

UNITED STATES PATENT AND TRADEMARK OFFICE

---

BEFORE THE PATENT TRIAL AND APPEAL BOARD

---

HULU, LLC  
Petitioner,

v.

SOUND VIEW INNOVATIONS, LLC  
Patent Owner.

---

Case IPR2018-000864  
Patent 9,462,074

---

**PATENT OWNER SOUND VIEW INNOVATIONS, LLC'S  
NOTICE OF APPEAL**

via PTAB E2E  
Patent Trial and Appeal Board

via Priority Mail Express  
Director  
Office of the General Counsel  
United States Patent and Trademark Office  
P.O. Box 1450  
Alexandria, Virginia 22313-1450

via CM/ECF  
United States Court of Appeals for the Federal Circuit

Please take notice, under 5 U.S.C. § 702; 28 U.S.C. § 1295(a)(4)(A); 35 U.S.C. §§ 141(c), 142 and 319; 37 C.F.R. § 90.2(a)(1); Fed. R. App. P. 15(a); and Fed. Cir. R. 15, subsection (a) and related Practice Note, that Sound View Innovations, LLC (“Patent Owner”) hereby appeals to the United States Court of Appeals for the Federal Circuit from the final written decision under 35 U.S.C. § 318(a) of a panel of members of the Patent Trial and Appeal Board (“Board”) of the United States Patent and Trademark Office (“Office”) entered in the above-captioned inter partes review of U.S. Patent No. 9,462,074 (“’074 Patent”) on September 9, 2019, Paper 35 (“Final Written Decision”) (Attachment 1), based on the Board’s decision on behalf of the Director of the Office (“Director”) granting institution of inter partes review entered on September 10, 2018, Paper 11 (“Institution Decision”) (Attachment 2).

This notice is filed in the period for filing an appeal of the judgment of the Board under 37 C.F.R. § 90.2(a)(1) as calculated based on the issuance date of the Board’s final written decision. A request under 37 C.F.R. § 90.3(c)(1)(i) for an extension of the time for filing appeal is currently pending before the Office. To the extent matters are currently pending before the Board and Office in connection with this inter partes review, and to the extent a retroactive grant of extension of the time for filing appeal after the expiration of the original time for filing appeal is granted under 37 C.F.R. § 90.3(c)(1) and legally effective, this notice is not

intended and is not construed to remove jurisdiction over such issues, except to the extent that it must do so to preserve all of Patent Owner's appeal rights. *Cf.* Fed.

R. App. P. 4(a)(4).

In accordance with 37 C.F.R. § 90.2(a)(3)(ii), this notice provides that Patent Owner's issues on appeal may include, but are not limited to:

- (i) the Board's determination that issued claims 3, 5, and 9 of the '074 Patent are unpatentable, including the Board's determinations that Petitioner Hulu, LLC ("Petitioner") properly showed that claims 3, 5, and 9 are unpatentable as obvious over U.S. Patent 6,463,508 ("*Wolf*") in view of U.S. Patent 5,924,116 ("*Aggarwal*"); and that claim 3 is unpatentable as obvious over U.S. Patent 5,991,811 ("*Ueno*") in view of U.S. Patent 5,787,472 ("*Dan*") and *Aggarwal*; and that claim 9 is unpatentable as obvious over *Ueno* and *Aggarwal*;
- (ii) whether the inter partes review determinations in this case by a panel of members of the Board declaring unpatentable issued claims 3 and 9 of Appellant's '074 Patent are unconstitutional, including because the members of the panel, in rendering determinations in this inter partes review adverse to the vested rights in the '074 Patent, acted as Principal Officers under the Appointments Clause of the United States Constitution, despite having been appointed by the Secretary of

the Department of Commerce under 35 U.S.C. § 6(a), Pub. L. 110–313, § 1(a), Aug. 12, 2008, 122 Stat. 3014, rather than nominated by the President by and with the advice and consent of the Senate;

- (iii) whether the Board’s decision in *Ex parte Randal C. Schulhauser, John K. Day, Scott Wayne Haskin, Tho V. Huynh, Todd A. Kallmyer, Brian Bruce Lee, Jeffrey O. York, and William Cope*, Appeal No. 2013–007847 (P.T.A.B. Apr. 28, 2016), the designation of that decision as precedential for the Office, and the application of that decision by the Board as precedential and controlling in this case, failed to comply with the Administrative Procedure Act, codified at 5 U.S.C. § 551 *et seq.*;
- (iv) the Board’s e-mail decision dated November 12, 2019, denying Patent Owner’s request for permission to file a request for rehearing of the Board’s final written decision (Attachment 3).
- (v) any other motions and requests, including other post-judgment motions and requests, decided adversely to Patent Owner;
- (vi) any further findings or determinations by the Director or the Board supporting or relating to the issues above, including the Board’s consideration of the expert testimony, prior art, and other evidence in the record; the Board’s claim constructions; and the Board’s factual

findings, conclusions of law, or other determinations supporting or related to the issues above; and

- (vii) all other issues decided adversely to Patent Owner or the '074 Patent in any orders, decisions, rulings, or opinions, whether written or oral, of the Board, on its own or on another's behalf, in this proceeding, as well as the procedures by which any of those issues were decided adversely to Patent Owner or the '074 Patent.

In accordance with Fed. Cir. R. 15, its and related Practice Note, Patent Owner attaches to this Notice of Appeal copies of the decisions referenced above from which review is sought. Concurrently with the present submission, Patent Owner is filing a copy of this Notice of Appeal with the Director, and a copy of the same along with the required docketing fee with the Clerk of the United States Court of Appeals for the Federal Circuit.

Respectfully submitted,

/ Kenneth J. Weatherwax /

Kenneth J. Weatherwax, Reg. No. 54,528

Nathan Lowenstein (*pro hac vice*)

Edward Hsieh, Reg. No. 54,188

Parham Hendifar, Reg. No. 71,740

LOWENSTEIN & WEATHERWAX LLP

*Counsel for Patent Owner*

Date: November 12, 2019

**CERTIFICATE OF SERVICE**

The undersigned hereby certifies that the following document was served by electronic service, by agreement between the parties, on the date signed below:

**PATENT OWNER SOUND VIEW INNOVATIONS, LLC'S  
NOTICE OF APPEAL**

The names and address of the parties being served are as follows:

Jason Kipnis (Jason.Kipnis@wilmerhale.com)  
David L. Cavanaugh (David.Cavanaugh@wilmerhale.com)  
Scott Bertulli (Scott.Bertully@wilmerhale.com)

Respectfully submitted,

/ Patrick Maloney /

---

Date: November 12, 2019

**CERTIFICATE OF FILING WITH USPTO**

The undersigned hereby certifies that, pursuant to 37 C.F.R. § 90.2(a), two copies of the following document were filed by Priority Mail Express or equivalent service with the Director of the United States Patent and Trademark Office via the Office of the General Counsel, United States Patent and Trademark Office, P.O. Box 1450, Alexandria, Virginia 22313-1450, on the date signed below:

**PATENT OWNER SOUND VIEW INNOVATIONS, LLC'S  
NOTICE OF APPEAL**

Respectfully submitted,

/ Patrick Maloney /

---

Date: November 12, 2019

**CERTIFICATE OF FILING WITH COURT OF APPEALS**

The undersigned hereby certifies that, pursuant to 37 C.F.R. § 90.2, Fed. R. App. Proc. 15(a)(1), Fed. Cir. R. 15(a)(1) & 52, and Manual of Patent Examining Procedure 1216.01, the following document was electronically filed in Portable Document Format (PDF) with the United States Court of Appeals for the Federal Circuit, via electronic CM/ECF, and a paper copy was sent to the Clerk of the Federal Circuit at the U.S. Court of Appeals for the Federal Circuit, 717 Madison Place, N.W., Washington, DC 20439, accompanied by the requisite fee paid on pay.gov, on the date signed below:

**PATENT OWNER SOUND VIEW INNOVATIONS, LLC'S  
NOTICE OF APPEAL**

Respectfully submitted,

/ Patrick Maloney /

---

Date: November 12, 2019

# Attachment 1

UNITED STATES PATENT AND TRADEMARK OFFICE

---

BEFORE THE PATENT TRIAL AND APPEAL BOARD

---

HULU, LLC  
Petitioner

v.

SOUND VIEW INNOVATIONS, LLC  
Patent Owner

---

Case IPR2018-00864  
Patent 9,462,074 B2

---

Before DEBRA K. STEPHENS, DANIEL J. GALLIGAN, and  
JOHN A. HUDALLA *Administrative Patent Judges*.

STEPHENS, *Administrative Patent Judge*.

FINAL WRITTEN DECISION  
*Inter Partes* Review  
35 U.S.C. § 318(a)

## I. INTRODUCTION

We have authority to hear this *inter partes* review under 35 U.S.C. § 6(c), and to issue this Final Written Decision pursuant to 35 U.S.C. § 318(a). For the reasons that follow, we determine that Hulu, LLC (“Petitioner”) has shown by a preponderance of the evidence that claims 3, 5, and 9 of U.S. Patent No. 9,462,074 B2 (Ex. 1001, “the ’074 Patent”) are unpatentable.

### A. Procedural History

Petitioner filed a Petition (Paper 3 (“Pet.”)) requesting an *inter partes* review of claims 3, 5, and 9 of the ’074 Patent (35 U.S.C. § 311).

Petitioner relies upon the following references (Pet. 5):

Reference	Patent Number	Exhibit
Wolf et al. (hereinafter “Wolf”)	US 6,463,508 B1	1003
Aggarwal et al. (hereinafter “Aggarwal”)	US 5,924,116	1004
Ueno et al. (hereinafter “Ueno”)	US 5,991,811	1005
Dan et al. (hereinafter “Dan”)	US 5,787,472	1006

Petitioner further relies on the Declaration of Dr. Henry Houh (Ex. 1002) to support its challenges.

Sound View Innovations, LLC (“Patent Owner”) filed a Preliminary Response (Paper 7 (“Prelim. Resp.”)) to the Petition. Pursuant to 35 U.S.C. § 314(a) and 37 C.F.R. § 42.4(a), we instituted an *inter partes* review based on our decision that Petitioner had demonstrated a reasonable likelihood of prevailing as to at least one of the challenged claims of the ’074 Patent (Paper 11 (“Dec. to Inst.”)). Accordingly, we instituted an *inter partes* review on all the grounds asserted in the Petition:

Ground	Claim(s)	Basis	References
1	3, 5, and 9	§ 103(a)	Wolf and Aggarwal
2	3	§ 103(a)	Ueno, Dan, and Aggarwal
3	9	§ 103(a)	Ueno and Aggarwal

Patent Owner filed a Patent Owner Response (Paper 17 (“PO Resp.”)). Patent Owner relies on the Declaration of Dr. Mark T. Jones (Ex. 2018) to support its Response.

Petitioner filed a Reply to Patent Owner’s Response (Paper 22 (“Pet. Reply”)). Patent Owner then filed a Patent Owner’s Sur-Reply (Paper 26 (“PO Sur-Reply”)).

At the parties’ request (Papers 29, 30), an Oral Hearing was held on June 13, 2019, a transcript of which is included in the record (Paper 34 (“Tr.”)).

## II. BACKGROUND

### A. *Related Proceedings*

Petitioner and Patent Owner indicate the ’074 Patent is at issue in the following proceedings:

*Sound View Innovations, LLC v. Hulu, LLC*, No. 2:17-cv-04146, which was filed in the U.S. District Court for the Central District of California;

*Unified Patents Inc. v. Sound View Innovations, LLC*, IPR2018-00599, which was filed at the Patent Trial and Appeal Board;

*Sound View Innovations, LLC v. AMC Networks, Inc.*, No. 1-19-cv-00145 which was filed in the U.S. District Court for the District of Delaware;

*Sound View Innovations, LLC v. HSN, Inc.*, No. 1-19-cv-00193  
which was filed in the U.S. District Court for the District of Delaware; and

*Sound View Innovations, LLC v. QVC, Inc.*, No. 1-19-cv-00194  
which was filed in the U.S. District Court for the District of Delaware  
(Pet. 3; Paper 5, 1; Paper 27, 1)

For completeness, Patent Owner points out, and the Board notes, the '074 Patent is no longer at issue *Sound View Innovations, LLC v. Facebook, Inc.*, No. 2:17-cv-04275, which was filed in the U.S. District Court for the Central District of California (terminated Jan. 10, 2018) (Paper 5, 1; Paper 27, 2).

#### B. *Real Parties in Interest*

The Petition identifies “Hulu, LLC”<sup>1</sup> as the real party in interest (Pet. 3). Patent Owner states the real parties in interest are “Sound View Innovations, LLC and Sound View Innovation Holdings, LLC” (Paper 4, 1).

#### C. *The '074 Patent*

The '074 Patent, titled “Method and System for Caching Streaming Multimedia on the Internet,” issued Oct. 4, 2016 (Ex. 1001, [45], [54]). The '074 Patent describes a technique for enhancing existing caches in a network by employing helper machines to segment streaming media into smaller units according to placement and replacement policies (*id.* at Abstract).

---

<sup>1</sup> Petitioner indicates “The Walt Disney Company, 21<sup>st</sup> Century Fox, Comcast Corporation and Time Warner Inc.” own ten percent or more of stock in Hulu, LLC and, thus, may also be considered parties in interest (Pet. 3).

Figure 2 of the '074 Patent illustrates an exemplary network system to perform the streaming media caching (*id.* at 3:31–32) and is reproduced below.

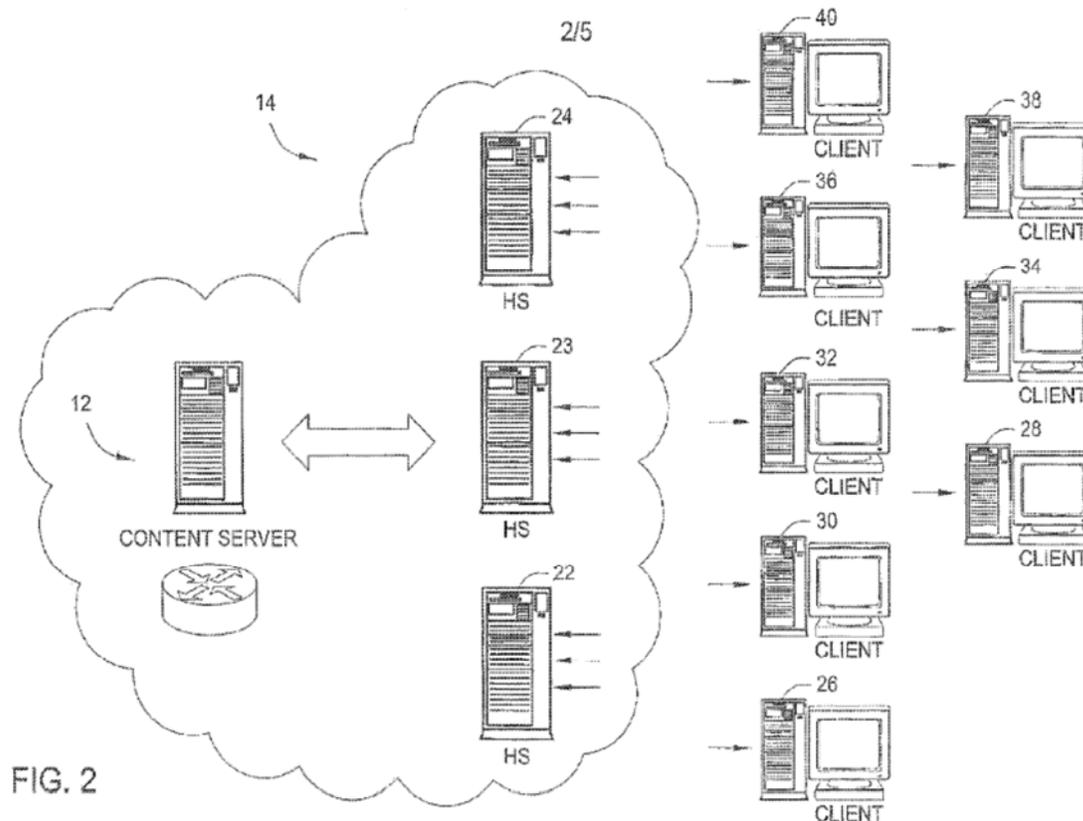


FIG. 2

Figure 2 illustrates an exemplary arrangement of a public network system (Ex. 1001, 4:62–63). Content server 12 of Figure 2 stores and serves content through network 14 (*id.* at 4:64–66). Content server 12 serves various forms of multimedia content to client computers 26–40 (*id.* at 5:1–7). Helper Servers (“HS”) are configured as conventional database servers that cache resources requested by client computers 26–40 (*id.* at 4:11–13, 5:7–14). HSs 22–24 generally segment streaming multimedia objects (“SM objects”) to better utilize their cache storages (*id.* at 3:6–12, 6:32–34). HSs

divide the SM objects into a plurality of chunks, which can be cached and replaced independently in the cache storage of each HS (*id.* at 6:37–43).

According to the '074 Patent, an advantage of dividing the cached SM objects into chunks is to significantly increase the utilization of the cache storage (*id.* at 6:40–43). This caching technique reduces a content provider's memory and processing requirements, server loads, network congestion, and high start-up latency for video requests (*id.* at 3:13–20).

#### D. *The Claims*

Of the challenged claims, claims 3 and 9 are independent claims, and claim 5 depends directly from claim 3 (Ex. 1001, claims 3, 5, and 9).

Independent claims 3 and 9 are reproduced below:

3. A method for storing a streaming media (SM) object in a network having a content server which hosts SM objects for distribution over said network through a plurality of helper servers (HSs) to a plurality of clients, said SM object being comprised of a plurality of successive time-ordered chunks, wherein a chunk is further comprised of a discrete number of segments, each segment allocated to a respective disk block of said plurality of HSs, said method comprising:
  - i) receiving said SM object;
  - ii) determining whether there is a disk space available on said one of said plurality of HSs;
  - iii) storing said SM object at said at least one HS if it is determined that there is sufficient disk space available; and
  - iv) performing the following steps, if it is determined that there is insufficient disk space available:
    - a) composing a set of SM objects from among a plurality of SM objects stored on said disk space whose access time is determined to be least recent, where said access time corresponds to a time when

- said SM object was last requested; and
- b) replacing a portion of each of said SM objects belonging to said composed set with chunks of said received SM object.

(Ex. 1001, claim 3).

9. A method for managing storage of a streaming media (SM) object in a network having a content server which hosts SM objects for distribution over said network through a plurality of servers to a plurality of clients, said method comprising:

- i) receiving said SM object;
- ii) determining whether there is a disk space available on one of said plurality of servers;
- iii) storing said SM object at said one of said plurality of servers if it is determined that there is sufficient disk space available; and
- iv) if it is determined that there is insufficient disk space available to store the received SM object, for each of a plurality of SM objects stored in said disk space, deleting only a portion of said SM object, whereby the deletion of said portions of said SM objects results in sufficient disk space being available for storage of the received SM object.

