

which one could infer whether and when it was published. For example, it includes no copyright date, no publication date, no identification of the publication that included it, or any other indicia to suggest that it is an article published in a journal. The statement in Handley relied upon by the Majority that similar subject matter was presented at ACM SIGCOMM 1994 (Ex. 1005, 14) says nothing about whether Handley itself was published or otherwise made available. As to Dr. Houh's opinions, he testifies only that Handley "was published February 11, 1999, in the Computer Networks journal." Ex. 1003 ¶ 59. Dr. Houh does not state the basis for this conclusion. Accordingly, we should accord it little to no weight. *See* 37 C.F.R. § 42.65(a) ("Expert testimony that does not disclose the underlying facts or data on which the opinion is based is entitled to little or no weight.").

Petitioner argues, in its Preliminary Reply, that Dr. Houh's testimony was based on his "personal knowledge." Prelim. Reply (Paper 14) at 1. That is not supported by Dr. Houh's testimony. Rather, as noted above, Dr. Houh "ha[s] been informed that *Handley* . . . qualif[ies] as prior art." Ex. 1003 ¶ 58. He never testifies that he has personal knowledge of Handley's publication. The Majority relies on Dr. Houh's declaration that the statements he made in his declaration are true. Ex. 1003 ¶ 327. I have no reason to believe Dr. Houh was untruthful when he testified that he has been informed that Handley is prior art, but that does not support an inference that he has personal knowledge of Handley's publication.

Petitioner also argues in its Preliminary Reply that Computer Networks is a "publicly disseminated commercial journal by a well-known publisher (Elsevier)" and that "[t]he Board routinely accepts COMPUTER

NETWORKS’ articles.” Prelim. Reply 1 (citing *Resideo Tech. v. Ubiquitous Connectivity*, IPR2019-01336, Paper 7 at 7, 45, 63 (PTAB Jan. 27, 2020); *Cloudflare v. Blackbird Tech.*, IPR2018-00804, Paper 8 at 3, 21 (PTAB Oct. 3, 2018)). Neither of these cases finds that Computer Networks is a commercial journal by a well-known publisher or indicates that the prior art status of the documents were even contested. Indeed, *Cloudflare* appears to be referring to a reference from a different publication altogether (“Computer Networks and ISDN Systems, Elsevier Science B.V.”⁸).

IPR2018-0084, Paper 8 at 3. In any case, two prior Board decisions accepting documents from a journal over no objection does not establish that we “routinely accept[] articles from the Journal,” as the Majority finds. The Majority makes much of Petitioner’s argument that Patent Owner does not dispute, in the Preliminary Response, that Computer Networks is an established periodical. Prelim. Reply 1. This is not surprising, however, because the Petition did not argue that Computer Networks is an established periodical—Petitioner improperly presented that new argument (without evidentiary support) in the Preliminary Reply. *Id.* In any case, Patent Owner disputes this point in its Preliminary Sur-reply (Paper 15), at 1–2.

Petitioner further argues in the Preliminary Reply that Dr. Houh located Handley at a URL and that a skilled artisan exercising reasonable diligence would have done so, too, at that URL. Prelim. Reply 2. Dr. Houh does not provide any testimony to support that argument. And even if true, whether Dr. Houh can locate Handley at a URL today says nothing about

⁸ Petitioner argues that the publications are one and the same, but offers no evidence to support this argument. Prelim. Reply 2 n.2.

whether a skilled artisan could have located the document using reasonable diligence prior to the critical date.

In the Preliminary Reply, Petitioner offers additional evidence, such as links to the Internet Archive. *Id.* at 2–3 nn.3–4. This is a violation of our Order Authorizing Petitioner Reply and Patent Owner Sur-reply, which “den[ied] Petitioner’s request to file supplemental evidence,” and this evidence should not be entertained. Paper 13, 3.

