

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

GOOGLE LLC,
Petitioner,

v.

WAG ACQUISITION, L.L.C.,
Patent Owner.

IPR2022-01411
Patent 9,729,594 B2

Before HUBERT C. LORIN, JOHN A. HUDALLA, and
STEVEN M. AMUNDSON, *Administrative Patent Judges*.

HUDALLA, *Administrative Patent Judge*.

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

Google LLC (“Petitioner”) filed a Petition (Paper 1, “Pet.”) requesting an *inter partes* review of claims 1–17 (“the challenged claims”) of U.S. Patent No. 9,729,594 B2 (Ex. 1001, “the ’594 patent”). Petitioner filed a Declaration of Nathaniel Polish, Ph.D. (Ex. 1002) with its Petition. WAG

Acquisition, L.L.C. (“Patent Owner”) filed a Preliminary Response (Paper 6, “Prelim. Resp.”).

We have authority to determine whether to institute an *inter partes* review. *See* 35 U.S.C. § 314 (2018); 37 C.F.R. § 42.4(a) (2022). Under 35 U.S.C. § 314(a), we may not authorize an *inter partes* review unless the information in the petition and the preliminary response “shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.” For the reasons that follow, we institute an *inter partes* review as to claims 1–17 of the ’594 patent on all grounds of unpatentability presented.

I. BACKGROUND

A. *Real Parties-in-Interest*

Petitioner identifies Google LLC and YouTube, LLC as the real parties-in-interest. Pet. 1. Patent Owner identifies WAG Acquisition, L.L.C., as the real party-in-interest. Paper 3, 2.

B. *Related Matters*

As required by 37 C.F.R. § 42.8(b)(2), the parties identify various related matters. Pet. 1–2; Paper 3, 2–8.

C. *The ’594 Patent*

The ’594 patent is directed to “delivering streaming media, such as audio and video, on the Internet.” Ex. 1001, 1:52–55. The ’594 patent addresses a purported need to, *inter alia*, deliver streaming content over the Internet on demand and without buffering delay. *Id.* at 3:45–50. Figure 1 of the ’594 patent is reproduced below.

Fig. 1

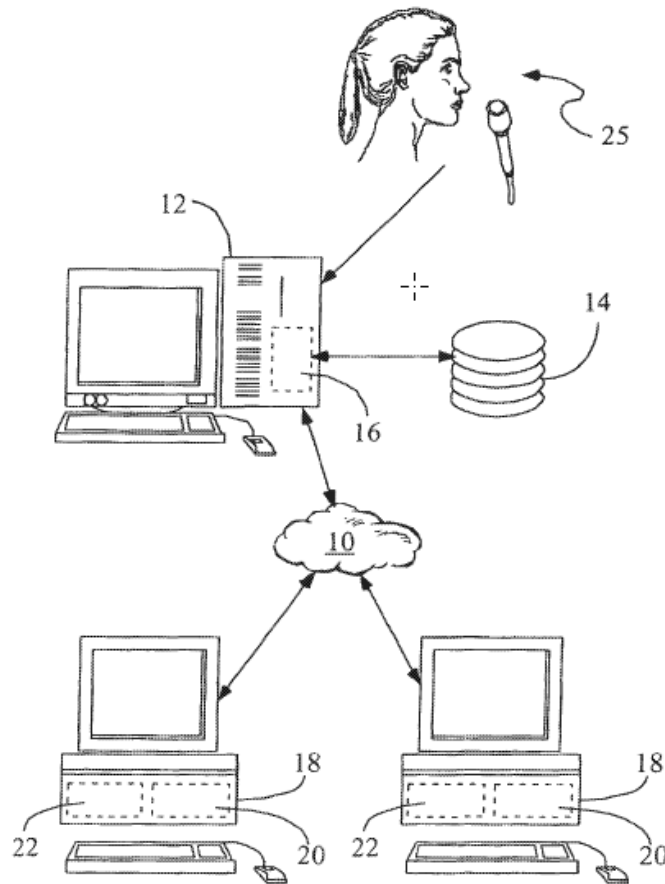


Figure 1 depicts a streaming media buffering system for distributing via the Internet streaming media composed of a plurality of time-sequenced data elements. *Id.* at 4:23–25, 6:30–32. The system includes server 12 connected to Internet 10 for transmitting the streaming media data elements. *Id.* at 6:32–35. Server 12 has server buffer 14 for storing data elements for transmission and buffer manager 16. *Id.* at 6:35–37. Buffer manager 16 may be adapted to effectively render server buffer 14 a FIFO (first-in, first-out) device. *Id.* at 7:18–20. User computer 18, which includes user buffer 20 and buffer manager 22, is connected to server 12 via Internet 10. *Id.* at 6:48–52, 6:58–59. User computer 18 is associated with media player software incorporating user buffer 20. *Id.* at 6:51–52.