(Ex. 1001, claim 9).<sup>2</sup>

### III. ANALYSIS

#### A. *Level of Ordinary Skill in the Art*

In determining whether an invention would have been obvious at the time it was made, we consider the level of ordinary skill in the pertinent art at the time of the invention (*Graham v. John Deere Co.*, 383 U.S. 1, 17–18

---

<sup>2</sup> Corrected in accordance with the Certificate of Correction (Ex. 3001).

(1966)). “The importance of resolving the level of ordinary skill in the art lies in the necessity of maintaining objectivity in the obviousness inquiry” (*Ryko Mfg. Co. v. Nu Star, Inc.*, 950 F.2d 714, 718 (Fed. Cir. 1991)). The person of ordinary skill in the art is a hypothetical person who is presumed to have known the relevant art at the time of the invention (*In re GPAC, Inc.*, 57 F.3d 1573, 1579 (Fed. Cir. 1995)). The level of ordinary skill in the art may be reflected by the prior art of record (*Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001)). Factors that may be considered in determining the level of ordinary skill in the art include, but are not limited to, the types of problems encountered in the art, the sophistication of the technology, and educational level of active workers in the field (*GPAC*, 57 F.3d at 1579). In a given case, one or more factors may predominate (*id.*). Generally, it is easier to establish obviousness under a higher level of ordinary skill in the art (*Innovention Toys, LLC v. MGA Entm’t, Inc.*, 637 F.3d 1314, 1323 (Fed. Cir. 2011) (“A less sophisticated level of skill generally favors a determination of nonobviousness . . . while a higher level of skill favors the reverse.”)).

The level of skill in the art is a factual determination that provides a primary guarantee of objectivity in an obviousness analysis (*Al-Site Corp. v. VSI Int’l Inc.*, 174 F.3d 1308, 1324 (Fed. Cir. 1999) (citing *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966); *Ryko Mfg. Co. v. Nu-Star, Inc.*, 950 F.2d 714, 718 (Fed. Cir. 1991))).

Petitioner asserts that a person of ordinary skill in the art at the time of the invention “would have [had] at least a Bachelor of Science degree in Electrical Engineering, Computer Science, or an equivalent field, as well as at least 2-3 years of academic or industry experience in the field of content

delivery networks or comparable industry experience(s)” (Pet. 13 (citing Ex. 1002 ¶ 32)). Patent Owner does not dispute Petitioner’s assertion regarding the education or experience of an ordinarily skilled artisan at the time of the invention (*see generally* PO Resp.).

We note that the assessment appears consistent with the level of ordinary skill in the art at the time of the invention as reflected in the prior art in the instant proceeding (*see Okajima*, 261 F. 3d at 1355). Based on our review of the ’074 Patent, the types of problems and solutions described in the ’074 Patent and cited prior art, and the testimony of Drs. Houh and Jones (Ex. 1002 ¶ 32; Ex. 2018 ¶¶ 19–20), we determine a skilled artisan would have possessed a Bachelor of Science degree in Computer Science, Computer Engineering, Electrical Engineering, or an equivalent field, and two to three years of work experience with content delivery networks or applications or comparable education or work experience in the field.

### B. *Claim Construction*

In an *inter partes* review, claim terms in an unexpired patent are given their broadest reasonable construction in light of the specification of the patent in which they appear (*see* Office Patent Trial Practice Guide, 77 Fed. Reg. 48,756, 48,766 (Aug. 14, 2012); 37 C.F.R § 42.100(b)). Here, the Petition was filed March 29, 2018 and the ’074 Patent is an unexpired patent; it is set to expire March 29, 2020. Therefore, we apply the broadest reasonable construction of terms in light of the specification of the patent in which they appear.

### *1. Claim Terms*

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 149, 1257 (Fed. Cir. 2007)). An inventor may rebut that presumption by providing a definition of the term in the specification with reasonable clarity, deliberateness, and precision (*In re Paulsen*, 30 F.3d 1475, 1480 (Fed. Cir. 1994)). In the absence of such a definition, limitations are not to be read from the specification into the claims (*In re Van Geuns*, 988 F.2d 1181, 1184 (Fed. Cir. 1993)).

#### *a) “helper server”*

The '074 patent describes “helper server” in the following terms: “Helper Server (HS): a HS, also referred to as a helper, is one of a plurality of servers in the network that provide certain value-added services” (Ex. 1001, 4:11–13). Accordingly, we adopt this interpretation.

#### *b) Other terms*

Based on the trial record, we determine that no additional terms require explicit construction (*see, e.g., Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co.*, 868 F.3d 1013, 1017 (Fed. Cir. 2017) (“[W]e need only construe terms ‘that are in controversy, and only to the extent necessary to resolve the controversy’ . . . .” (quoting *Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999)))).

## 2. *Conditional Language*

In our Decision to Institute, we determined the final two limitations of independent claims 3 and 9 were mutually exclusive (Dec. to Inst. 8–9). We stated:

As a matter of law, therefore, we determine with respect to claims 3 and 9, *only one of the conditional limitations* needs to be satisfied in the prior art to render the claim anticipated or obvious (*see Ex Parte Schulhauser* (Appeal No. 2013-007847 (PTAB Apr. 28, 2016) (precedential), at 8–10 (holding that conditional steps in process claims need not be carried out when conditions precedent to those steps are not satisfied to be within the broadest reasonable interpretation of the claim))

(*id.* at 9).

Patent Owner contends *Schulhauser* does not support reading step (iv) out of the claim (PO Resp. 8). According to Patent Owner, applying *Schulhauser* “strips the heart out of the claims” (*id.* at 8–9). Moreover, according to Patent Owner, *Schulhauser* has never been applied to an *inter partes* review in a precedential decision (*id.* at 9).

In *Schulhauser*, a precedential decision from an *ex parte* appeal of an examiner’s rejection, the Board considered a method claim in which certain steps were recited as contingent on different, mutually exclusive prerequisite conditions (*Schulhauser*, at 6–7). Explaining that the prerequisite conditions made the related steps mutually exclusive, the Board determined performing the claimed method required different steps, depending on which conditions were present (*id.* at 8). The Board further determined the broadest reasonable interpretation of the claim included at least two different sets of method steps, one requiring those steps triggered by a first condition and another requiring those steps triggered by a second condition. The Board

held that under the broadest reasonable interpretation, conditional steps in method claims do not need to be performed when conditions precedent to those steps are not satisfied (*id.*). Once one of the mutually-exclusive conditional method steps was shown to be obvious (including both the condition and the triggered step), evidence of the obviousness of the remaining mutually-exclusive conditional method steps did not need to be presented (*id.* at 9–10 (citing *Applera Corp. v. Illumina, Inc.*, 375 F. App’x 12, 21 (Fed. Cir. 2010) (unpublished) (affirming a district court’s interpretation of a method claim as including a step that need not be practiced if the condition for practicing the step is not met); *Cybersettle, Inc. v. Nat’l Arbitration Forum, Inc.*, 243 F. App’x 603, 607 (Fed. Cir. 2007) (unpublished) (“It is of course true that method steps may be contingent. If the condition for performing a contingent step is not satisfied, the performance recited by the step need not be carried out in order for the claimed method to be performed”))).

a) *Argument – Petitioner did not present a case for unpatentability under Schulhauser*

Patent Owner argues Petitioner “never suggested step (*iv*) was immaterial or mentioned *Schulhauser*” (PO Resp. 9). Thus, according to Patent Owner, Petitioner did not “preserve[] the argument that *Schulhauser* requires that step *iv* of both claims be disregarded” (*id.* at 9–10). Therefore, Patent Owner indicates a finding of waiver is warranted (*id.* at 10).

Claim construction presents a question of law (*Cybor Corp. v. FAS Techs., Inc.*, 138 F.3d 1448, 1455 (Fed. Circ. 1998); *see also Exxon Chem. Patents, Inc. v. Lubrizol Corp.*, 64 F.3d 1553, 1556 (Fed. Cir. 1995) (“[T]he judge’s task is not to decide which of the adversaries[’ constructions] is

correct. Instead the judge must independently assess the claims, the specification, . . . and declare the meaning of the claims.”)). In this case, we previously set forth the preliminary claim construction in our Decision to Institute (Dec. to Inst. 8–9), thus putting both parties on notice of our initial conclusion of claim interpretation. Patent Owner was able to brief the issue in both its Response and in its Sur-Reply, proffer evidence, and argue the issue in the Oral Hearing (PO Resp. 8–21; PO Sur-Reply 10–11; *see generally* Tr.; *see also* Tr. 38:21–24 (Patent Owner’s counsel stating that, “[i]f it were appropriate for the Board to impose a new preliminary construction in both [IPR2018-00599 and IPR2018-00864], then, yes, we would say that we were put on notice from a due process prospective.”)). Therefore, we disagree with Patent Owner that our approach to claim construction in this case is impermissible.

*b) Argument – Schulhauser should not apply to issued claims*

Patent Owner contends the Board has not applied *Schulhauser* to issued claims in a precedential decision and should not apply it here (PO Resp. 10). Patent Owner asserts unlike in *Schulhauser* “in which the applicant could freely . . . amend[] its claims,” “[l]ess than 5 percent of motions to amend in IPR[s] have been granted, and only narrowing amendments are permitted,” thus barring Patent Owner from removing one of the conditional statements (PO Resp. 10).

We do not agree. The precedential holding of *Schulhauser* governs the construction of conditional limitations such as those in the instant case, and we do not agree that the circumstances of this case warrant deviation from Board precedent. In addition, the Board has a procedure to amend claims in an *inter partes* review, so the distinction Patent Owner attempts to

make is not apt. We also note that although unpublished, the Federal Circuit’s decisions in *Applera* and *Cybersettle* involved issued patents under the *Phillips* claim construction standard, yet the panels reached the same result that we do here (*see Applera*, 375 F. App’x, at 21; *Cybersettle*, 243 F. App’x at 607).

c) *Argument – the Board should not apply Schulhauser based on broadest reasonable interpretation*

Patent Owner next argues that *Schulhauser* relied on “broadest reasonable interpretation” (“BRI”) and “[t]he Board should not resolve these cases on that basis” because “these cases will not ultimately be decided under BRI” (PO Resp. 11; Tr. 53–55). Patent Owner contends we should instead apply the construction articulated in *Phillips v. AWH Corp.* 415 F.3d 1303 (Fed. Circ. 2005) (PO Resp. 11–12; Tr. 53–55). Specifically, Patent Owner contends “BRI no longer applies in [*inter partes* review],” and that the Board is only applying that standard in this case because the Petition was filed before the rules changed (PO Resp. 11). However, Patent Owner asserts because the ’074 Patent will expire during any forthcoming appeal to the U.S. Court of Appeals for the Federal Circuit, the Federal Circuit would apply the *Phillips* claim construction standard (*id.*; Tr. 53–55). More specifically, Patent Owner argues that, “when the Federal Circuit decides these cases, it will apply *Phillips*,” not BRI (PO Resp. 11). Thus, according to Patent Owner, because the ’074 Patent will have expired and BRI will cease to apply before this case might be decided on appeal, the Board should not apply BRI but, rather, should apply *Phillips* (*id.* at 11–12). Therefore, Patent Owner asserts “[u]nless the Board holds *Schulhauser* applies under *Phillips*, it should not decide this case under *Schulhauser*” (*id.* at 12).

We do not agree with Patent Owner’s assertions. Patent Owner has cited no authority that allows us to ignore the standard under which this case is to be decided according to our Rules. Nor are we inclined to abandon our Rules based on the mere possibility of an appeal.

*d) Argument – Ignoring step (iv) contradicts the claim language, written description, and prosecution history*

According to Patent Owner, the preambles of claims 3 and 9 require that step (iv) must occur (PO Resp. 13–16). Patent Owner contrasts the preamble claim language of claims 3 and 9 with the preamble of claim 1 in *Schulhauser*, which recites a “method for **monitoring of** cardiac conditions incorporating an implantable medical device in a subject” but does not mention the comparing, determining, or triggering steps recited in the claims (*id.* at 13–14).

We disagree with Patent Owner’s assessment of the preambles of claims 3 and 9. The preamble of claim 3 recites:

A method for storing a streaming media (SM) object in a network having a content server which hosts SM objects for distribution over said network through a plurality of helper servers (HSs) to a plurality of clients, said SM object being comprised of a plurality of successive time-ordered chunks, wherein a chunk is further comprised of a discrete number of segments, each segment allocated to a respective disk block of said plurality of HSs,

and the preamble of claim 9 recites:

A method for managing storage of a streaming media (SM) object in a network having a content server which hosts SM objects for distribution over said network through a plurality of servers to a plurality of clients

(’074 Patent, Claims). Neither of the preambles recites that storage depends on the availability of disk space.

Patent Owner additionally points to *Reactive Surfaces Ltd., LLP v. Toyota Motor Corp.*, IPR2016-01914, Paper 64 at 11–14 (PTAB Mar. 1, 2018) (PO Resp. 14). Claim 1 of *Reactive Surfaces* recites:

1. A method of facilitating the removal of a fingerprint on a substrate or a coating comprising:
  - a) providing a substrate or a coating;
  - b) associating a lipase with said substrate or said coating such that said lipase is capable of enzymatically degrading a component of a fingerprint, and
  - c) facilitating the removal of a fingerprint by vaporization from the lipase associated substrate or coating when contacted by a fingerprint

(*Reactive Surfaces*, at 5). In *Reactive Surfaces*, the preamble is directed to *removal* of a fingerprint and because the claim is directed to removal of a fingerprint, a fingerprint must exist. In contrast, the preambles in claims 3 and 9 of the '074 Patent are directed to storing a streaming media object. Neither of the preambles requires different types of storage based on whether there is sufficient disk space available. Therefore, performing step (iii) in claims 3 and 9 satisfies the preamble in each of those claims. Moreover, unlike steps (iii) and (iv) of claims 3 and 9 of the '074 Patent, the limitation at issue in *Reactive Surfaces* is not mutually exclusive of another step.

Patent Owner further contends that ignoring step (iv) would render the recited “*storing* a streaming media (SM) object in a network” in the preamble of claim 3 and “*managing storage* of a streaming media (SM) object in a network” in the preamble of claim 9 meaningless (PO Resp. 16). Step (iii) in claims 3 and 9 of the '074 Patent specifically recites storing the

SM object. The combination of steps (i), (ii), and (iii) satisfies “managing storage of a streaming media.” Thus, we are not persuaded the recitations of the preambles require performance of step (iv).

Patent Owner argues the Specification requires step (iv) and “makes it clear the inventors regarded the ‘insufficient disk space’ step as their contribution to the art” (*id.*). This does not change the fact that each of claims 3 and 9 contains mutually exclusive conditions that cannot both be met in one iteration of the method. Indeed, Patent Owner admits that, under its claim interpretation, practicing the invention would require *two* iterations of the method (Tr. 55–56). Patent Owner has not directed us to any authority stating that more than one iteration of a method may be required to meet a method claim, and we are aware of none (*see id.* at 56).

Patent Owner additionally contends “[t]he written description confirms the inventors regarded their invention as a ‘cache placement **and replacement** policy’” (PO Resp. 17 (quoting Ex. 1001, 10:5)). Claims 3 and 9, however, do not recite “a method for cache placement and replacement policy.”

Patent Owner next contends “[t]he prosecution history confirms step iv may not be ignored. This step was emphasized during prosecution and was a basis for allowance” (PO Resp. 18). In addition, Patent Owner asserts step (iv) is “integral to the claims” and an ordinarily skilled artisan who read the description of the ’074 Patent “would have understood the second conditional limitation is the heart of the invention” (*id.* at 19). These arguments do not change that *Schulhauser* applies to the claims as written.

*e) Argument – Schulhauser is incorrectly decided*

Patent Owner further contends *Schulhauser* was incorrectly decided (PO Resp. 20–21). We need not address Patent Owner’s contention because “[a] precedential decision is binding Board authority in subsequent matters involving similar facts or issues” (Patent Trial and Appeals Board, Standard Operating Procedure 2, 11).

*C. Principles of Law*

“A petitioner in an inter partes review may request to cancel as unpatentable 1 or more claims of a patent only on a ground that could be raised under section 102 or 103 and *only on the basis of prior art consisting of patents or printed publications*” (35 U.S.C. § 311(b) (emphasis added); *see also* 37 C.F.R. § 42.104(b)(2)); *In re Wyer*, 655 F.2d 221, 227 (CCPA 1981) (“[W]hether information is printed, handwritten, or on microfilm or a magnetic disc or tape, etc., *the one who wishes to characterize the information, in whatever form it may be, as a ‘printed publication’ . . .* should produce sufficient proof of its dissemination or that it has otherwise been available and accessible to persons concerned with the art to which the document relates and thus most likely to avail themselves of its contents” (emphasis added)).

The ultimate determination of obviousness under 35 U.S.C. § 103 is a question of law based on underlying factual findings (*In re Baxter Int’l, Inc.*, 678 F.3d 1357, 1362 (Fed. Cir. 2012) (citing *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1996))). These underlying factual considerations include: (1) the “level of ordinary skill in the pertinent art,” (2) the “scope and content of the prior art,” (3) the “differences between the prior art and the claims at issue,” and (4) “secondary considerations” of non-obviousness

such as “commercial success, long-felt but unsolved needs, failure of other, etc.”<sup>3</sup> (*KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007) (quoting *Graham*, 338 U.S. at 17–18)).

“To satisfy its burden of proving obviousness, a petitioner cannot employ merely conclusory statements. The petitioner must instead articulate specific reasoning, based on evidence of record, to support the legal conclusion of obviousness” (*Magnum Oil Tools Int’l, Ltd.*, 829 F.3d 1364, 1380–81 (Fed. Cir. 2016) (citing *KSR*, 550 U.S. at 418)). The “factual inquiry” into the reasons for “combin[ing] references must be thorough and searching, and the need for specificity pervades” (*In re NuVasive, Inc.*, 842 F.3d 1376, 1381–82 (Fed. Cir. 2016) (internal quotations and citations omitted)). A determination of obviousness cannot be reached where the record lacks “explanation as to *how* or *why* the references would be combined to produce the claimed invention” (*TriVascular, Inc. v. Samuels*, 812 F.3d 1056, 1066 (Fed. Cir. 2016)(citation omitted); *see NuVasive*, 842 F.3d at 1382–85; *Magnum Oil*, 829 F.3d at 1380–81). We analyze the asserted grounds based on obviousness with the principles identified above in mind.