As to PacketCable, the indicia on its face do not suggest one way or the other whether it was publicly accessible. It bears a copyright date of 1999 and is titled an “Architecture Framework Technical Report.” Ex. 1007, 1. It bears a document control number and a “Date” of December 1, 1999. *Id.* at 3. The document states that “PacketCable™ is a project conducted by Cable Television Laboratories, Inc. (CableLabs®) and its member companies.” *Id.* at 9. It has “12/01/99” in the document’s footer. The Majority concludes that CableLabs intended to disseminate the document to its member companies, but points to no evidence of CableLab’s intent (to the extent that its intent is relevant), only an incomplete identification of the member companies, and no evidence to conclude that distribution to the member companies would be sufficient to make the document publicly accessible. Petitioner argues that PacketCable “bears no suggestion that it was not intended for public distribution” and that “[a] standard’s purpose is to be adopted, thus inferring public accessibility.” Prelim. Reply 3. However, Petitioner, who bears the burden, offers no evidence that PacketCable was intended for public distribution or that PacketCable was an adopted standard, rather than an internal document. It purports to be a “technical report” rather than a standard. Ex. 1007, 1, 2.

Dr. Houh does not provide testimony that would support a finding that PacketCable was a standard intended for public distribution. Ex. 1003 ¶ 61. The extent of Dr. Houh’s testimony is that PacketCable “was published December 1, 1999.” Ex. 1003 ¶ 61. He provides no basis for this conclusion, other than that he has “been informed” that PacketCable qualifies as prior art. *Id.* ¶ 58. Because he provides no basis for his testimony, we should not give this testimony weight. Ex. 1003 ¶ 58; 37 C.F.R. § 42.65(a). I agree with Patent Owner that “Petitioners cite *no evidence* of how the relevant public would have been able to locate and access PacketCable *before* the priority date.” Sur-reply 3.

I am aware that Petitioner is afforded “some limited opportunities . . . to present new evidence later, including: (1) in a reply to a patent owner preliminary response; (2) in a reply to the patent owner response; and (3) in a motion to file supplemental information.” *Hulu*, IPR2018-01039, Paper 29 at 14 (citing 37 C.F.R. §§ 42.108(c), 42.23, 42.123).⁹ However, “[t]he opportunity to submit additional evidence does not allow a petitioner to completely reopen the record, by, for example, changing theories after filing a petition.” *Id.* at 15. Here, Petitioner has articulated no theory of public accessibility for Handley or PacketCable in the Petition or Dr. Houh’s declaration and has offered virtually no evidence to support such a theory. Thus, any reply or supplemental information would be the first introduction of Petitioner’s *prima facie* case and, thus, improper for a reply or supplemental information. *See Consolidated Trial Practice Guide* 73 (PTAB

⁹ We denied Petitioner’s request to submit supplemental information to show that Handley and PacketCable are printed publications because Petitioner failed to show good cause. Paper 13, 2–3.

Nov. 2019)¹⁰ (“Petitioner may not submit new evidence or argument in reply that it could have presented earlier, e.g. to make out a prima facie case of unpatentability.”).

In sum, Petitioner does not offer sufficient evidence to conclude that either Handley or PacketCable is a printed publication and prior art to the ’682 patent, even if we allow Petitioner to improperly incorporate by reference Dr. Houh’s declaration. All of Petitioner’s grounds rely on one or both of Handley and PacketCable. Pet. 26. Thus, I would deny the Petition. I would not find a need to address the Hall-Ellis declaration, or to conclude that Petitioner has failed to show that Basturk is prior art, as all of Petitioner’s grounds are insufficient regardless.¹¹

Accordingly, I respectfully dissent.

¹⁰ Available at <https://www.uspto.gov/TrialPracticeGuideConsolidated>.

¹¹ For Basturk, Petitioner also cites, without corresponding argument or specificity, a declaration from a consultant, Dr. Hall-Ellis. Pet. 5 (citing Ex. 1010). The Majority would not consider Dr. Hall-Ellis’s declaration to be an improper incorporation by reference because not every statement made by an expert need be repeated in a brief. I do have concerns, however, that Petitioner provides no argument in the Petition and, instead, incorporates by reference Dr. Hall-Ellis’s declaration comprising approximately 36 pages, including a mix of evidence, argument, and legal conclusions.

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