Buffer manager 16 in server 12 may sequentially number the media data elements. Ex. 1001, 14:43–45. User computer 18 transmits a request to server 12 to send one or more data elements, specifying the serial numbers of the data elements, and server 12 responds by sending the requested data elements. *Id.* at 14:50–56. User computer 18 includes “means for receiving and storing a predetermined number of media data elements which are received sequentially by the media player, playing the data out sequentially as audio and/or video, and deleting media data elements from the buffer as they are played out.” *Id.* at 15:9–15. “As data is played out, the next sequential data elements are requested from the server in such a fashion as to approximately maintain the predetermined number of data elements in the user’s buffer.” *Id.* at 15:15–18. User computer 18 continues to transmit additional data requests for the duration of playing the media. *Id.* at 14:56–58. Buffer manager 22 in user computer 18 maintains a record of the serial number of the last data element (i.e., the highest data element number) received and stored in buffer 20. *Id.* at 14:47–49. Data is transmitted to user computer 18 as fast as the data connection between user computer 18 and server 12 will allow. *Id.* at 14:60–62.

The application that led to the ’594 patent was filed on October 3, 2016, and claims priority to, *inter alia*, a provisional application that was filed on September 12, 2000. Ex. 1001, codes (22), (60). Notwithstanding, Petitioner notes that, in a related litigation, Patent Owner has asserted a priority date of November 11, 1999, for the challenged claims based on Patent Owner’s asserted date of invention. Pet. 9 (citing Ex. 1047, 1). Petitioner applies the November 11, 1999, date for qualifying the asserted references as prior art. *Id.*

D. Illustrative Claim

Of the challenged claims, claims 1, 6, and 11 are independent. Claims 2–5 depend directly or indirectly from claim 1, claims 7–10 depend directly or indirectly from claim 6, and claims 12–17 depend directly or indirectly from claim 11. Claim 1 is illustrative of the challenged claims and recites:

1. A method for operating a media player to receive and play an audio or video program, from a remote media source via a data connection over the Internet, the method comprising:

sending requests from the media player to the media source via the data connection for one or more serially identified media data elements representing the audio or video program, each media data element comprising a digitally encoded portion of the audio or video program and having a playback rate, each request specifying one or more serial identifiers of the media data elements requested;

receiving each of the requested media data elements via the data connection, wherein the data connection has a data rate more rapid than the playback rate of the media data elements, and each received media data element is received at a rate as fast as the data connection between the media source and the media player allows;

storing the received media data elements in a memory of the media player;

playing the received media data elements in series from the memory of the media player; and

as the received media data elements are played, the media player automatically sending additional requests for subsequent media data elements for storage in the memory of the media player as required to maintain about a predetermined number of media data elements in the memory of the media player during playing.

Ex. 1001, 16:30–57.

E. Prior Art

Petitioner relies on the following prior art:

U.S. Patent No. 6,005,600, filed Oct. 18, 1996, issued Dec. 21, 1999 (Ex. 1006, “Hill”);

U.S. Patent No. 6,014,694, filed June 26, 1997, issued Jan. 11, 2000 (Ex. 1008, “Aharoni”);

U.S. Patent No. 6,292,834 B1, filed Mar. 14, 1997, issued Sept. 18, 2001 (Ex. 1004, “Ravi”);

U.S. Patent No. 6,389,473 B1, filed Mar. 24, 1999, issued May 14, 2002 (Ex. 1003, “Carmel”); and

U.S. Patent No. 6,845,398 B1, filed Aug. 2, 1999, issued Jan. 18, 2005 (Ex. 1007, “Galensky”).

F. The Asserted Grounds

Petitioner challenges claims 1–17 of the ’594 patent based on the following grounds (Pet. 3–4):

Claims Challenged	35 U.S.C. §	References
1–17	103(a) ¹	Hill
1–17	103(a)	Hill, Aharoni
1–17	103(a)	Hill, Ravi
1–17	103(a)	Carmel, Hill
1–17	103(a)	Carmel, Galensky
1–17	103(a)	Carmel, Hill, Ravi
1–17	103(a)	Carmel, Galensky, Ravi

¹ The Leahy-Smith America Invents Act (“AIA”), Pub. L. No. 112-29, 125 Stat. 284, 287–88 (2011), amended 35 U.S.C. §§ 102 and 103. Because the ’594 patent claims priority to an application filed before March 16, 2013 (the effective date of the relevant amendments), the pre-AIA versions of §§ 102 and 103 apply.