D. *Alleged Obviousness over Wolf and Aggarwal: claims 3, 5, and*

9

Petitioner contends claims 3, 5, and 9 of the ’074 Patent would have been obvious over Wolf in view of Aggarwal (Pet. 27–50). Patent Owner

---

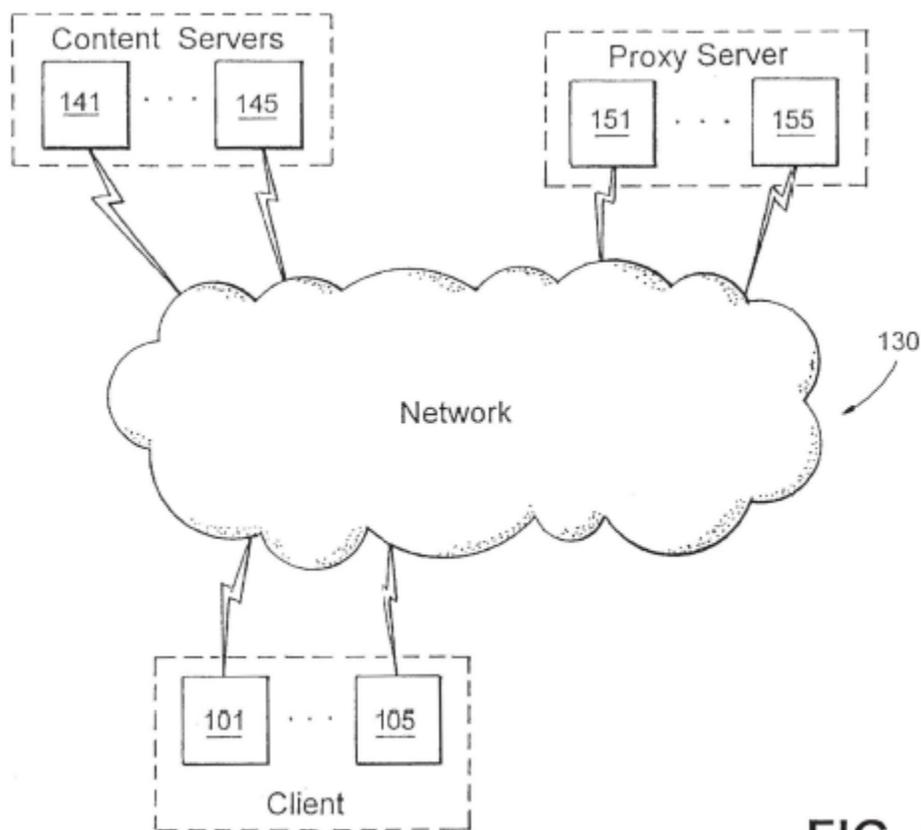
<sup>3</sup> Patent Owner does not put forth any arguments or evidence related to secondary considerations of nonobviousness.

asserts Petitioner has failed to show the prior art renders obvious claims 3, 5, and 9 (PO Resp. 26–29, 30–45).

*1. Overview of Wolf*

Wolf, a U.S. Patent titled “Method and Apparatus for Caching a Media Stream,” discloses a system for caching at proxy servers, where cache admission and replacement policies give preferential treatment for certain segments and prefetching certain segments (Ex. 1003, [54], [57]).

Figure 1 of Wolf, reproduced below, illustrates an Internet environment for implementing the invention:



**FIG. 1**

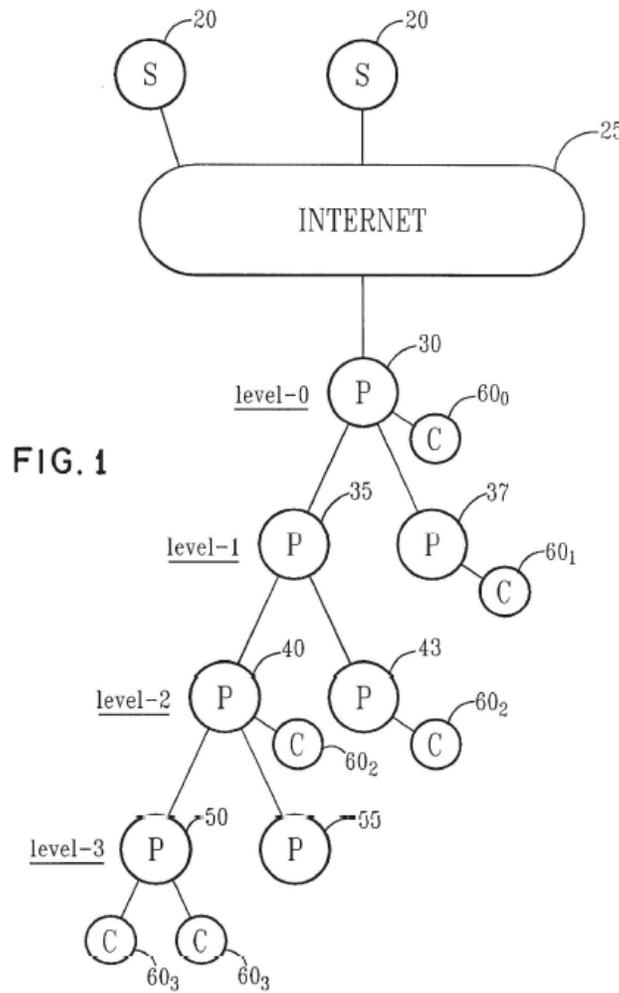
(*id.* at 1:63–64). As shown in Figure 1, Internet content servers 141, . . . , 145 provide requested media objects or files to clients 101, . . . , 105 through

network 130 (*id.* at 3:18–25). Proxy servers 151, . . . , 155 facilitate delivery of requested content through caching (*id.*). A segment is the unit of media object caching at the proxy server (*id.* at 4:6–8). According to Wolf, the caching policies employed by the proxy servers improve the caching efficiency of the segmented media through admission and replacement policies (*id.* at 2:25–56).

## *2. Overview of Aggarwal*

Aggarwal, a U.S. Patent titled “Collaborative Caching of a Requested Object by a Lower Level Node as a Function of the Caching Status of the Object at a Higher Level Node,” discloses a system for collaborative caching information at proxy servers, where decisions to cache or replace objects are made according to a hierarchy and selection policies (Ex. 1004, [54], [57]).

Figure 1 of Aggarwal, reproduced below, illustrates the high-level client-server hierarchical architecture for implementing the invention:



(*id.* at 4:44–46). As shown in Figure 1, clients 60<sub>0</sub> . . . 60<sub>3</sub> are connected to proxy servers 30 . . . 55 through a hierarchy, illustrated having level-0 . . . level-3 (*id.* at 5:1–3). Clients access the Internet 25 and various websites 20 through any number of levels of proxy servers (*id.* at 5:5–14). According to Aggarwal, the caching hierarchy and policies employed by the proxy servers improve the caching efficiency of media by reducing access times through the knowledge of the caching status of objects located within the hierarchy (*id.* at 9:50–67).

1. *Analysis*

As discussed *supra*, we need not determine whether the combination of Wolf and Aggarwal teaches both conditional limitations, step (iii) and step (iv), of independent claims 3 and 9. Of the mutually-exclusive conditional limitations, Petitioner only needs to show that the combination of Wolf and Aggarwal teaches either step (iii) *or* step (iv). Petitioner contends the features of independent claim 3 are taught by the combination of Wolf and Aggarwal (Pet. 27–47).

a) *Preamble*

The preamble of claim 3 recites, in part, “[a] method for storing a streaming media (SM) object in a network having a content server which hosts SM objects for distribution over said network through a plurality of helper servers (HSs) to a plurality of clients,” and the preamble of claim 9 recites “[a] method for managing storage of a streaming media (SM) object in a network having a content server which hosts SM objects for distribution over said network through a plurality of servers to a plurality of clients” (Ex. 1001, claims 3, 9). To the extent the preambles of claims 3 and 9 are limiting, Petitioner asserts “*Wolf* discloses this limitation because its media objects are ‘media streams at one or more proxy servers,’ which include ‘video and audio streams’” (Pet. 32 (citing Ex. 1003, 2:26–33, 3:22–23; Ex. 1002 ¶ 96), 49). Further, Petitioner asserts that *Wolf* discloses client stations that “can ‘request the playout of media objects or files’” (*id.* (citing Ex. 1003, 3:20–21)) and that *Wolf* discloses that “proxy servers ‘facilitate [] content delivery through caching,’ deliver media objects, and issue prefetch requests to the content server or a next level proxy server” to deliver the

media objects to the client stations (*id.* at 32 (citing Ex. 1003, 3:22–25, 4:67–5:3, 5:15–17; Ex. 1002 ¶ 96)).

We are persuaded Wolf teaches the claimed subject matter quoted above, particularly the network shown in Wolf’s Figure 1, which has a content server (141–145) hosting media objects for distribution to proxy servers (151–155) (“helper servers”) and then to clients (Ex. 1003, 3:19–25, Fig. 1).

Additionally, Petitioner asserts Wolf discloses “said SM object being comprised of a plurality of successive time-ordered chunks,” as recited in claim 3 because “*Wolf* discloses that a media object is divided into segments, and that the segments correspond to different time distances from the start of the media object” (Pet. 32 (citing Ex. 1003, 4:1–14; Ex. 1002 ¶ 98)).

Petitioner asserts Wolf discloses “the media object is divided into ‘segments’ which are further subdivided into ‘blocks,’” and an ordinarily skilled artisan would have understood “that *Wolf* discloses that each distributed media object is comprised of a plurality of successive time-ordered chunks” (*id.* at 33–34 (citing Ex. 1003, 4:1–14, 8:27–48; Ex. 1002 ¶ 100)).

Based on the trial record, we agree Wolf’s division of the media object into segments and blocks corresponds to the ’074 Patent’s division of the SM object into chunks and segments (Ex. 1003, 4:1–14, Fig. 3; Ex. 1002 ¶ 98) and thus, teaches “said SM object being comprised of a plurality of . . . chunks,” as recited in claim 3. We further agree Wolf’s disclosure illustrates “an example where Segment 1 is closest in time to the start of the media object, Segment 2 is next closest in time, Segment 3 is third in time, and Segment 4 is fourth in time” (Pet. 32 (citing Wolf, Fig. 3)). We credit

Dr. Houh’s testimony that an ordinarily skilled artisan “would have understood, or at least would have found obvious, that *Wolf* discloses that each distributed media object is comprised of a plurality of successive time-ordered chunks” (Ex. 1002 ¶¶ 98, 100) because it is consistent with the teachings of *Wolf*. Therefore, based on the trial record, we agree *Wolf* teaches “said SM object being comprised of a plurality of successive time-ordered chunks,” as recited in claim 3.

Petitioner asserts *Wolf*’s grouping of the blocks into segments teaches “wherein a chunk is further comprised of a discrete number of segments” as recited in the preamble of claim 3 (Pet. 34–35 (citing Ex. 1003, 4:2–4, 4:12–14, 8:27–48; Ex. 1002 ¶¶ 104–105)). Petitioner further asserts *Wolf* discloses “each segment allocated to a respective disk block of said plurality of HSs” because “[w]hen a proxy server receives a media block, ‘the object block is cached in the receiving buffer to be handled subsequently by the streaming routine’” (*id.* at 35 (citing Ex. 1003, 4:43–47)). According to Petitioner, “[a] person of ordinary skill in the art would have understood that the object blocks in *Wolf* that are cached in the local storage of proxy servers would be allocated to a disk block” (*id.* at 37 (citing Ex. 1003, 4:2–4; Ex. 1002 ¶ 110)).

Based on the trial record, we agree *Wolf*’s segments are divided into a discrete number of blocks (Ex. 1003, 4:2–4, 4:12–14, 8:27–48, Fig. 3) thus teaching the recited “wherein a chunk is further comprised of a discrete number of segments,” as recited in claim 3.

We further credit Dr. Houh’s testimony that

[a] person of ordinary skill in the art would have understood that the object blocks in *Wolf* that are cached in the local storage of proxy servers would be allocated to a disk block. (*Wolf*, 4:2-4 (EX1003)).

Such a person would have understood that storage systems divide disk memory into disk blocks, and that file operations read and write data to those disk blocks. ([Dominic] Giampaolo, [*Practical File System Design with the Be File System* 6 (Morgan Kaufmann Publishers, Inc. 1999)] (EX1011) (“Block: The smallest unit writable by a disk or file system. Everything a file system does is composed of operations done on blocks. A file system block is always the same size as or larger (in integer multiples) than the disk block size.”)

(Ex. 1002 ¶ 110). Dr. Houh’s testimony is consistent with the evidence of record. Indeed, Wolf teaches blocks are grouped into segments and a segment is the unit of media object caching at the proxy server (Ex. 1003, 4:2–8). Thus, we find Wolf teaches “each segment allocated to a respective disk block of said plurality of HSs,” as recited in claim 3.

Accordingly, based on the trial record, Petitioner has established Acharya teaches the preambles of claims 3 and 9.

*b) “receiving said SM object”*

Petitioner contends “*Wolf* discloses that the proxy server invokes a ‘media object request handler’ when the proxy server receives a media object request” (Pet. 38 (citing Ex. 1003, 4:31–35), 49). If the requested media object is not already cached, Petitioner asserts “the proxy server forwards the object request to the content server or a next level proxy having the requested media object, and then waits for the starting blocks of the requested media object to arrive” (*id.* (citing Ex. 1003, 4:58–63; Ex. 1002 ¶ 113)). Thus, Petitioner contends, *Wolf* discloses “i) receiving said SM object” (*id.*).

Based on the trial record, we agree *Wolf* teaches a proxy server receives a request for a media object (Fig. 4, steps 410, 415) and forwards the request to the content server (Fig. 5, step 515) which then forwards the

media object (Fig. 5, step 520) (Ex. 1003, 4:31–35, 58–62, Figs. 4, 5). Accordingly, based on the trial record, Petitioner has established Wolf teaches “receiving said SM object,” as recited in claims 3 and 9.

c) “determining whether there is a disk space available on one of said plurality of HSs”

Petitioner further contends Wolf teaches “determining whether there is a disk space available on one of said plurality of HSs,” as recited in claim 3, and “determining whether there is a disk space available on said one of said plurality of servers,” as recited in claim 9 (Pet. 39–40, 49). Petitioner asserts that Wolf “shows that the proxy server ‘determine[s] whether there is enough buffer space to cache segment j of [media] object O’” (*id.* at 39 (citing Ex. 1003, 7:24–25)). Petitioner further contends step 945 (“Enough free buffer space?”) illustrates the determination limitation (*id.* at 38–39 (citing Ex. 1003, Figure 9; Ex. 1002 ¶ 116)). Thus, Petitioner contends, Wolf discloses “determining whether there is a disk space available on said one of said plurality of HSs,” as recited in claim 3 (*id.*).

Based on the trial record, we agree with Petitioner that Wolf teaches the “determining” limitation. Specifically, we agree that step 945 in Figure 9 of Wolf determines if enough free buffer space exists (Ex. 1003, Fig. 9). Wolf explains “[a]t step 945, it is determined whether there is enough buffer space to cache segment j of object O” (Ex. 1003, 7:24–28).

Patent Owner argues for the first time in its Sur-Reply that Wolf fails to disclose the “determining” step (PO Sur-Reply 19–21; Tr. 94–98). According to Patent Owner, this new argument is “because the first time the [petitioner] raised *Schulhauser* was in the reply, so we responded to it in the

sur-reply” (Tr. 95). However, as acknowledged by Patent Owner, we set forth that *Schulhauser* applied in our Decision to Institute, but Patent Owner did not raise its “determining” step argument in Patent Owner’s Response (Dec. to Inst. 8–9; Tr. 95–96).

Moreover, this “determining” step is performed regardless of whether *Schulhauser* applies, and Petitioner set forth how Wolf teaches this limitation in the Petition (*see* Pet. 39–40). Thus, Patent Owner’s argument at the oral hearing that its Response only needed to be responsive to the Petition, not to the Decision to Institute (*see* Tr. 95–96), does not excuse its late argument in any event.

Patent Owner admits “Wolf may ultimately store the entire object if there’s sufficient space,” but contends “there is no determination in Wolf on whether you have sufficient space for the SM object” (Tr. 98). This, however, is an untimely argument brought up for the first time during oral argument. Moreover, we note that Wolf “determin[es] whether there is a disk space available on said one of said plurality of HSs,” as recited in claim 3 and commensurately recited in claim 9. Patent Owner is attempting to read limitations into the claim. Specifically, the claim does not recite “determine whether there is a disk space available on one of said plurality of HSs *for the SM object*” (*see* Tr. 98).

Thus, based on the trial record, Petitioner has established Wolf discloses “determining whether there is a disk space available on said one of said plurality of HSs,” as recited in claim 3 and “determining whether there is a disk space available on one of said plurality of servers,” as recited in claim 9.

d) “storing said SM object at said at least one HS if it is determined that there is sufficient disk space available”

Petitioner contends Wolf teaches “storing said SM object at said at least one HS if it is determined that there is sufficient disk space available,” as recited in claim 3, and “storing said SM object at said [ ] one of said plurality of server[s], if it is determined that there is sufficient disk space available” as recited in claim 9 (Pet. 40, 49). Petitioner asserts “*Wolf* discloses that ‘[i]f there is enough buffer space to cache segment j of object O, then the process proceeds to step 925 to cache the segment j of object O’” (*id.* at 40 (citing Ex. 1003, 7:25–28)). Petitioner contends step 945 “determines whether there is enough free buffer space to cache segment j of object O, and, if so, then proceeds to step 925 to cache the segment on the proxy server” (*id.* (citing Ex. 1003, Figure 9; Ex. 1002 ¶ 118)). Thus, Petitioner contends, Wolf discloses “storing said SM object at said at least one HS if it is determined that there is sufficient disk space available,” as recited in claim 3 (*id.* at 40–42).

As discussed above, we find that step 945 of Wolf’s Figure 9 discloses determining if sufficient buffer space exists to cache segment j of object O (Ex. 1003, 7:24–25, Fig. 9). In addition, Wolf states: “If there is enough buffer space to cache segment j of object O, then the process proceeds to step 925 to cache the segment j of object O” (*id.* at 7:25–28).

Accordingly, based on the trial record, Petitioner has established Wolf discloses “storing said SM object at said at least one HS if it is determined that there is sufficient disk space available,” as recited in claim 3 and “storing said SM object at said one of said plurality of servers if it is

determined that there is sufficient disk space available,” as recited in claim 9.

*e) Remaining limitations*

Patent Owner’s arguments are directed to the limitations of step (iv) (PO Resp. 1–5, 21–45). In light of the claim construction adopted *supra* and Petitioner’s establishing Wolf teaches step (iii) as discussed above, we need not determine whether the asserted prior art teaches the subject matter recited in step (iv) of claims 3 and 9.

*f) Reason to combine*

Petitioner contends an ordinarily skilled artisan would have found it obvious to combine Wolf with Aggarwal to teach claims 3 and 9 (Pet. 27–30). More specifically, Petitioner contends “*Wolf* and *Aggarwal* both disclose methods of caching objects on proxy servers, including cache replacement routines for when the available server cache memory is not large enough to accommodate a new object” (Pet. 27 (citing Ex. 1003, 2:27–40, 7:24–28; Ex. 1004, 3:38–44, 4:25–36; Ex. 1002 ¶ 85)). Petitioner further asserts

It would have been obvious to a person of ordinary skill in the art, and such a person would have been motivated, to modify the cache replacement routine of *Wolf* with the set creation methods of *Aggarwal*, at least because of the benefits of determining in advance the set of objects for which portions will be deleted, and because such a combination would have a reasonable likelihood of success

(Pet. 29 (citing Ex. 1002 ¶ 88)).

Patent Owner argues “Petitioner’s proffered motivation to combine is nowhere to be found in the record — in any of its references, or in any competent evidence of any other prior art teaching” (PO Resp. 38). Patent

Owner further argues “even if Petitioner’s lone proffered reason to combine Aggarwal with its primary references were proper or supported by the record, it would be inapposite to the system[ of Wolf]” (*id.* at 39).

Petitioner relies on Wolf to teach the preamble and steps (i)–(iii) (Pet. 30–42, 49). For the reasons discussed above, we are persuaded Wolf alone teaches these limitations. As a matter of claim construction (and as a matter of law), step (iv) is non-limiting when Petitioner has established that Wolf teaches step (iii), because steps (iii) and (iv) are mutually exclusive (*see supra* § III.B.2). Accordingly, we need not make any finding regarding a motivation to combine given Petitioner’s reliance on Wolf alone for teaching steps (i)–(iii) (*cf. Realtime Data, LLC v. Iancu*, 912 F.3d 1368, 1373 (Fed. Cir. 2019) (“[T]he Board [is] not required to make any finding regarding a motivation to combine” references when a challenge does not rely on one of the references “for the disclosure of a particular element or teaching”)). Nevertheless, based on the entire trial record, we are persuaded by the rationale set forth by Petitioner to the extent the rationale would have been necessary to render obvious steps (i)–(iii). Therefore, Petitioner has established that the combination of Wolf and Aggarwal teaches or suggests claims 3 and 9.

*g) Claim 5*

With respect to claim 5, Petitioner contends the features of claimed invention are taught by the combination of Wolf and Aggarwal (Pet. 47–48). Specifically, Petitioner contends Wolf discloses “said composed set is formed by including only SM objects having a helper hotness rating below a pre-defined threshold” because the replacement algorithm in Wolf “may use alternative criteria to assign a value to each media object, such as ‘the object

access frequency, its time since last reference, its access time, and the object size” (*id.* at 48 (citing Ex. 1003, 7:43–51; Ex. 1002 ¶ 134). Based on the combination of Wolf and Aggarwal, Petitioner asserts “it would have been obvious to a person of ordinary skill in the art to compose a set of objects to be deleted, as described in *Aggarwal*, based on the objects’ ‘helper hotness rating’ (*i.e.*, access frequency) as described in *Wolf*” (*id.* (citing Ex. 1002 ¶ 135; Pet. 42–46)).

Claim 5 depends from claim 3 and as recited, the subject matter of claim 5 is only implicated by the performance of step (*iv*) of claim 3. In particular, step (*iv*) recites in part “composing a set of SM objects” (Ex. 1001, Claim 3). Thus, the limitation of claim 5, which further details how that composed set is formed, *i.e.*, how step (*iv*) is performed, does not occur unless step (*iv*) is performed. Accordingly, based on the claim construction adopted *supra*, we need not determine whether the combination of Wolf and Aggarwal discloses the subject matter recited in claim 5.

#### *h) Conclusion*

Based on the trial record, we determine Petitioner has established by a preponderance of the evidence, claims 3, 5, and 9 of the ’074 Patent are unpatentable over Wolf and Aggarwal.

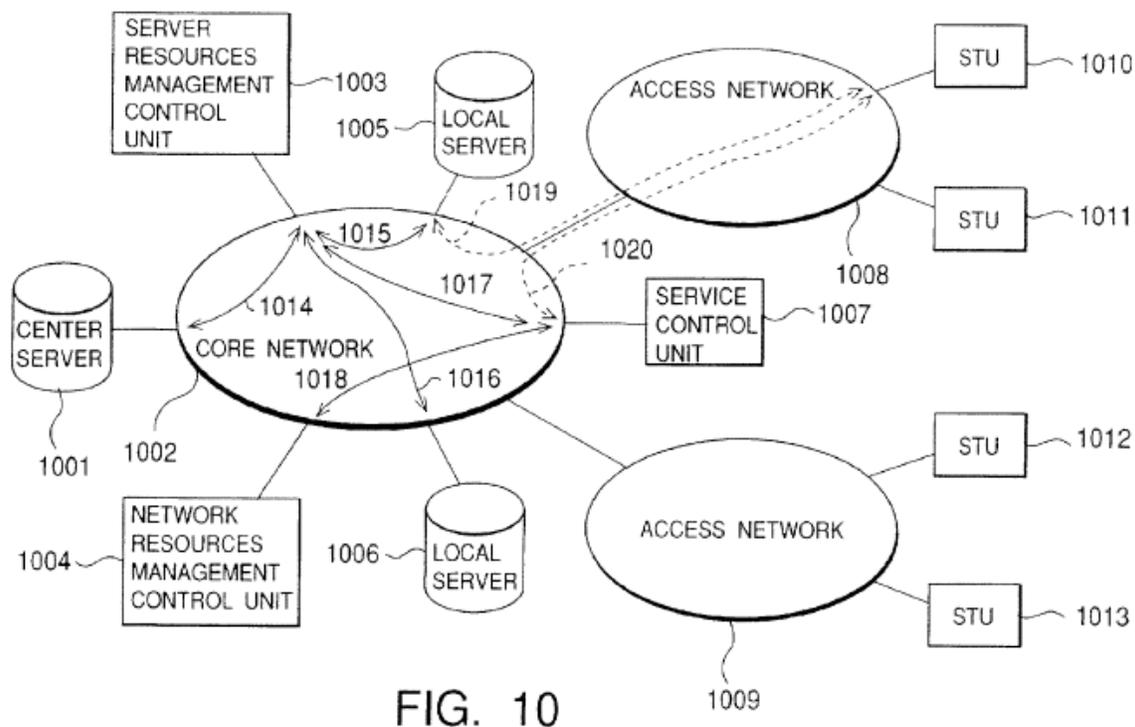
#### *E. Alleged Obviousness over Ueno, Dan, and Aggarwal: claim 3*

Petitioner contends claim 3 of the ’074 Patent would have been obvious over Ueno in view of Dan and Aggarwal (Pet. 50–71). Patent Owner asserts Petitioner has failed to show the prior art discloses all of the features of the claimed invention (PO Resp. 1–5, 25–26, 30–31, 51).

### 1. Overview of Ueno

Ueno, a U.S. Patent titled “Information Transmission System Utilizing Both Real-Time Data Transmitted in a Normal-in-Time Direction and in a Retrospective-in-Time Direction,” discloses a system for transmitting information having a guaranteed quality for real-time information, where the system monitors time stamps associated with real-time information to switch between communication elements (Ex. 1005, [54], [57]).

Figure 10 of Ueno, reproduced below, illustrates the schematic view of the preferred environment for implementing the patented invention:



(*id.* at 7:53–54). As shown in Figure 10, center server 1001 is connected to local servers 1005 and 1006 by a core network 1002 (*id.* at 1:8–10, 18:18–27). Central server 1001 stores infrequently accessed video sources, while

local servers 1005 and 1006 store more frequently accessed video sources, and core network 1002 informs a server resources management control unit 1003 of resource conditions for the connected servers (*id.* at 18:20–27). Based on directions from the server resources management control unit 1003, videos are transmitted through channels 1019 to requesting user terminals, set-top units (“STUs”) 1010, 1011, 1012, 1013 (*id.* at 9:24–25, 18:27–30). When a user requests a video from STU 1010, the request is sent to network management control unit 1004, which establishes a channel 1020 between the STU and service control unit 1007 (*id.* at 18:55–60). Subsequently, the service control unit 1007 determines which server offers the selection and directs the network resources management control unit 1004 to establish channel 1019 for transmission from local server 1005 to STU 1010 (*id.* at 19:31–40). Once channel 1019 is established, service control unit 1007 directs server resources management control unit to start transmission of the requested video from local server 1005 to STU 1010 via channel 1019 (*id.* at 19:40–46). According to Ueno, this information relay and transmission system improves efficiency of real-time communication while reducing service costs (*id.* at 3:35–40, 7:11–16).

## 2. *Overview of Dan*

Dan, a U.S. Patent titled “Disk Caching System for Selectively Providing Interval Caching or Segment Caching of Vide[o] Data,” discloses a system for caching sequential data streams, where a consumption process determines whether data blocks of the stream should be discarded or cached according to an interval caching algorithm (Ex. 1006, [54], [57]).

Figure 2 of Dan, reproduced below, illustrates the front-end cache manager for implementing the patented invention:

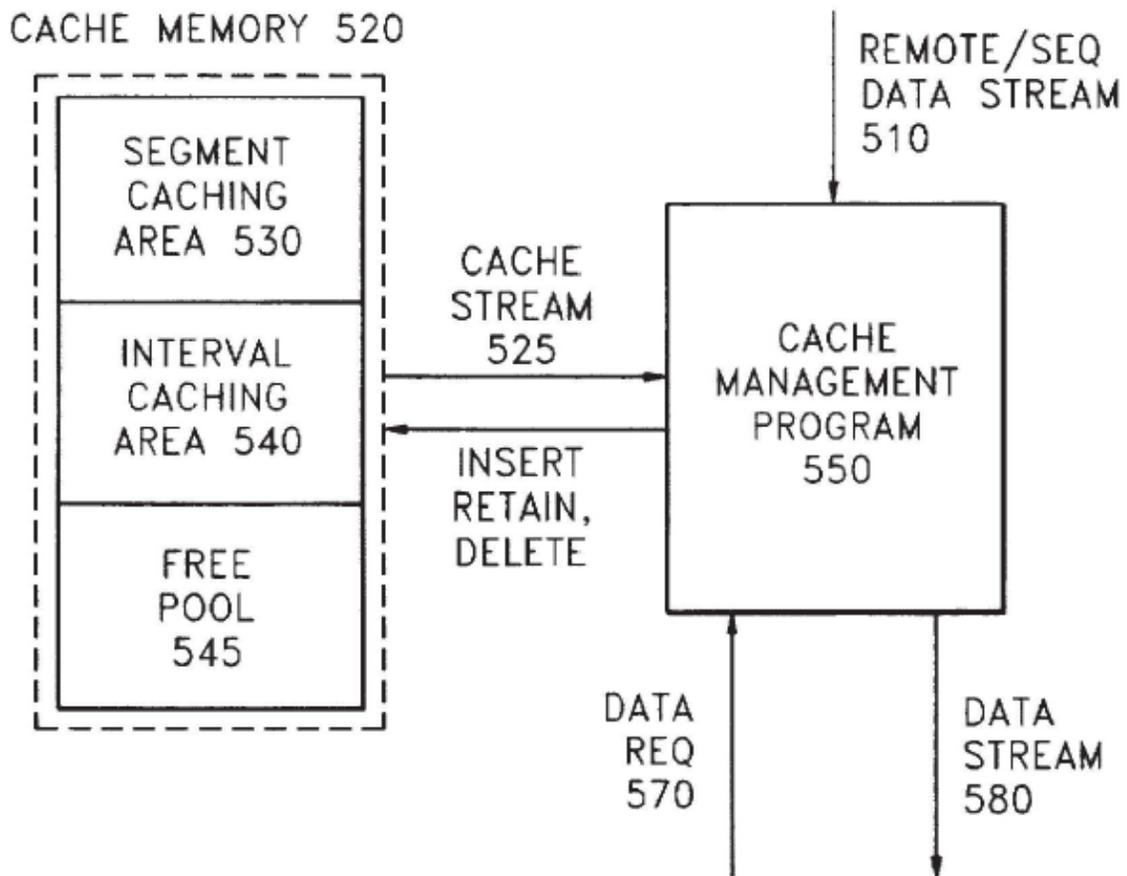


FIG.2

(*id.* at 1:51–52). As shown in Figure 2, the cache manager contains a disk group or cache memory 520, which is divided into three parts: segment caching area 530, interval caching area 540, and free pool 545 (*id.* at 2:33–40). Segment caching area 530 contains blocks of video segments that are or will be completely cached, interval caching area 540 contains video

blocks of segments that are partially cached, and the free pool 545 are blocks that do not contain any video (*id.*). Cache management program 550 receives data requests 570 from users, retrieves and transmits the requested data stream 580, and then chooses whether to insert remotely obtained blocks into the cache, retain blocks retrieved from the cache, or discard blocks retrieved from the cache (*id.* at 2:40–48). According to Dan, employing a segment caching algorithm at the cache manager allows for efficient provision of requested video, while also reducing costs by using cache disks instead of server memory (*id.* at 1:11–27, 1:42–46).

### 3. Analysis

As discussed *supra*, we need not determine whether both conditional limitations, steps (*iii*) and (*iv*), of independent claim 3 are met. Of the mutually-exclusive conditional limitations, Petitioner only needs to show sufficiently that either step (*iii*) or that step (*iv*) is met by the combination of Ueno, Dan, and Aggarwal.

#### a) Preamble

Petitioner contends the features of independent claim 3 are taught by the combination of Ueno, Dan, and Aggarwal (Pet. 50–71). To the extent the preamble of claim 3 is limiting, Petitioner asserts “*Ueno* teaches the preamble” because “*Ueno* discloses a center server (“content server”) which stores video content, local servers (“helper servers”) which store frequently accessed video, and set-top units (“clients”) which receive video (“streaming media object”) from either the center server or the local server over a network and display the content for a user” (Pet. 55 (citing Ex. 1005, 17:61–18:9; Ex. 1002 ¶ 147)). Further, Petitioner contends Figure 9 of Ueno shows a plurality of helper servers, having storage and connected to a plurality of

users (*id.* at 55–57 (citing Ex. 1005, Figure 9, 17:55–60, 18:1–9; Ex. 1002 ¶ 149)). Thus, Petitioner contends, to the extent the preamble of claim 3 is limiting, Ueno discloses “a method for storing a streaming media (SM) object in a network having a content server which hosts SM objects for distribution over said network through a plurality of helper servers (HSs) to a plurality of clients” (*id.* at 57 (citing Ex. 1002 ¶ 151)).

We find Petitioner has established Ueno teaches “[a] method for storing a streaming media (SM) object in a network having a content server which hosts SM objects for distribution over said network through a plurality of helper servers (HSs) to a plurality of clients,” as recited in claim 3. In particular, we find that Ueno teaches a network comprising a content server storing video content (SM objects) for distribution to set-top units (clients) through local servers (helper servers) (Ex. 1005, 17:61–65, Fig. 9).

Further, Petitioner contends Ueno discloses “said SM object being comprised of a plurality of successive time-ordered chunks” (Pet. 57–59). Petitioner asserts the real-time data transferred over the network in Ueno is “divided ‘into a plurality of data segments’ where each segment represents a ‘reproduction period of time from the head of the real-time data’” (*id.* at 58 (citing Ex. 1005, 6:60–7:2, 17:45–48, Figure 11)). Petitioner further asserts “Figure 11 of *Ueno* shows four video sources ‘divided into a plurality of segments,’ that are successively ordered on the T-axis labeled ‘Required Reproduction Time Period From Head’” (*id.* at 59 (citing Ex. 1005, 6:60–7:2, Figure 11)). Thus, Petitioner contends, to the extent the preamble of claim 3 is limiting, “*Ueno* discloses the ‘SM object being comprised of a plurality of successive time-ordered chunks’ because the data in *Ueno* are

segmented in successive order by ‘time information such as a time stamp’ based on the ‘required reproduction period of time from the head of the real-time data’” (*id.* (citing Ex. 1005, 6:60–7:2, 17:45–48, Fig. 11; Ex. 1002 ¶ 158)).

We find Petitioner has established Ueno teaches this subject matter. Specifically, we find Ueno describes its “real-time data storing means divides the real-time data into a plurality of data segments to be managed” and “the present invention is directed to a system for data such as managed in time series” (Ex. 1005, 6:61–7:2, 17:44–48). We further find Ueno’s Figure 11 illustrates a video source (SM object) divided into successive time ordered segments (chunks) (*id.* at Fig. 11).

Petitioner also contends the combination of Ueno and Dan discloses the claim features “wherein a chunk is further comprised of a discrete number of segments” and “each segment allocated to a respective disk block of said plurality of HSs,” as recited in the preamble of independent claim 3 (Pet. 60–63). Petitioner asserts the cache memory disclosed in Dan is divided into data blocks, and “[e]ach video segment and interval occupies a discrete number of cache blocks” (*id.* at 60 (citing Ex. 1006, 2:33–40, 3:3–7, 3:12–15; Ex. 1002 ¶ 160)). Further, Petitioner asserts that each video source in Dan is divided into data segments stored in a cache memory, and when the cache manager disclosed in Dan “receives data requests from users, the ‘needed data are retrieved either from the back-end nodes,’ or ‘a cache data stream[] from the cache’” (*id.* at 61 (citing Ex. 1006, 2:33–40, 2:40–44, 3:12–17; Ex. 1002 ¶ 163)). Petitioner additionally asserts it would have been obvious to a person of ordinary skill in the art to “further divide the plurality of video segments in *Ueno* to correspond to a cache disk’s data

blocks, as that taught by *Dan*,” and thus, Petitioner contends modifying Ueno with Dan discloses “wherein a chunk is further comprised of a discrete number of segments” and “each segment allocated to a respective disk block of said plurality of HSs,” as recited in the preamble of independent claim 3 (*id.* at 62–63 (citing Pet. 50–54; Ex. 1002 ¶ 167)).

Based on the trial record, Petitioner has established the combination of Ueno and Dan teaches “wherein a chunk is further comprised of a discrete number of segments, each segment allocated to a respective disk block of said plurality of HSs,” as recited in claim 3. As noted above, Ueno teaches each video source is divided into segments (Ex. 1005, 17:44–48). Dan describes that each video source is “made up of segments” (chunks) (Ex. 1006, 2:7–8) and “blocks belonging to video segments” (*id.* at 2:33–40, 3:13–15). Thus, we find Dan teaches “wherein a chunk is further comprised of a discrete number of segments,” as recited in claim 3. We credit Dr. Houh’s statement that

[i]t would have been obvious to a person of ordinary skill to modify the video segments of *Ueno* to comprise a discrete number of blocks that correspond to cache disk blocks, such as that taught by *Dan*. Such a person would have recognized, for example, that storage systems often allocate storage in discrete blocks. (Giampaolo [at 6] (EX1011) (“Block: The smallest unit writable by a disk or file system. Everything a file system does is composed of operations done on blocks. A file system block is always the same size as or larger (in integer multiples) than the disk block size.”))

(Ex. 1002 ¶ 161). Dr. Houh’s testimony is consistent with the teachings of Ueno and Dan.