II. ANALYSIS

We now consider Petitioner's asserted grounds and Patent Owner's arguments to determine whether Petitioner has met the "reasonable likelihood" standard for institution under 35 U.S.C. § 314(a).

A. *Legal Standards*

A claim is unpatentable under 35 U.S.C. § 103(a) if the differences between the claimed subject matter and the prior art are such that the subject matter, as a whole, would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. *See KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007).

The question of obviousness is resolved on the basis of underlying factual determinations, including (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; (3) the level of skill in the art; and (4) where in evidence, so-called secondary considerations.² *See Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966). We also recognize that prior art references must be "considered together with the knowledge of one of ordinary skill in the pertinent art." *In re Paulsen*, 30 F.3d 1475, 1480 (Fed. Cir. 1994) (citing *In re Samour*, 571 F.2d 559, 562 (CCPA 1978)).

B. *Level of Ordinary Skill in the Art*

Citing testimony from Dr. Polish, Petitioner contends a person of ordinary skill in the art "would have possessed at least a bachelor's degree in

² The present record does not include any evidence of secondary considerations of nonobviousness.

computer science or an equivalent field requiring learning computation principles, and two years of work experience in networking or streaming media systems, particularly audio and video, over the Internet.” Pet. 8–9 (citing Ex. 1002 ¶¶ 18–23). Patent Owner does not dispute Petitioner’s proposed level of ordinary skill in the art at this time. Prelim. Resp. 8.

For purposes of this Decision, we adopt Petitioner’s definition of the level of ordinary skill in the art. On the present record, we are satisfied that this definition comports with the level of skill necessary to understand and implement the teachings of the ’594 patent and the asserted prior art.

C. Claim Interpretation

In an *inter partes* review, we construe each claim

using the same claim construction standard that would be used to construe the claim in a civil action under 35 U.S.C.

[§] 282(b), including construing the claim in accordance with the ordinary and customary meaning of such claim as understood by one of ordinary skill in the art and the prosecution history pertaining to the patent.

37 C.F.R. § 42.100(b). Accordingly, our claim construction standard is the same as that of a district court. *See id.* Under the standard applied by district courts, claim terms are generally given their plain and ordinary meaning, as would have been understood by a person of ordinary skill in the art at the time of the invention and in the context of the entire patent disclosure. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1313 (Fed. Cir. 2005) (en banc). “There are only two exceptions to this general rule: 1) when a patentee sets out a definition and acts as his own lexicographer, or 2) when the patentee disavows the full scope of a claim term either in the

specification or during prosecution.” *Thorner v. Sony Comput. Entm’t Am. LLC*, 669 F.3d 1362, 1365 (Fed. Cir. 2012).

Petitioner includes a table of “[c]laim terms [that] have been proposed for construction by Petitioner.” Pet. 9–10. These proposed constructions appear to arise from related litigation, though Petitioner provides no citation to the source of the constructions. Notwithstanding, Petitioner states that, “[f]or purposes of this petition, Petitioner does not, at this time, contend that any term requires express construction.” *Id.* at 9. Patent Owner does not propose any terms for construction. Prelim. Resp. 9.

For purposes of this Decision, we determine that no aspects of the challenged claims require explicit construction. *See, e.g., Realtime Data, LLC v. Iancu*, 912 F.3d 1368, 1375 (Fed. Cir. 2019) (“The Board is required to construe ‘only those 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))).

D. Obviousness Ground Based on Hill

Petitioner contends the subject matter of claims 1–17 would have been obvious over Hill. Pet. 11–34. Patent Owner disputes Petitioner’s contentions. Prelim. Resp. 10–17.

1. Hill

Hill is a U.S. patent directed to “playing movie data held in various storage devices with varying bandwidth capabilities, where the movie player adapts to these varying conditions.” Ex. 1006, 1:6–10. Hill discloses “a system and method for enabling a user to view a moving picture with

synchronized audio using a workstation connected to a digital network.” *Id.* at 3:15–18. According to Hill, movie data is composed of synchronized audio and video information that is broken into fundamental units called frames. *Id.* at 3:37–39. A clip is a sequence of frames. *Id.* at 3:46. Frames may be referenced according to their position within the global playback sequence (i.e., global frame number), or according to their position within the clip from which they originate (i.e., local frame number). *Id.* at 5:66–6:2.