Additionally, based on the trial record, Petitioner has established the combination of Ueno and Dan teaches “each segment allocated to a respective disk block of said plurality of HSs,” as recited in claim 3. In

particular, we find Dan teaches “the cache manager allocates cache from the free pool 545” (Ex. 1006, 3:58–59, Fig. 2; Ex. 1002 ¶ 163).

We further credit Dr. Houh’s statement that “[i]t would have been obvious to a person of ordinary skill to further divide the plurality of video segments in *Ueno* to correspond to a cache disk’s data blocks, as that taught by *Dan*” because “storage systems often allocate storage in discrete blocks” and an ordinarily skilled artisan would have been motivated “to ensure that the storage space is most efficiently used without leaving part of any block empty” (Ex. 1002 ¶ 164). Dr. Houh’s testimony is consistent with the testimony and evidence of record. Thus, we are persuaded and we find that Petitioner has articulated reasoning with a rational underpinning why a person of ordinary skill in the art would have combined the teachings of *Ueno* and *Dan* in the manner asserted.

Accordingly, based on the trial record, Petitioner has established the combination of *Ueno* and *Dan* teaches the preamble of claim 3.

*b) “receiving said SM object”*

Petitioner contends “*Ueno* discloses that when a user selects a desired video source, the video is transmitted to the user via the channel of the local server” (Pet. 63 (citing Ex. 1005, 19:41–46; Ex. 1002 ¶ 168)). Petitioner then asserts high frequency video sources are stored in local servers near users, and “[t]he service control unit ‘determines a server . . . to which the video source selected by the user is to be offered,’ and establishes the ‘transmission of the video between the local server 1005 and the user 1010’” (*id.* (citing Ex. 1005, 19:31–40; Ex. 1002 ¶ 168)). Thus, Petitioner contends, *Ueno* discloses “receiving said SM object” (*id.*).

Based on the trial record, Petitioner has established Ueno teaches this limitation. More specifically, Ueno teaches a user selects a desired video source and informs the service control unit (Ex. 1005, 19:31–34). The service control unit then determines a server, such as a local server, and then transmits the video to the user via the local server (*id.* at 19:34–46). Accordingly, we find, based on the trial record, Petitioner has established Ueno teaches “receiving said SM object,” as recited in claim 3.

*c) “determining whether there is a disk space available on said one of said plurality of HSs”*

Petitioner further contends Ueno teaches “determining whether there is a disk space available on said one of said plurality of HSs” (Pet. 64). Petitioner asserts that “*Ueno* discloses storing video in a cache, and further discloses that the ‘storage capacity of the video data storage unit is limited,’ and that ‘when the storage capacity is saturated, it is required to erase old video data in order to store new video data’” (*id.* (citing Ex. 1005, 21:52–55; Ex. 1002 ¶ 170)). Petitioner takes the position that “[d]etermining if storage capacity is ‘saturated’ is simply another way of stating that the system determines if storage space is available” (*id.* (citing Ex. 1002 ¶ 170)). Thus, Petitioner contends, Ueno discloses “determining whether there is a disk space available on said one of said plurality of HSs,” as recited in claim 3 (*id.*).

Patent Owner contends:

The Petition relies on Ueno’s local servers to allege disclosure of the claimed helper servers. . . . However, Ueno does not disclose any cache placement or replacement policies for its local servers. Rather, Petitioner relies on processes in Ueno’s ‘headend’ for the alleged disclosure of steps (ii)–(iv) of the Claims

(PO Resp. 46). Patent Owner does not identify where Petitioner relies on the headend (*see id.* at 46–48), but rather relies on Dr. Jones’s declaration testimony that “Ueno does not disclose any cache placement or replacement policies for its local servers” (*id.* at 48). According to Patent Owner, “the alleged cache placement and replacement process that Petitioner relies on for the alleged disclosure of claimed steps (ii)–(iv) occurs not in Ueno’s local servers, but at Ueno’s headends” (*id.*). Thus, Patent Owner argues “[t]he Petition never explains why Ueno’s local servers would need to perform the methods that are meant for Ueno’s headends, or conversely, why Ueno’s headends may disclose the Claimed helper servers” (*id.* at 46).

In response, Petitioner asserts the “determining” step does not recite a specific element to perform this step and has not provided any citation to the ’074 Patent to support Patent Owner’s more narrow interpretation (Pet. 19–20). Petitioner further asserts Patent Owner “conflates two separate system architectures in Ueno” in its arguments (*id.* at 20 (citing PO Resp. 47)).

Based on the trial record, Petitioner has established Ueno teaches “determining whether there is a disk space available on said one of said plurality of HSs,” as recited in claim 3. Initially, as set forth in our Decision to Institute (Dec. to Inst. 28), we determine this step does not specify where the “determining” must occur. Based on this claim construction, we agree with Petitioner that Ueno’s disclosure of the storage capacity being limited and Ueno’s determination of whether the storage capacity is saturated (Ex. 1005, 21:52–53) teaches the “determining” limitation. We credit Dr. Houh’s statement that “[d]etermining if storage capacity is ‘saturated’ is simply another way of stating that the system determines if storage space is available” (Ex. 1002 ¶ 170).

Accordingly, Petitioner has established Ueno teaches “determining whether there is a disk space available on said one of said plurality of HSs,” as recited in claim 3.

*d) storing said SM object at said at least one HS if it is determined that there is sufficient disk space available*

Petitioner contends Ueno teaches the step reciting “storing said SM object at said at least one HS if it is determined that there is sufficient disk space available” (Pet. 64–65). Petitioner asserts that “*Ueno* discloses storing video in a cache and that when the capacity of a video server is saturated, ‘it is required to erase old video data in order to store new video data’” (*id.* at 64 (citing Ex. 1005, 21:52–55; Ex. 1002 ¶ 172)). Petitioner asserts “[a] person of ordinary skill in the art would understand that if there is sufficient storage capacity, the local server store[s] the video in the cache without having to erase old video data” (*id.* at 64–65 (citing Ex. 1003, 17:56–60; Ex. 1002 ¶ 172)). Thus, Petitioner contends, Ueno discloses “storing said SM object at said at least one HS if it is determined that there is sufficient disk space available” (*id.* at 64 (citing Ex. 1002 ¶ 171)).

Patent Owner argues this step must be performed at the headend (PO Resp. 45–51). Initially, we note the “storing” step does not specify what performs the “storing” step. Patent Owner points to specific embodiments disclosed by Ueno but not those relied on by Petitioner (Pet. Reply 18–23). In particular, Patent Owner points to an embodiment described by Figure 2 (PO Resp. 50–51). However, Petitioner does not rely on this embodiment to teach the “storing” step. Furthermore, Patent Owner does not identify any disclosure in Ueno that states that the “storing” must be performed by the

headend (*see generally* PO Resp.). Rather, the disclosures in Ueno do not specifically identify where the storing step is performed.

Based on the trial record, Petitioner has established Ueno teaches this limitation. Specifically, as discussed above, we find Ueno teaches determining if the storage capacity is saturated (Ex. 1005, 21:52–53) and thus, determining if the storage capacity is not saturated (Ex. 1002 ¶ 173). We credit, as consistent with Ueno’s teaching, Dr. Houh’s statement that “[a] person of ordinary skill in the art would understand that if there is sufficient storage capacity to store the video in the cache, then the local server will store the video in the cache without having to erase old video data” (Ex. 1002 ¶ 172 (citing Ex. 1005, 17:56–60)).

*e) Remaining limitations*

In light of the claim construction adopted *supra* and Petitioner’s establishing the combination of Ueno teaches step (*iii*) as discussed above, we need not determine whether the asserted prior art teaches the subject matter recited in step (*iv*) of claim 3. Thus, we need not consider the parties’ arguments directed to step (*iv*).

*f) Reason to Combine*

Petitioner contends an ordinarily skilled artisan would have found it obvious to combine Ueno, Dan, and Aggarwal (Pet. 50–55). As set forth above in our discussion of the preamble, Petitioner has established an ordinarily skilled artisan would have been motivated to combine the teachings of Ueno and Dan. Petitioner further argues

It would have been obvious to a person of ordinary skill in the art, and such a person would have been motivated, to modify the cache storage and video delivery method and system of *Ueno* with the set creation methods of *Aggarwal*, at least because of the benefits of

determining in advance the set of video data to be erased, and because such a combination would have a reasonable likelihood of success

(Pet. 54 (citing Ex. 1002 ¶ 146)).

Patent Owner argues an ordinarily skilled artisan would not have been motivated to modify Ueno based on Aggarwal (PO Resp. 35–45, 47–51). Petitioner relies on the combination of Ueno and Dan to teach the preamble and on Ueno alone to teach steps (i)–(iii) (Pet. 55–65). Based on the entire trial record, we determine Petitioner has established the combination of Ueno and Dan teaches the preamble and steps (i)–(iii) and has provided articulated reasoning with a rational underpinning as to why an ordinarily skilled artisan would have been motivated to combine the teachings of Ueno and Dan. As a matter of claim construction (and as a matter of law), step (iv) is non-limiting. Accordingly, we need not make any finding regarding a motivation to combine Ueno, Dan, and Aggarwal given the reliance on Ueno and Dan (*cf. Realtime Data, LLC v. Iancu*, 912 F.3d 1368, 1373 (Fed. Cir. 2019)).

*g) Conclusion*

For the reasons set forth above, Petitioner has established that the combinations of Ueno, Dan, and Aggarwal teaches the preamble and steps (i)–(iii) of claim 3. Based on the entire trial record, we determine Petitioner has established by a preponderance of the evidence that the subject matter of claim 3 would have been obvious under 35 U.S.C. § 103 over Ueno, Dan, and Aggarwal.

*F. Alleged Obviousness over Ueno and Aggarwal: claim 9*

Petitioner contends claim 9 of the '074 Patent would have been obvious over Ueno in view of Aggarwal (Pet. 71–73). Petitioner asserts the

combination of Ueno and Aggarwal teaches the claim features for the same reasons stated with regards to claim 3 (*id.* (citing Pet. 55–57, 63–64; Ex. 1002 ¶ 189)). Based on our reasoning set forth above, we find Petitioner has established Ueno teaches “[a] method for managing storage of a streaming media (SM) object in a network having a content server which hosts SM objects for distribution over said network through a plurality of servers to a plurality of clients,” as recited in claim 9. In particular, we find that Ueno teaches a network comprising a content server storing video content (SM objects) for distribution to set-top units (clients) through local servers (helper servers) (Ex. 1005, 17:61–65, Fig. 9).

We further find, for the reasons set forth above with respect to claim 3, Petitioner has established Ueno teaches “receiving said SM object,” “determining whether there is a disk space available on one of said plurality of servers,” and “storing said SM object at said one of said plurality of servers if it is determined that there is sufficient disk space available,” as recited in claim 9.

Petitioner contends an ordinarily skilled artisan would have found it obvious to combine Ueno and Aggarwal for the reasons set forth with respect to claim 3 (Pet. 71). Petitioner further argues

It would have been obvious to a person of ordinary skill in the art, and such a person would have been motivated, to modify the cache storage and video delivery method and system of *Ueno* with the set creation methods of *Aggarwal*, at least because of the benefits of determining in advance the set of video data to be erased, and because such a combination would have a reasonable likelihood of success (Pet. 54 (citing Ex. 1002 ¶ 146)).

Patent Owner argues an ordinarily skilled artisan would not have been motivated to modify Ueno based on Aggarwal (PO Resp. 35–45, 47–51).

Petitioner relies on Ueno alone to teach steps (i)–(iii) (Pet. 55–65, 71–72). Based on the entire trial record, Petitioner has established Ueno teaches the preamble and steps (i)–(iii). As a matter of claim construction (and as a matter of law), step (iv) is non-limiting. Accordingly, we need not make any finding regarding a motivation to combine given the reliance on Ueno alone (*cf. Realtime Data, LLC v. Iancu*, 912 F.3d 1368, 1373 (Fed. Cir. 2019)). Therefore, we determine Petitioner has established by a preponderance of the evidence that the subject matter of claim 9 would have been obvious under 35 U.S.C. § 103 over Ueno and Aggarwal.

#### IV. CONCLUSION

For the foregoing reasons, we determine that the trial record establishes by a preponderance of the evidence that claims 3, 5, and 9 are unpatentable.

#### V. ORDER

Based on the foregoing, it is hereby:

ORDERED that Petitioner has shown by a preponderance of the evidence that claims 3, 5, and 9 of the '074 Patent are unpatentable under 35 U.S.C. § 103; and

FURTHER ORDERED that, because this is a Final Written Decision, parties to the proceeding seeking judicial review of the Decision must comply with the notice and service requirements of 37 C.F.R. § 90.2.

Case IPR2018-00864  
Patent 9,462,074

PETITIONER:

Jason Kipnis  
David L. Cavanaugh  
Evelyn C. Mak  
Nancy Lynn Schroeder  
Jason.Kipnis@wilmerhale.com  
David.Cavanaugh@wilmerhale.com  
WILMER CUTLER PICKERING HALE AND DORR, LLP

PATENT OWNER:

Kenneth J. Weatherwax  
Nathan Lowenstein  
Edward Hsieh  
Parham Hendifar  
weatherwax@lowensteinweatherwax.com  
lowenstein@lowensteinweatherwax.com  
hsieh@lowensteinweatherwax.com  
hendifar@lowensteinweatherwax.com  
LOWENSTEIN & WEATHERWAX LLP

# Attachment 2

UNITED STATES PATENT AND TRADEMARK OFFICE

---

BEFORE THE PATENT TRIAL AND APPEAL BOARD

---

HULU, LLC  
Petitioner

v.

SOUND VIEW INNOVATIONS, LLC  
Patent Owner

---

Case IPR2018-00864  
Patent 9,462,074 B2

---

Before DEBRA K. STEPHENS, DANIEL J. GALLIGAN, and  
JOHN A. HUDALLA *Administrative Patent Judges*.

STEPHENS, *Administrative Patent Judge*.

DECISION  
Institution of *Inter Partes* Review  
35 U.S.C. § 314(a)

## I. INTRODUCTION

### A. *Background*

Hulu, LLC (“Petitioner”) filed a Petition (Paper 3 (“Pet.”)) requesting an *inter partes* review of claims 3, 5, and 9 of U.S. Patent No. 9,462,074 (Ex. 1001 (hereinafter “’074 Patent”)) (35 U.S.C. § 311). Sound View Innovations, LLC (“Patent Owner”) timely filed a Preliminary Response (Paper 7 (“Prelim. Resp.”)) to the Petition. The standard for instituting an *inter partes* review is set forth in 35 U.S.C. § 314, which provides as follows:

(a) THRESHOLD.—The Director may not authorize an *inter partes* review to be instituted unless the Director determines that the information presented in the petition filed under section 311 and any response filed under section 313 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)).

Petitioner challenges claims 3, 5, and 9 as unpatentable under 35 U.S.C. § 103(a) (Pet. 2, 5). Generally, Patent Owner contends that the Petition should be denied as to all challenged claims (Prelim. Resp. 1–34).

Upon consideration of the arguments and evidence presented in the Petition and the Preliminary Response, we are persuaded Petitioner has established a reasonable likelihood that it would prevail in its unpatentability challenge to claims 3, 5, and 9 of the ’074 Patent. Because Petitioner is reasonably likely to prevail in demonstrating that at least one of the challenged claims is not patentable, we institute an *inter partes* review of claims 3, 5, and 9 of the ’074 Patent.

B. *Related Proceedings*

Petitioner and Patent Owner indicate the '074 Patent is at issue in the following proceedings: *Sound View Innovations, LLC v. Hulu, LLC*, No. 2:17-cv-04146, which was filed in the U.S. District Court for the Central District of California; and *Unified Patents Inc. v. Sound View Innovations, LLC*, IPR2018-00599, which was filed at the U.S. Patent Trial and Appeal Board (Pet. 3; Paper 5, 1). For completeness, Patent Owner points out, and the Board notes, the '074 Patent is no longer at issue *Sound View Innovations, LLC v. Facebook, Inc.*, No. 2:17-cv-04275, which was filed in the U.S. District Court for the Central District of California (terminated Jan. 10, 2018) (Paper 5, 1).

C. *Real Parties in Interest*

The Petition identifies “Hulu, LLC”<sup>1</sup> as the real party in interest (Pet. 3). Patent Owner states the real parties in interest are “Sound View Innovations, LLC and Sound View Innovation Holdings, LLC” (Paper 5, 1).

D. *The '074 Patent*

The '074 Patent, titled “Method and System for Caching Streaming Multimedia on the Internet,” issued Oct. 4, 2016 (Ex. 1001, Title). The '074 Patent describes a technique for enhancing existing caches in a network by employing helper machines to segment streaming media into smaller units according to placement and replacement policies (*id.* at Abstract).

---

<sup>1</sup> Petitioner indicates “The Walt Disney Company, 21<sup>st</sup> Century Fox, Comcast Corporation and Time Warner Inc.” own ten percent or more of stock in Hulu, LLC and, thus, may also be considered real parties in interest (Pet. 3).

Figure 2 of the '074 Patent illustrates an exemplary network system to perform the streaming media caching (*id.* at 3:31–32) and is reproduced below.

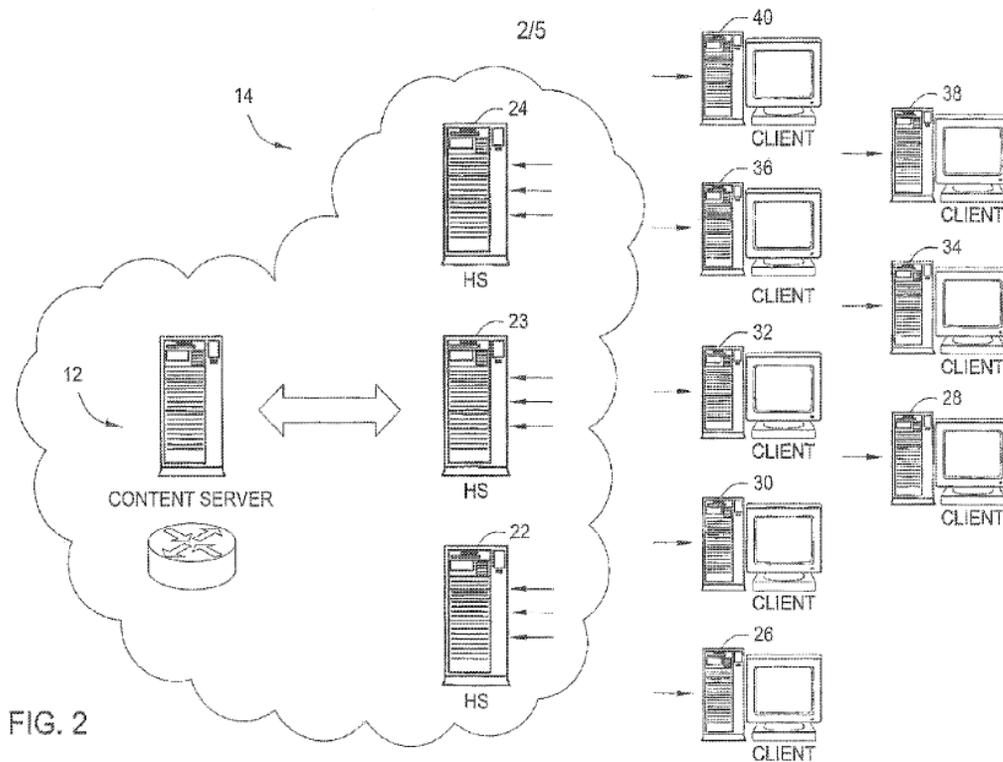


Figure 2 illustrates an exemplary arrangement of a public network system (Ex. 1001, 4:62–63). Content server 12 of Figure 2 stores and serves content through network 14 (*id.* at 4:64–66). Content server 12 serves various forms of multimedia content to client computers 26–40 (*id.* at 5:1–7). Helper Servers (“HS”) are configured as conventional database servers that cache resources requested by client computers 26–40 (*id.* at 4:11–13, 5:7–14). HSs 22–24 generally segment streaming multimedia objects (“SM objects”) to better utilize their cache storages (*id.* at 3:6–12, 6:32–34). HSs

divide the SM objects into a plurality of chunks, which can be cached and replaced independently in the cache storage of each HS (*id.* at 6:37–43).

According to the '074 Patent, an advantage of dividing the cached SM objects into chunks is to significantly increase the utilization of the cache storage (*id.* at 6:40–43). This caching technique reduces a content provider's memory and processing requirements, server loads, network congestion, and high start-up latency for video requests (*id.* at 3:13–20).

#### E. *The Claims*

Of the challenged claims, claims 3 and 9 are independent claims and claim 5 is a dependent claim, depending directly from claim 3 (Ex. 1001, claims 3, 5, and 9). Independent claims 3 and 9 are reproduced below:

3. A method for storing a streaming media (SM) object in a network having a content server which hosts SM objects for distribution over said network through a plurality of helper servers (HSs) to a plurality of clients, said SM object being comprised of a plurality of successive time-ordered chunks, wherein a chunk is further comprised of a discrete number of segments, each segment allocated to a respective disk block of said plurality of HSs, said method comprising:
  - i) receiving said SM object;
  - ii) determining whether there is a disk space available on said one of said plurality of HSs;
  - iii) storing said SM object at said at least one HS if it is determined that there is sufficient disk space available; and
  - iv) performing the following steps, if it is determined that there is insufficient disk space available:
    - a) composing a set of SM objects from among a plurality of SM objects stored on said disk space whose access time is determined to be least recent, where said access time corresponds to a time when said SM object was last requested; and

b) replacing a portion of each of said SM objects belonging to said composed set with chunks of said received SM object

(Ex. 1001, claim 3).

9. A method for managing storage of a streaming media (SM) object in a network having a content server which hosts SM objects for distribution over said network through a plurality of servers to a plurality of clients, said method comprising:

- i) receiving said SM object;
- ii) determining whether there is a disk space available on one of said plurality of servers;
- iii) storing said SM object at said at least one HS if it is determined that there is sufficient disk space available; and
- iv) if it is determined that there is insufficient disk space available to store the received SM object, for each of a plurality of SM objects stored in said disk space, deleting only a portion of said SM object, whereby the deletion of said portions of said SM objects results in sufficient disk space being available for storage of the received SM object

(Ex. 1001, claim 9).

F. *The References*

Petitioner relies upon the following references (Pet. 5):

<b>Reference</b>	<b>Patent Number</b>	<b>Exhibit</b>
Wolf et al. (hereinafter "Wolf")	US 6,463,508 B1	1003
Aggarwal et al. (hereinafter "Aggarwal")	US 5,924,116	1004
Ueno et al. (hereinafter "Ueno")	US 5,991,811	1005
Dan et al. (hereinafter "Dan")	US 5,787,472	1006

G. *The Asserted Grounds*

Petitioner challenges claims 3, 5, and 9 of the '074 Patent on the following grounds (Pet. 2):

Ground	Claim	Basis	References
1	3, 5, and 9	§ 103(a)	Wolf and Aggarwal
2	3	§ 103(a)	Ueno, Dan, and Aggarwal
3	9	§ 103(a)	Ueno and Aggarwal

Petitioner supports its challenges with the Declaration of Dr. Henry Houh, dated March 29, 2018 (Ex. 1002).

II. CLAIM CONSTRUCTION

In an *inter partes* review, claim terms in an unexpired patent are given their broadest reasonable construction in light of the specification of the patent in which they appear (*see* Office Patent Trial Practice Guide, 77 Fed. Reg. 48,756, 48,766 (Aug. 14, 2012); 37 C.F.R. § 42.100(b)).

A. *Claim Terms*

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 149, 1257 (Fed. Cir. 2007)). An inventor may rebut that presumption by providing a definition of the term in the specification with reasonable clarity, deliberateness, and precision (*In re Paulsen*, 30 F.3d 1475, 1480 (Fed. Cir. 1994)). In the absence of such a definition, limitations are not to be read from the specification into the claims (*In re Van Geuns*, 988 F.2d 1181, 1184 (Fed. Cir. 1993)).

Petitioner does not offer claim construction positions with respect to any terms, instead, urging us to apply the “broadest reasonable construction in light of the specification” (Pet. 16–17). Patent Owner also does not offer claim construction positions with respect to any terms (*see generally* Prelim. Resp.).

In view of our analysis, we determine that none of the claim terms or phrases requires express construction at this stage (*see Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999) (Only terms or phrases which are in controversy need to be construed, and only to the extent necessary to resolve the controversy)). We do, however, provide the following discussion on the conditional language of claims 3 and 9.

#### B. *Conditional Language*

The final two claim limitations of independent claim 3 are mutually exclusive conditional limitations. Independent method claim 3 requires “storing said SM object at said at least one HS *if it is determined that there is **sufficient** disk space available,*” and “performing the following steps, *if it is determined that there is **insufficient** disk space available . . .*” (Ex. 1001, claim 3 (emphases added)). The conditional storage limitation recited in claim 3 is recited as mutually exclusive of the subsequently performed steps.

Similarly, independent method claim 9 recites “storing said SM object at said at least one HS *if it is determined that there is **sufficient** disk space available,*” and “*if it is determined that there is **insufficient** disk space available to store the received SM object,* for each of a plurality of SM objects stored in said disk space, deleting only a portion of said SM object” (Ex. 1001, claim 9 (emphases added)). The conditional storage limitation

recited in independent claim 9 is also recited as mutually exclusive of the deletion limitation.

As a matter of law, therefore, we determine with respect to claims 3 and 9, *only one of the conditional limitations* needs to be satisfied in the prior art to render the claim anticipated or obvious (*see Ex Parte Schulhauser* (Appeal No. 2013-007847 (PTAB Apr. 28, 2016) (precedential), at 8–10 (holding that conditional steps in process claims need not be carried out when conditions precedent to those steps are not satisfied to be within the broadest reasonable interpretation of the claim))).

### III. ANALYSIS

#### A. *Level of Ordinary Skill in the Art*

The level of skill in the art is a factual determination that provides a primary guarantee of objectivity in an obviousness analysis (*Al-Site Corp. v. VSI Int'l Inc.*, 174 F.3d 1308, 1324 (Fed. Cir. 1999) (citing *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966); *Ryko Mfg. Co. v. Nu-Star, Inc.*, 950 F.2d 714, 718 (Fed. Cir. 1991))).

Petitioner asserts that a person of ordinary skill in the art at the time of the invention “would have at least a Bachelor of Science degree in Electrical Engineering, Computer Science, or an equivalent field, as well as at least 2-3 years of academic or industry experience in the field of content delivery networks or comparable industry experience(s)” (Pet. 13 (citing Ex. 1002 ¶ 32)). Patent Owner does not address Petitioner’s assertion regarding the education or experience of an ordinarily skilled artisan at the time of the invention (*see generally* Prelim. Resp.).

At this stage in the proceeding, we determine that Petitioner’s description of an ordinarily skilled artisan as possessing at least a Bachelor of Science degree in Electrical Engineering, Computer Science, or an equivalent field, with at least 2–3 years of academic or industry experience in the field of content delivery networks, or comparable industry experience, is supported by the current record. For purposes of this Decision, therefore, we adopt this portion of Petitioner’s description.

B. *Principles of Law*

The ultimate determination of obviousness under 35 U.S.C. § 103 is a question of law based on underlying factual findings (*In re Baxter Int’l, Inc.*, 678 F.3d 1357, 1362 (Fed. Cir. 2012) (citing *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1996))). These underlying factual considerations include: (1) the “level of ordinary skill in the pertinent art,” (2) the “scope and content of the prior art,” (3) the “differences between the prior art and the claims at issue,” and (4) “secondary considerations” of non-obviousness such as “commercial success, long-felt but unsolved needs, failure of other, etc.” (*KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007) (quoting *Graham*, 338 U.S. at 17–18)).

“To satisfy its burden of proving obviousness, a petitioner cannot employ merely conclusory statements. The petitioner must instead articulate specific reasoning, based on evidence of record, to support the legal conclusion of obviousness” (*Magnum Oil Tools Int’l, Ltd.*, 829 F.3d 1364, 1380–81 (Fed. Cir. 2016) (citing *KSR*, 550 U.S. at 418)). The “factual inquiry” into the reasons for “combin[ing] references must be thorough and searching, and the need for specificity pervades” (*In re NuVasive, Inc.*, 842 F.3d 1376, 1381–82 (Fed. Cir. 2016) (internal quotations and citations

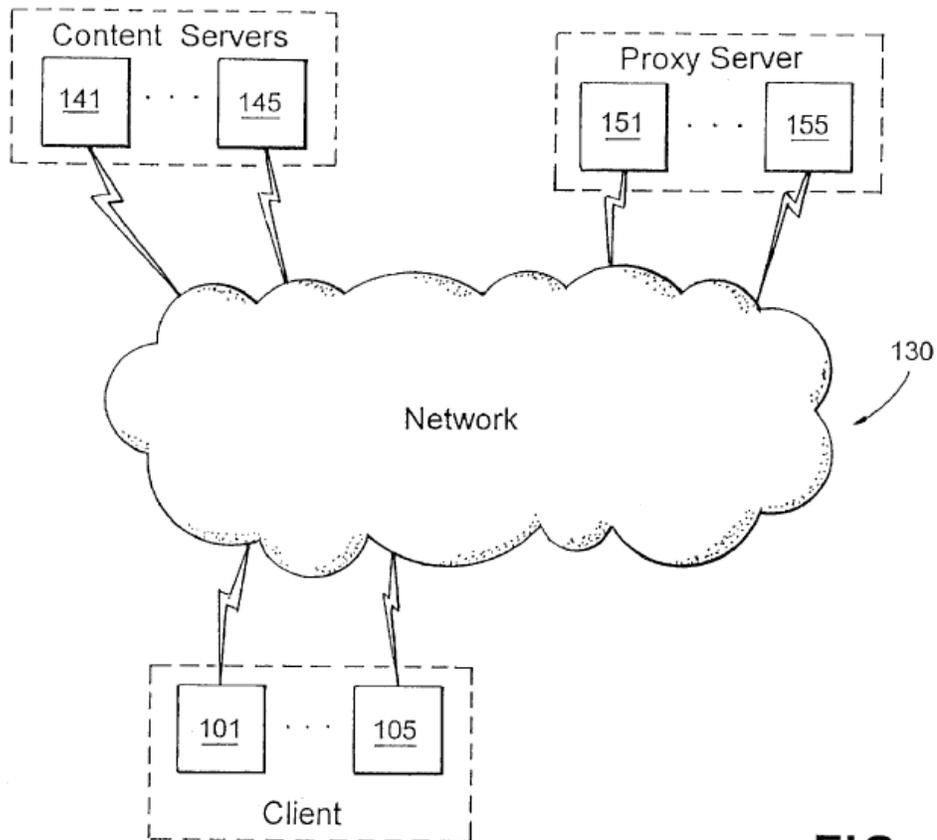
omitted)). A determination of obviousness cannot be reached where the record lacks “explanation as to *how* or *why* the references would be combined to produce the claimed invention” (*TriVascular, Inc. v. Samuels*, 812 F.3d 1056, 1066 (Fed. Cir. 2016); *see NuVasive*, 842 F.3d at 1382–85; *Magnum Oil*, 829 F.3d at 1380–81). We analyze the asserted grounds based on obviousness with the principles identified above in mind.

C. *Overview of References*

1. *Overview of Wolf*

Wolf, a U.S. Patent entitled “Method and Apparatus for Caching a Media Stream,” discloses a system for caching at proxy servers, where cache admission and replacement policies give preferential treatment for certain segments and prefetching certain segments (Ex. 1003, Title, Abstract).

Figure 1 of Wolf, reproduced below, illustrates an Internet environment for implementing the invention:



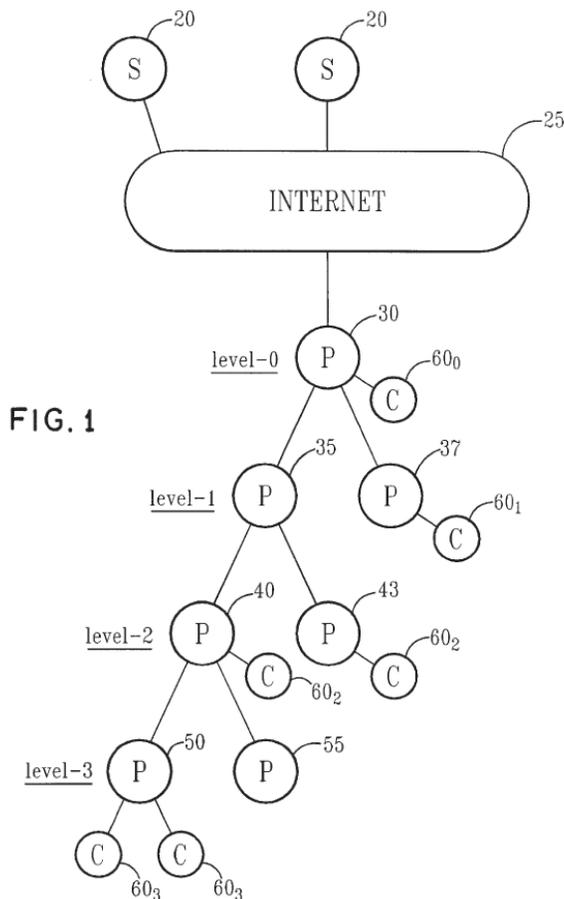
**FIG. 1**

(*id.* at 1:63–64). As shown in Figure 1, Internet content servers 141, . . . , 145 provide requested media objects or files to clients 101, . . . , 105 through network 130 (*id.* at 3:18–25). Proxy servers 151, . . . , 155 facilitate delivery of requested content through caching (*id.*). According to Wolf, the caching policies employed by the proxy servers improve the caching efficiency of the segmented media through admission and replacement policies (*id.* at 2:25–56).

## 2. Overview of Aggarwal

Aggarwal, a U.S. Patent entitled “Collaborative Caching of a Requested Object by a Lower Level Node as a Function of the Caching Status of the Object at a Higher Level Node,” discloses a system for collaboratively caching information at proxy servers, where decisions to cache or replace objects are made according to a hierarchy and selection policies (Ex. 1004, Title, Abstract).

Figure 1 of Aggarwal, reproduced below, illustrates the high-level client-server hierarchical architecture for implementing the invention:



(*id.* at 4:44–46). As shown in Figure 1, clients 60<sub>0</sub> . . . 60<sub>3</sub> are connected to proxy servers 30 . . . 55 through a hierarchy, illustrated having level-0 . . .

Case IPR2018-00864  
Patent 9,462,074

level-3 (*id.* at 5:1–3). Clients access the Internet 25 and various websites 20 through any number of levels of proxy servers (*id.* at 5:5–14). According to Aggarwal, the caching hierarchy and policies employed by the proxy servers improve the caching efficiency of media by reducing access times through the knowledge of the caching status of objects located within the hierarchy (*id.* at 9:50–67).

### 3. *Overview of Ueno*

Ueno, a U.S. Patent entitled “Information Transmission System Utilizing Both Real-Time Data Transmitted in a Normal-in-Time Direction and in a Retrospective-in-Time Direction,” discloses a system for transmitting information having a guaranteed quality for real-time information, where the system monitors time stamps associated with real-time information to switch between communication elements (Ex. 1005, Title, Abstract).

Figure 10 of Ueno, reproduced below, illustrates the schematic view of the preferred environment for implementing the patented invention:

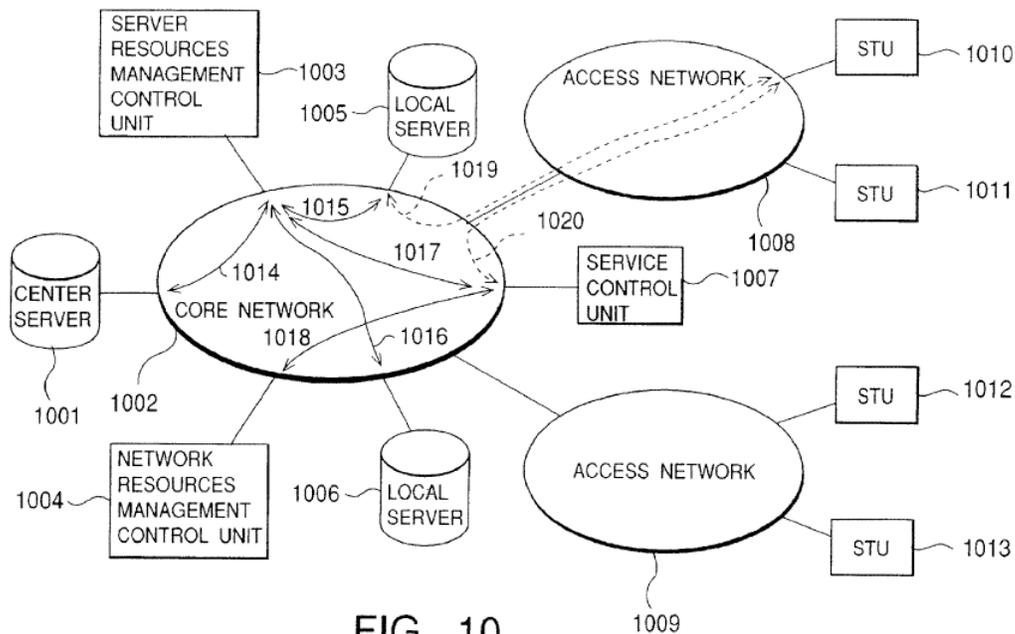


FIG. 10

(*id.* at 7:53–54). As shown in Figure 10, center server 1001 is connected to local servers 1005 and 1006 by a core network 1002 (*id.* at 18:18–27). Central server 1001 stores infrequently accessed video sources, while local servers 1005 and 1006 store more frequently accessed video sources, and core network 1002 informs a server resources management control unit 1003 of resource conditions for the connected servers (*id.* at 18:20–27). Based on directions from the server resources management control unit 1003, videos are transmitted through channels 1019 to requesting user terminals, set-top units (“STUs”) 1010, 1011, 1012, 1013 (*id.* at 9:24–25, 18:27–30). When a user requests a video from STU 1010, the request is sent to network management control unit 1004, which establishes a channel 1020 between the STU and service control unit 1007 (*id.* at 18:55–60). Subsequently, the service control unit 1007 determines which server offers the selection and

Case IPR2018-00864  
Patent 9,462,074

directs the network resources management control unit 1004 to establish channel 1019 for transmission from local server 1005 to STU 1010 (*id.* at 19:31–40). Once channel 1019 is established, service control unit 1007 directs server resources management control unit 1003 to start transmission of the requested video from local server 1005 to STU 1010 via channel 1019 (*id.* at 19:40–46). According to Ueno, this information relay and transmission system improves efficiency of real-time communication while reducing service costs (*id.* at 3:35–40, 7:11–16).