Figure 1 of Hill is reproduced below.

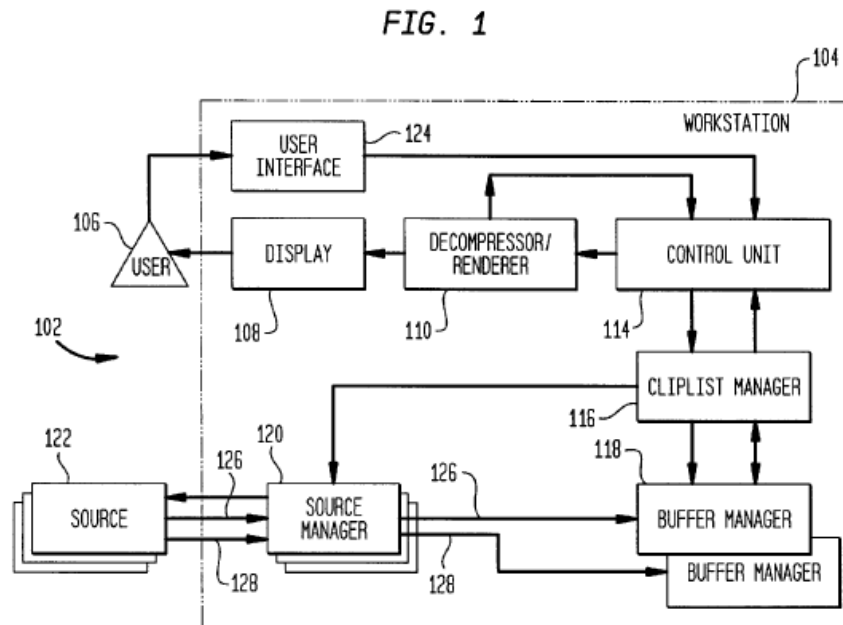


Figure 1 is a block diagram of digital network environment 102 within which the disclosed system and method of Hill is used. Ex. 1006, 3:27–28. User 106 utilizes workstation 104 to play movie data. *Id.* at 3:28–29. Movie data is stored in sources 122, each of which may be any type of digital memory accessible locally or via a network server. *Id.* at 3:49–51, 3:53–55. Workstation 104 contains control unit 114, which receives control information from user 106 (via user interface 124) and from decompressor/

renderer 110. *Id.* at 3:57–64. Decompressor/renderer 110 decompresses video and audio data and presents them to display 108 in correct synchronization. *Id.* at 3:67–4:2. Display 108 provides a video image for user 106. *Id.* at 3:65–67.

Buffer manager 118 provides frames upon request to control unit 114 via cliplist manager 116. Ex. 1006, 4:7–8. Buffer manager 118 prefetches future frames in order to always have available the next frame required by control unit 114. *Id.* at 4:8–15. Buffer manager 118 transfers frames to control unit 114 via cliplist manager 116. *Id.* at 4:21–22. Cliplist manager 116 tracks where within network environment 102 each clip is stored and requests frames from source 122 via source manager 120. *Id.* at 4:22–24, 4:27–28.

Hill defines a buffer fill level as the number of future frames currently being stored in buffer manager 118. Ex. 1006, 6:60–63. Buffer manager 118 determines whether the buffer fill level has dropped below a request threshold, which represents the optimum number of future frames stored in the buffer at any given time based on the characteristics of a particular system. *Id.* at 6:58–60, 6:63–67. Buffer manager 118 will not request additional frames when the fill level exceeds the request threshold. *Id.* at 7:4–5. Buffer manager 118 might request additional frames if the fill level drops below the threshold depending upon other factors. *Id.* at 7:5–7.

Hill also describes a buffer management strategy to solve the problem of inadequate source bandwidth. *See* Ex. 1006, 8:20–9:35, Fig. 4B. As part of this strategy, buffer manager 118 limits itself to two requests for frames that are outstanding with sources 122. *Id.* at 8:34–43. The strategy also involves comparing the buffer fill level to high and low thresholds,

modifying a decimation factor *d* based on that comparison, and potentially decimating an outstanding request. *Id.* at 8:55–9:25, Fig. 4B.

Petitioner notes that Hill’s filing date was October 18, 1996. Pet. 10. Patent Owner does not contest the prior art status of Hill at this juncture. For purposes of this Decision, we determine that Hill qualifies as prior art under 35 U.S.C. § 102(e) because Hill’s filing date of October 18, 1996, is before Patent Owner’s asserted date of invention for the challenged claims, which is November 11, 1999. Ex. 1006, code (22); Ex. 1047, 1.