#### *4. Overview of Dan*

Dan, a U.S. Patent entitled “Disk Caching System for Selectively Providing Interval Caching or Segment Caching of Vide[o] Data,” discloses a system for caching sequential data streams, where a consumption process determines whether data blocks of the stream should be discarded or cached according to an interval caching algorithm (Ex. 1006, Title, Abstract).

Figure 2 of Dan, reproduced below, illustrates the front-end cache manager for implementing the patented invention:

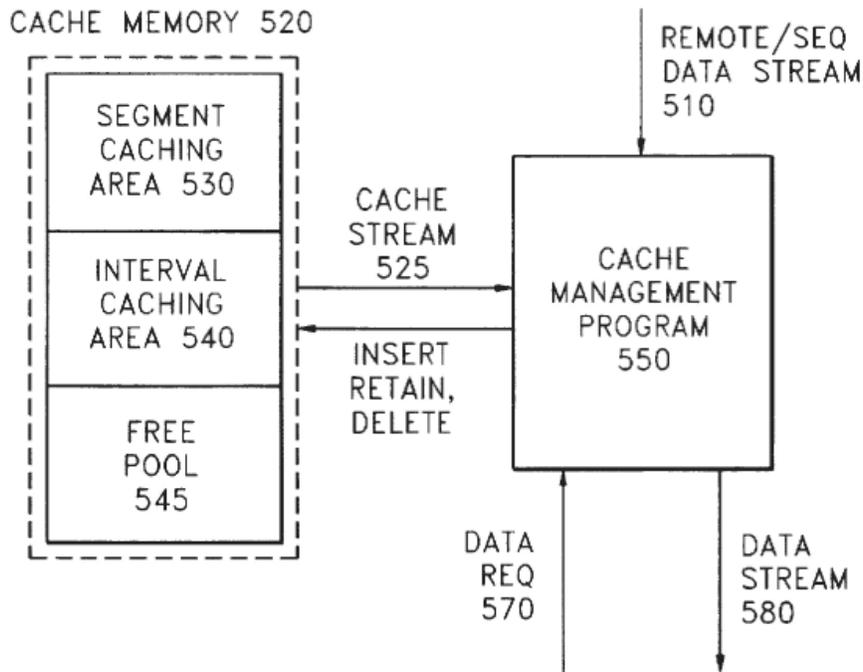


FIG. 2

(*id.* at 1:51–52). As shown in Figure 2, the cache manager contains a disk group or cache memory 520, which is divided into three parts: segment caching area 530, interval caching area 540, and free pool 545 (*id.* at 2:33–40). Segment caching area 530 contains blocks of video segments that are or will be completely cached, interval caching area 540 contains video blocks of segments that are partially cached, and the free pool 545 are blocks that do not contain any video (*id.*). Cache management program 550 receives data requests 570 from users, retrieves and transmits the requested data stream 580, and then chooses whether to insert remotely obtained blocks into the cache, retain blocks retrieved from the cache, or discard

blocks retrieved from the cache (*id.* at 2:40–48). According to Dan, employing a segment caching algorithm at the cache manager allows for efficient provision of requested video, while also reducing costs by using cache disks instead of server memory (*id.* at 1:11–27, 1:42–46).

D. *Alleged Obviousness over Wolf and Aggarwal: claims 3, 5, and 9*

Petitioner contends claims 3, 5, and 9 of the '074 Patent would have been obvious over Wolf in view of Aggarwal (Pet. 27–50). Patent Owner asserts Petitioner has failed to show the prior art discloses all of the features of the claimed invention (Prelim. Resp. 9–12, 14–28).

1. *Analysis*

a. *Alleged teaching of limitations by Wolf*

Petitioner contends the features of independent claims 3 and 9 are taught by the combination of Wolf and Aggarwal (Pet. 27–47).

preamble:

To the extent the s of claims 3 and 9 are limiting, Petitioner asserts “*Wolf* discloses this limitation because its media objects are ‘media streams at one or more proxy servers,’ which include ‘video and audio streams’” (Pet. 32 (citing Ex. 1003, 2:26–33, 3:22–23; Ex. 1002 ¶ 96), 49). Further, Petitioner asserts Wolf discloses client stations that “can ‘request the playout of media objects or files’” (*id.* at 32 (citing Ex. 1003, 3:20–21)). Petitioner further argues Wolf discloses that “proxy servers ‘facilitate [] content delivery through caching,’ deliver media objects, and issue prefetch requests to the content server or a next level proxy server” to deliver the media objects to the client stations (*id.* (citing Ex. 1003, 3:22–25, 4:67–5:3, 5:15–17; Ex. 1002 ¶ 96)).

Additionally, Petitioner asserts Wolf discloses “said SM object being comprised of a plurality of successive time-ordered chunks” because “*Wolf* discloses that a media object is divided into segments, and that the segments correspond to different time distances from the start of the media object” (Pet. 32 (citing Ex. 1003, 4:1–14; Ex. 1002 ¶ 98)). Petitioner further asserts Wolf discloses “the media object is divided into ‘segments’ which are further subdivided into ‘blocks,’” and an ordinarily skilled artisan would have understood “that *Wolf* discloses that each distributed media object is comprised of a plurality of successive time-ordered chunks” (*id.* at 33–34 (citing Ex. 1003, 4:1–14, 8:27–48; Ex. 1002 ¶ 100)). Petitioner also asserts the blocks grouped into segments disclosed in Wolf, teach “wherein a chunk is further comprised of a discrete number of segments,” as recited in the preamble (*id.* at 34–35 (citing Ex. 1003, 4:2–4, 4:12–14, 8:27–48; Ex. 1002 ¶¶ 104–05)). According to Petitioner, Wolf discloses “each segment, allocated to a respective disk block of said plurality of HSs, said method comprising:” because “[w]hen a proxy server receives a media block, ‘the object block is cached in the receiving buffer to be handled subsequently by the streaming routine’” (*id.* at 35 (citing Ex. 1003, 4:43–47)). Further, Petitioner asserts “[a] person of ordinary skill in the art would have understood that the object blocks in *Wolf* that are cached in the local storage of proxy servers would be allocated to a disk block” (*id.* at 37 (citing Ex. 1003, 4:2–4; Ex. 1002 ¶ 110)).

Based on the record before us, Petitioner persuades us Wolf teaches the preamble of claim 3.

receiving said SM object:

Next, Petitioner contends “*Wolf* discloses that the proxy server invokes a ‘media object request handler’ when the proxy server receives a media object request” (Pet. 38 (citing Ex. 1003, 4:31–35)). If the requested media object is not already cached, Petitioner asserts “the proxy server forwards the object request to the content server or a next level proxy having the requested media object, and then waits for the starting blocks of the requested media object to arrive” (*id.* (citing Ex. 1003, 4:58–63; Ex. 1002 ¶ 113)). Thus, Petitioner contends, *Wolf* discloses “i) receiving said SM object” (*id.*).

Based on the record before us, Petitioner persuades us *Wolf* teaches the limitation.

determining whether there is a disk space available:

Petitioner contends the step reciting “ii) determining whether there is a disk space available on said one of said plurality of HSs” is also disclosed by *Wolf* (Pet. 39). Petitioner asserts that *Wolf* “shows that the proxy server ‘determine[s] whether there is enough buffer space to cache segment j of [media] object O’” (*id.* (citing Ex. 1003, 7:24–25)). Petitioner takes the position that step 945 (“Enough free buffer space?”) in the flowchart of Figure 9 illustrates the determination limitation (*id.* at 38–39 (citing Ex. 1003, Figure 9; Ex. 1002 ¶ 116)).

Based on the record before us, Petitioner persuades us *Wolf* teaches the limitation.

storing said SM object:

With respect to the step reciting “iii) storing said SM object at said at least one HS if it is determined that there is sufficient disk space available,” Petitioner contends this limitation is also disclosed by Wolf (Pet. 40). Petitioner asserts that “*Wolf* discloses that “[i]f there is enough buffer space to cache segment j of object O, then the process proceeds to step 925 to cache the segment j of object O” (*id.* (citing Ex. 1003, 7:25–28)). Petitioner asserts step 945 “determines whether there is enough free buffer space to cache segment j of object O, and, if so, then proceeds to step 925 to cache the segment on the proxy server” (*id.* (citing Ex. 1003, Figure 9; Ex. 1002 ¶ 118)).

Based on the record before us, Petitioner persuades us Wolf teaches the limitation.

*b. Remaining limitations of claims 3 and 9*

Claims 3 and 9 further recite performing certain steps “if it is determined that there is insufficient disk space available.” Patent Owner’s arguments with respect to this ground of unpatentability address only claim steps conditioned on this determination (Prelim. Resp. 9–12, 14–19). As discussed above in the section addressing claim construction, these steps are mutually exclusive of the step of “storing said SM object at said at least one HS if it is determined that there is sufficient disk space available.” Because Petitioner persuades us Wolf teaches the first conditional step, we need not determine whether the combination of Wolf and Aggarwal teaches the steps conditioned on a determination that there is insufficient disk space available.

*c. Motivation to combine*

Patent Owner further asserts an ordinarily skilled artisan would not have been motivated to modify Wolf with Aggarwal (Prelim. Resp. 19–28). These arguments are again directed at the second conditional limitation. Specifically, Petitioner relies on Wolf to teach limitations i–iii as recited in claim 3 (Pet. 30–42) and as recited in claim 9 (*id.* at 49).

As discussed *supra*, we need not determine whether both conditional limitations of independent claims 3 and 9 are likely met. Petitioner only needs to show sufficiently that either step “iii” *or* that step “iv” is likely taught by the combination of Wolf and Aggarwal. Based on the record before us, as set forth above, Petitioner persuades us Wolf teaches the first conditional step, step iii. Therefore, we are persuaded, based on the record before us, claims 3 and 9 would have been obvious over Wolf.

Petitioner relies on the combination of Wolf and Aggarwal to teach step iv (Pet. 42–47). Petitioner articulates reasoning with some rational underpinning as to why an ordinarily skilled artisan would have been motivated to combine Wolf with Aggarwal (*id.* at 27–30, 46–47). For example, Petitioner argues that “a person of ordinary skill would have been motivated to first identify all the segments to be discarded and confirm that enough buffer space would be created before unnecessarily discarding any of the segments” (*id.* at 29–30 (citing Ex. 1002 ¶¶ 90–91)).

Patent Owner contends Aggarwal and the ’074 Patent have “glaring differences”; Petitioner’s rationale for the combination is “nowhere to be found in the record”; and Aggarwal and Wolf are “inapposite systems” (Prelim. Resp. 21–24). Additionally, Patent Owner asserts Petitioner’s “contrived motivation” is not found in the references, is not related to the

claimed invention, and is “not related to how Aggarwal uses its purportedly relevant teaching” and thus, “is the epitome of hindsight bias” (*id.* at 27).

Based on the record before us, we are persuaded by Petitioner that an ordinarily skilled artisan would have been motivated to combine the teachings of Aggarwal and Wolf to avoid unnecessary deletions of data, among other reasons. We credit the testimony of Petitioner’s Declarant, Dr. Houh (Ex. 1002 ¶¶ 85–91).

*d. Claim 5*

With respect to claim 5, Petitioner contends the features of the claimed invention are taught by the combination of Wolf and Aggarwal (Pet. 47–48). Specifically, Petitioner contends Wolf discloses “said composed set is formed by including only SM objects having a helper hotness rating below a pre-defined threshold” because the replacement algorithm in Wolf “may use alternative criteria to assign a value to each media object, such as ‘the object access frequency, its time since last reference, its access time, and the object size’” (*id.* at 48 (citing Ex. 1003, 7:43–51; Ex. 1002 ¶ 134)). Based on the combination of Wolf and Aggarwal, Petitioner asserts “it would have been obvious to a person of ordinary skill in the art to compose a set of objects to be deleted, as described in *Aggarwal*, based on the objects’ ‘helper hotness rating’ (*i.e.*, access frequency) as described in *Wolf*” (*id.* (citing Ex. 1002 ¶ 135; Pet. 42–46)).

Claim 5 depends from independent claim 3 and recites a further limitation to the second conditional step. Based on the claim construction adopted *supra*, we need not determine whether the combination of Wolf and Aggarwal likely teaches the final limitation of claim 5.

*e. Conclusion*

We have reviewed the record before us, and based on this record, we determine Petitioner has demonstrated a reasonable likelihood that it would prevail in showing that claims 3, 5, and 9 of the '074 Patent are unpatentable over Wolf and Aggarwal. We have not made a final determination with respect to the patentability of any claim.

E. *Alleged Obviousness over Ueno, Dan, and Aggarwal: claim 3*

Petitioner contends claim 3 of the '074 Patent would have been obvious over Ueno in view of Dan and Aggarwal (Pet. 50–71). Patent Owner asserts Petitioner has failed to show the prior art discloses all of the features of the claimed invention (Prelim. Resp. 9–10, 12–34).

*1. Analysis*

*a. Alleged teaching of limitations by Ueno and Dan*

As discussed *supra*, we need not determine whether both conditional limitations of independent claim 3 are likely met. Petitioner only needs to show sufficiently that either step “iii” *or* that step “iv” is likely taught by the combination of Ueno, Dan, and Aggarwal.

*preamble:*

Petitioner contends the features of independent claim 3 are taught by the combination of Ueno, Dan, and Aggarwal (Pet. 55–63). To the extent the preamble of claim 3 is limiting, Petitioner asserts “*Ueno* teaches the preamble” because “*Ueno* discloses a center server (‘content server’) which stores video content, local servers (‘helper servers’) which store frequently accessed video, and set-top units (‘clients’) which receive video (‘streaming

media object’) from either the center server or the local server over a network and display the content for a user” (Pet. 55 (citing Ex. 1005, 17:61–18:9; Ex. 1002 ¶ 147)). Further, Petitioner contends Figure 9 of Ueno shows a plurality of helper servers having storage and connected to a plurality of users (*id.* at 55–57 (citing Ex. 1005, Figure 9, 14:55–60, 18:1–9; Ex. 1002 ¶ 149)). Thus, Petitioner contends, to the extent the preamble of claim 3 is limiting, Ueno discloses “a method for storing a streaming media (SM) object in a network having a content server which hosts SM objects for distribution over said network through a plurality of helper servers (HSs) to a plurality of clients” (*id.* at 57 (citing Ex. 1002 ¶ 151)).

Additionally, Petitioner contends Ueno discloses “said SM object being comprised of a plurality of successive time-ordered chunks” (Pet. 57–59). Petitioner asserts the real-time data transferred over the network in Ueno is “divided ‘into a plurality of data segments’ where each segment represents a ‘reproduction period of time from the head of the real-time data’” (*id.* at 58 (citing Ex. 1005, 6:60–7:2, 17:45–48, Figure 11)). Petitioner further asserts “Figure 11 of *Ueno* shows four video sources ‘divided into a plurality of segments,’ that are successively ordered on the T-axis labeled ‘Required Reproduction Time Period From Head’” (*id.* at 59 (citing Ex. 1005, 6:60–7:2, Figure 11)). Thus, Petitioner contends, to the extent the preamble of claim 3 is limiting, “*Ueno* discloses the ‘SM object being comprised of a plurality of successive time-ordered chunks’ because the data in *Ueno* are segmented in successive order by ‘time information such as a time stamp’ based on the ‘required reproduction period of time from the head of the real-time data’” (*id.* (citing Ex. 1005, 6:60–7:2, 17:45–48, Figure 11; Ex. 1002 ¶ 158)).

Petitioner further asserts the combination of Ueno and Dan discloses the claim features “wherein a chunk is further comprised of a discrete number of segments” and “each segment allocated to a respective disk block of said plurality of HSs,” as recited in the preamble of independent claim 3 (*id.* at 60–63). Petitioner asserts that the cache memory disclosed in Dan is divided into data blocks and that “[e]ach video segment and interval occupies a discrete number of cache blocks” (*id.* at 60 (citing Ex. 1006, 2:33–40, 3:3–7, 3:12–15; Ex. 1002 ¶ 160)). Further, Petitioner asserts that each video source in Dan is divided into data segments stored in a cache memory and that, when the cache manager disclosed in Dan “receives data requests from users, the ‘needed data are retrieved either from the back-end nodes,’ or ‘a cache data stream[] from the cache’” (*id.* at 61 (citing Ex. 1006, 2:33–40, 2:40–44, 3:12–17; Ex. 1002 ¶ 163)). Petitioner also asserts an ordinarily skilled artisan would have found it obvious to “further divide the plurality of video segments in *Ueno* to correspond to a cache disk’s data blocks, as that taught by *Dan*” “because of the known benefits of dividing large segments of video sources into blocks of the same size as the storage blocks on the cache disks” (*id.* at 62). Thus, Petitioner contends modifying Ueno with Dan discloses “wherein a chunk is further comprised of a discrete number of segments” and “each segment allocated to a respective disk block of said plurality of HSs,” as recited in the preamble of independent claim 3 (*id.* at 53, 61–63 (citing Pet. 50–54; Ex. 1002 ¶ 167)).

receiving said SM object:

Next, Petitioner contends “*Ueno* discloses that when a user selects a desired video source, the video is transmitted to the user via the channel of

the local server” (Pet. 63 (citing Ex. 1005, 19:41–46; Ex. 1002 ¶ 168)).  
Petitioner asserts high frequency video sources are stored in local servers near users, and “[t]he service control unit ‘determines a server . . . to which the video source selected by the user is to be offered,’ and establishes the transmission of the video between the local server 1005 and the user 1010” (*id.* (citing Ex. 1005, 19:31–40; Ex. 1002 ¶ 168)). Thus, Petitioner contends, Ueno discloses “(i) receiving said SM object” (*id.*).

Based on the record before us, we are persuaded Ueno teaches the recited limitation.

*determining whether there is a disk space available*

Petitioner further contends the step reciting “(ii) determining whether there is a disk space available on said one of said plurality of HSs” is also disclosed by Ueno (Pet. 64). Petitioner asserts that “*Ueno* discloses storing video in a cache, and further discloses that the ‘storage capacity of the video data storage unit is limited,’ and that ‘when the storage capacity is saturated, it is required to erase old video data in order to store new video data’” (*id.* (citing Ex. 1005, 21:52–55; Ex. 1002 ¶ 170)). Petitioner takes the position that “[d]etermining if storage capacity is ‘saturated’ is simply another way of stating that the system determines if storage space is available” (*id.* (citing Ex. 1002 ¶ 170)). Thus, Petitioner contends, Ueno discloses “(ii) determining whether there is a disk space available on said one of said plurality of HSs” (*id.*).

Based on the record before us, we are persuaded Ueno teaches the recited limitation.

Patent Owner argues “the Board should interpret the Claims to require that the helper servers perform the ‘determining step’” — “determining whether there is a disk space available on said one of said plurality of servers” upon “receiving said SM object,” as recited in claim 9 and “determining whether there is a disk space available on one of said plurality of HSs” upon “receiving said SM object,” as recited in claim 3 (Prelim. Resp. 29). According to Patent Owner, “[t]he ’074 Patent specification explains, unambiguously, that the inventive method is performed by and through the helper servers” citing particular sections of the specification as support (*id.* at 29–30 (citing Ex. 1001, 3:3–12, 11:49–51, 12:5–6, 13:51–14:26)). Patent Owner asserts the ’074 Patent “never describes any element other than the helper servers as performing, or even being capable of performing, the ‘determining’” (*id.* at 30). Patent Owner cites to Figure 2 and its description as disclosing this feature (*id.* at 30–31 (citing Fig. 2, 4:62–5:14)).

Based on the record before us, we do not interpret “the determining step” so narrowly as to require the helper server to perform the step. Importantly, the claim itself does not specify what element is performing these steps. Moreover, Patent Owner’s first citation to column 3, lines 3 to 12, discussing helper servers, refers generally to methods performed by helper servers:

The HSs serve to implement several methods specifically designed to support streaming multimedia, including segmentation of streaming multimedia objects (SM objects) into smaller units (i.e., chunks), cooperation of the HSs, and novel cache placement and replacement policies of the constituent units (chunks) which make up the SM objects.

Similarly, Patent Owner's citation to column 11, lines 49 to 51, discusses that each helper server "does not cache the entire SM object on its disk" instead employing a random algorithm. Again, this disclosure fails to specify that the helper server determines if there is a disk space available on one of the servers. Rather, it is directed to the actual caching of the SM object.

Patent Owner's cited disclosure in column 12, lines 5 to 6, discusses only that the "HS estimates the total number of HSs **22-24** in the system to be K," caching chunks in accordance with the algorithm. Specifically, the '074 Patent discloses

[t]he total number of chunks to cache for each SM object at each HS is a function of the total number of HSs **22-24** in the system K. The total number of HSs **22-24** in the system, K, can be made assigned statically or measured dynamically. Based on the algorithm described above, if a representative HS estimates the total number of HSs **22-24** in the system to be K, then for a SM object having N constituent chunks, the representative HS would cache  $(A * N / K)$  chunks in accordance with the random server push algorithm

(Ex. 1001, 12:1-9). The '074 Patent further describes "a flow chart of the method for finding an optimal sequence of cache accesses to satisfy a client request for an SM object" (*id.* at 13:36-14:26) "according to an embodiment of the present invention" (*id.* at 3:37-39). Similarly, Figure 2 is described as "an illustration of a network system constructed according to one implementation of the invention" (*id.* at 3:31-32). Thus, these descriptions are directed to illustrative embodiments. Although these disclosures describe helper servers performing certain tasks, such as using algorithms to divide data, they do not explicitly describe the helper servers performing the "determining step" or limit the performance of this step to helper servers.

At this juncture, we are not persuaded the '074 Patent discloses the “determining” step should be interpreted to require performance by helper servers. However, the parties should develop the record further regarding whether an ordinarily skilled artisan would understand the '074 Patent to describe the steps as being performed by a helper server.

Patent Owner asserts the “determining” step “is performed by Ueno’s ‘network resources management unit’” in contrast to the '074 Patent, which “relies on localized decision making and performs the ‘determining’ step within the helper server” (Prelim. Resp. 33). According to Patent Owner, “Ueno’s central decision making system differs significantly from the '074 Patent’s localized, distributed approach” (*id.*). Therefore, Patent Owner contends, Ueno does not teach the disputed limitation (*id.*).

Based on the record before us and our interpretation of the claim, we are persuaded Petitioner has demonstrated a reasonable likelihood that it would prevail in showing Ueno discloses the “determining step”; however, the parties should develop the record further regarding the differences between Ueno and the '074 Patent.

*storing said SM object*

Petitioner contends the step reciting “iii) storing said SM object at said at least one HS if it is determined that there is sufficient disk space available” is also disclosed by Ueno (Pet. 64–65). Petitioner asserts that “*Ueno* discloses storing video in a cache and that when the capacity of a video server is saturated, ‘it is required to erase old video data in order to store new video data’” (*id.* at 64 (citing Ex. 1005, 21:52–55; Ex. 1002 ¶ 172)). Petitioner takes the position that “[a] person of ordinary skill in the

art would understand that if there is sufficient storage capacity, the local server store[s] the video in the cache without having to erase old video data” (*id.* at 64–65 (citing Ex. 1003, 17:56–60; Ex. 1002 ¶ 172)). Thus, Petitioner contends, Ueno discloses “iii) storing said SM object at said at least one HS if it is determined that there is sufficient disk space available” (*id.* at 64 (citing Ex. 1002 ¶ 171)).

At this juncture, we are persuaded Petitioner has demonstrated a reasonable likelihood that it would prevail in showing Ueno teaches the recited “storing” limitation.

Patent Owner further argues the references fail to teach or suggest the recited second conditional step (Prelim. Resp. 14–18). As discussed above, based on the claim construction adopted *supra*, we need not determine whether the combination of Ueno, Dan, and Aggarwal likely teaches the second conditional limitation of claim 3.

*b. Motivation to combine Ueno, Dan, and Aggarwal*

Patent Owner additionally argues an ordinarily skilled artisan would not have been motivated to combine the teachings of Ueno and Aggarwal (Prelim. Resp. 19–28). These arguments are again directed at the second conditional limitation.

Specifically, Petitioner relies on Ueno and Dan to teach limitations i–iii as recited in claim 3 (*id.* at 55–65). Petitioner sets forth reasoning why an ordinarily artisan would have been motivated to combine Ueno and Dan, supporting its assertion with testimony of its declarant Dr. Houh (Pet. 50–54; Ex. 1002 ¶¶ 139–142, 144–145). Based on the record before us, we are persuaded by Petitioner’s contentions.

Furthermore, Petitioner relies on Ueno and Aggarwal as teaching step iv (Pet. 65–71). Petitioner articulates reasoning why an ordinarily artisan would have been motivated to combine Ueno with Aggarwal to teach step iv (*id.* at 50–54). For example, Petitioner asserts an ordinarily skilled artisan “would have been motivated[ ] to modify the cache storage and video delivery method and system of *Ueno* with the set creation methods of *Aggarwal*” to determine “in advance[,] the set of video data to be erased” (*id.* at 54 (citing Ex. 1002 ¶ 146)). Petitioner further asserts an ordinarily skilled artisan “would have been motivated to first identify all the segments to be erased and confirm that enough server space would be created before unnecessarily discarding any of the segments” (*id.* at 54 (citing Ex. 1002 ¶ 146)).

Patent Owner contends “Ueno never analyzes whether it can create sufficient free space for a received movie object, and Petitioner’s proposed reason to combine is not even a factor in Ueno’s process” (Prelim. Resp. 25). Patent Owner further asserts Petitioner’s proposed combination of Ueno and Aggarwal would be inapposite (*id.*). According to Patent Owner, Petitioner’s “contrived motivation” is not found in the references, is not related to the claimed invention, and is “not related to how Aggarwal uses its purportedly relevant teaching” and thus, “is the epitome of hindsight bias” (Prelim. Resp. 27).

Based on the record before us, we are persuaded by Petitioner that an ordinarily skilled artisan would have been motivated to combine the teachings and suggestions of Ueno and Aggarwal. We credit the testimony of Petitioner’s declarant, Dr. Houh (Ex. 1002 ¶¶ 139–141, 143, 146). Accordingly, based on the record before us, we are persuaded an ordinarily

skilled artisan would have been motivated to combine the teachings of Ueno and Aggarwal.

We have reviewed the record before us, and based on this record, we determine Petitioner has demonstrated a reasonable likelihood that it would prevail in showing that claim 3 of the '074 Patent is unpatentable over Ueno, Dan, and Aggarwal. We have not made a final determination with respect to the patentability of any claim.

F. *Alleged Obviousness over Ueno and Aggarwal: claim 9*

Petitioner contends claim 9 of the '074 Patent would have been obvious over Ueno in view of Aggarwal (Pet. 71–73).

Patent Owner asserts Petitioner has failed to show the prior art discloses all of the features of the claimed invention (Prelim. Resp. 9–10, 14–28).

As discussed *supra*, we need not determine whether both conditional limitations of independent claim 9 are likely taught. Petitioner only needs to show sufficiently that either step “iii” *or* that step “iv” is likely met by the combination of Ueno and Aggarwal.

With respect to claim 9, Petitioner contends the features of claimed invention are taught by the combination of Ueno and Aggarwal (Pet. 71–73). Petitioner asserts the combination of Ueno and Aggarwal teaches the claim features for the same reasons stated with regards to claim 3 (*id.* (citing Pet. 55–57, 63–64; Ex. 1002 ¶ 189)).

Patent Owner sets forth the same assertion with respect to the interpretation of the “determining” step as discussed above (Prelim. Resp. 28–34). As set forth *supra*, at this juncture, we are not persuaded the claim

requires the “determining” step to be performed by helper servers.

Moreover, Patent Owner’s arguments directed to Aggarwal’s failure to teach the second conditional step, as recited in claims 3 and 9 (Prelim. Resp. 9–10, 12–14), are unpersuasive. Based on the claim construction adopted *supra*, we need not determine whether the combination of Ueno and Aggarwal likely teaches the final limitation of claim 9.

Additionally, Patent Owner’s contentions that an ordinarily skilled artisan would not have been motivated to combine the teachings of Ueno and Aggarwal are discussed *supra* and for those reasons, we are persuaded by Petitioner’s contentions. Accordingly, at this juncture, we are persuaded an ordinarily skilled artisan would have been motivated to combine the teachings of Ueno and Aggarwal.

We have reviewed the record before us, and based on this record, we determine Petitioner has demonstrated a reasonable likelihood that it would prevail in showing that claim 9 of the ’074 Patent is unpatentable over Ueno and Aggarwal. We have not made a final determination with respect to the patentability of any claim.

#### IV. CONCLUSION

For the foregoing reasons, on this record, we are persuaded that the Petition establishes a reasonable likelihood that Petitioner would prevail in showing that claims 3, 5, and 9 of the ’074 Patent are unpatentable. However, we have not made a final determination with respect to the patentability of any claim.

#### V. ORDER

Based on the foregoing, it is hereby:

ORDERED that pursuant to 35 U.S.C. § 314(a), an *inter partes*

Case IPR2018-00864  
Patent 9,462,074

review is hereby instituted on all grounds raised in the Petition; and

FURTHER ORDERED that pursuant to 35 U.S.C. § 314(a), *inter partes* review of the '074 Patent is instituted commencing on the entry date of this Order, and pursuant to 35 U.S.C. § 314(c) and 37 C.F.R. § 42.4, notice is given of the institution of a trial.

Case IPR2018-00864  
Patent 9,462,074

PETITIONER:

Jason Kipnis  
David L. Cavanaugh  
Evelyn C. Mak  
Nancy Lynn Schroeder  
[Jason.Kipnis@wilmerhale.com](mailto:Jason.Kipnis@wilmerhale.com)  
[David.Cavanaugh@wilmerhale.com](mailto:David.Cavanaugh@wilmerhale.com)  
WILMER CUTLER PICKERING HALE AND DORR, LLP

PATENT OWNER:

Kenneth J. Weatherwax  
Nathan Lowenstein  
Edward Hsieh  
Parham Hendifar  
[weatherwax@lowensteinweatherwax.com](mailto:weatherwax@lowensteinweatherwax.com)  
[lowenstein@lowensteinweatherwax.com](mailto:lowenstein@lowensteinweatherwax.com)  
[hsieh@lowensteinweatherwax.com](mailto:hsieh@lowensteinweatherwax.com)  
[hendifar@lowensteinweatherwax.com](mailto:hendifar@lowensteinweatherwax.com)  
LOWENSTEIN & WEATHERWAX LLP

# Attachment 3

**From:** [Trials](#)  
**To:** [Cavanaugh, David](#); [Trials](#)  
**Cc:** [David.Odell@haynesboone.com](#); [Raghav.Bajaj@haynesboone.com](#); [Roshan Mansinghani](#); [Kenneth Weatherwax](#); [David.McCombs@haynesboone.com](#); [Parham Hendifar](#); [Nathan Lowenstein](#); [Jason Linger](#); [Kipnis, Jason](#); [Bertulli, Scott](#); [Schroeder, Nancy](#); [jonathan@unifiedpatents.com](#)  
**Subject:** RE: IPR2018-00599 (US9463074), IPR2018-00864 (US9463074)  
**Date:** Tuesday, November 12, 2019 6:06:43 AM

---

Counsel,

We decline Patent Owner's request for a call and do not authorize out-of-time requests for rehearing at this time. Patent Owner provides no reason why we should entertain its out-of-time request. In addition, the Chat With The Board On SAS slide cited by Patent Owner pertains to implementing SAS; the instant cases are fully compliant with SAS.

Regards,

Andrew Kellogg,  
Supervisory Paralegal  
Patent Trial and Appeal Board  
USPTO  
[andrew.kellogg@uspto.gov](mailto:andrew.kellogg@uspto.gov)  
Direct: 571-272-5366

---

**From:** Cavanaugh, David <David.Cavanaugh@wilmerhale.com>  
**Sent:** Friday, November 8, 2019 2:34 PM  
**To:** Trials <Trials@USPTO.GOV>  
**Cc:** David.Odell@haynesboone.com; Raghav.Bajaj@haynesboone.com; Roshan Mansinghani <roshan@unifiedpatents.com>; Kenneth Weatherwax <weatherwax@lowensteinweatherwax.com>; David.McCombs@haynesboone.com; Parham Hendifar <hendifar@lowensteinweatherwax.com>; Nathan Lowenstein <lowenstein@lowensteinweatherwax.com>; Jason Linger <linger@lowensteinweatherwax.com>; Kipnis, Jason <Jason.Kipnis@wilmerhale.com>; Bertulli, Scott <Scott.Bertulli@wilmerhale.com>; Schroeder, Nancy <Nancy.Schroeder@wilmerhale.com>; jonathan@unifiedpatents.com  
**Subject:** RE: IPR2018-00599 (US9463074), IPR2018-00864 (US9463074)

Your Honors,

Petitioner Hulu opposes the out-of-time request for a rehearing.

Petitioner Hulu does not object to a conference call and is available 3-5pm on Tuesday November 12.

Respectfully,

David Cavanaugh  
Counsel for Petitioner Hulu

---

**From:** Jonathan Stroud <[jonathan@unifiedpatents.com](mailto:jonathan@unifiedpatents.com)>

**Sent:** Friday, November 8, 2019 2:19 PM

**To:** Kenneth Weatherwax <[weatherwax@lowensteinweatherwax.com](mailto:weatherwax@lowensteinweatherwax.com)>

**Cc:** Trials@uspto.gov; David.Odell@haynesboone.com; Raghav.Bajaj@haynesboone.com; Roshan Mansinghani <[roshan@unifiedpatents.com](mailto:roshan@unifiedpatents.com)>; David.McCombs@haynesboone.com; Parham Hendifar <[hendifar@lowensteinweatherwax.com](mailto:hendifar@lowensteinweatherwax.com)>; Nathan Lowenstein <[lowenstein@lowensteinweatherwax.com](mailto:lowenstein@lowensteinweatherwax.com)>; Jason Linger <[linger@lowensteinweatherwax.com](mailto:linger@lowensteinweatherwax.com)>; Kipnis, Jason <[Jason.Kipnis@wilmerhale.com](mailto:Jason.Kipnis@wilmerhale.com)>; Bertulli, Scott <[Scott.Bertulli@wilmerhale.com](mailto:Scott.Bertulli@wilmerhale.com)>; Cavanaugh, David <[David.Cavanaugh@wilmerhale.com](mailto:David.Cavanaugh@wilmerhale.com)>; Schroeder, Nancy <[Nancy.Schroeder@wilmerhale.com](mailto:Nancy.Schroeder@wilmerhale.com)>

**Subject:** Re: IPR2018-00599 (US9463074), IPR2018-00864 (US9463074)

**EXTERNAL SENDER**

To be clear, Unified does not oppose a conference call, just the out-of-time request.

**Jonathan Stroud**

Chief IP Counsel

Unified Patents Inc.

[jonathan@unifiedpatents.com](mailto:jonathan@unifiedpatents.com)

202-805-8931

This e-mail is intended only for those to whom it is addressed and may contain information that is privileged, confidential, proprietary, or otherwise exempt from disclosure under applicable law. Unified does not have an attorney-client relationship with its members. If you have received this message in error, please advise by return e-mail and delete it from your mailbox. Thank you.

On Fri, Nov 8, 2019 at 9:54 AM Kenneth Weatherwax <[weatherwax@lowensteinweatherwax.com](mailto:weatherwax@lowensteinweatherwax.com)> wrote:

Members of the Board Stephens, Galligan and Hudalla,

Pursuant to the guidance provided by the Chief Judge in such circumstances, Patent Owner requests a conference call in cases IPR2018-00599/00864 (US9463074) to ask permission to file an out of time request for rehearing of the September 9, 2019 final written decisions in these cases. *See Chat With The Board On SAS* webinar, Apr. 30, 2018, at Slide 17.

00599 petitioner Unified Patents Inc. opposes this request. 00864 petitioner Hulu LLC was contacted yesterday evening but has not yet stated its position.

For the Board's information, the deadline for appeal in these cases is November 12, 2019. A request for extension of that deadline has been submitted by Patent Owner to the Office of the Solicitor under the procedures set forth in 37 U.S.C. § 90.3(c)(1)(i) and MPEP 1216-VI, and has not yet been acted upon.

Patent Owner and 00599 petitioner are available for a call on Tue 11/12 from 9a-5p ET. We are

conferring with 00864 petitioner regarding its availability.

Respectfully submitted,

Kenneth Weatherwax

Lead counsel for patent owner Sound View Innovations, LLC

**Kenneth Weatherwax | Lowenstein & Weatherwax LLP**

1880 Century Park East, Suite 815

Los Angeles, California 90067

**Office:** 310.307.4503