2. *Claim 1*

Claim 1 recites “[a] method for operating a media player to receive and play an audio or video program, from a remote media source via a data connection over the Internet.” Ex. 1001, 6:30–32. Petitioner cites Hill’s teaching of workstation 104 receiving audio and video information from source 122 over the Internet for playback. Pet. 11–12 (citing Ex. 1006, 2:25–28, 3:15–18, 3:27–56, 4:35–37, Fig. 1). Patent Owner does not dispute Petitioner’s analysis of the preamble. Neither party addresses whether the preamble is limiting. Because Petitioner shows sufficiently for purposes of institution that Hill teaches the preamble (*see, e.g.*, Ex. 1006, 3:29–32, 3:48–56), we need not determine whether the preamble is limiting. *See Realtime Data*, 912 F.3d at 1375.

Claim 1 further recites

sending requests from the media player to the media source via the data connection for one or more serially identified media data elements representing the audio or video program, each media data element comprising a digitally encoded portion of the audio or video program and having a playback rate, each

request specifying one or more serial identifiers of the media data elements requested.

Ex. 1001, 16:34–41. Petitioner maps the recited “media data elements” to Hill’s frames and contends Hill’s workstation 104 “requests frames from a particular source 122 via the appropriate source manager.” Pet. 12–13 (quoting Ex. 1006, 4:27–28). Petitioner further contends the frames are “serially identified” based on Hill’s teaching of referencing frames “according to their position within the global playback sequence (*i.e.*, global frame number), or according to their position within the clip from which they originate (*i.e.*, local frame number).” *Id.* at 13 (quoting Ex. 1006, 5:60–6:4). For digital encoding, Petitioner references several instances where Hill characterizes its system as “digital” and contends that an ordinarily skilled artisan would have understood “that frames of a movie sourced from a digital network and stored in digital memory would be ‘digitally encoded.’” Pet. 16–17 (citing Ex. 1002 ¶ 117; Ex. 1006, 3:17–18, 3:27–28, 3:48–56, 4:8–11, 4:22–24, 4:31–34). Regarding the “playback rate,” Petitioner cites Hill’s teaching of an exemplary “play rate” of 24 frames per second. *Id.* at 17–18 (citing Ex. 1006, 7:20–21).

For “each request specifying one or more serial identifiers of the media data elements requested,” Petitioner cites Hill’s teaching of workstation 104 “convert[ing] the global frame number to a clip number and local frame number” and then “request[ing] the frames from the appropriate source manager 120.” Pet. 18–19 (quoting Ex. 1006, 6:8–15). According to Petitioner, Hill’s source manager 120 then “retrieves the requested frame data from the source 122.” *Id.* (quoting Ex. 1006, 6:14–16). Petitioner also cites another example in Hill where “buffer manager 118 . . . request[s] global frame 31. This request is sent to the cliplist manager [116], which

maps the global frame number to a clip number and local frame number and forwards the request to the appropriate source.” *Id.* (omission and first alteration added; second alteration by Petitioner) (quoting Ex. 1006, 7:46–50). Based on testimony from Dr. Polish, Petitioner contends that an ordinarily skilled artisan would have “consider[ed] it inherent or obvious that, in Hill, the request to the source 122 includes the clip number and/or at least the local frame number.” *Id.* (citing Ex. 1002 ¶¶ 121–122).

Patent Owner notes that Petitioner’s cited frame requests in Hill are sent to source manager 120, which is internal to workstation 104 and not at the media source. Prelim. Resp. 11–12. According to Patent Owner, Petitioner only establishes that a request is made “by one part of the workstation to another part of itself (source manager 120)” with “clip and local frame ID” and “that a request in some manner is made to an external source 122.” *Id.* at 12. Patent Owner argues that Petitioner fails to establish that “the request by source manager 120 to external source 122 is likewise made by serial ID.” *Id.* Patent Owner also criticizes Dr. Polish’s cited testimony about sending requests on to source 122 as being conclusory. *Id.* at 12–13. Among other things, Patent Owner posits differences in how data is retrieved within Hill’s workstation versus on an external network. *Id.* at 13–14.

Based on the present record, Petitioner shows sufficiently for institution that Hill teaches the “sending requests” limitation of claim 1. For example, Petitioner presents evidence that Hill’s workstation 104 sends requests for frames of video (i.e., “media data elements”) to source 122 via source manager 120. *See, e.g.*, Ex. 1006, 4:27–28, 7:46–50. Petitioner also establishes sufficiently that these requests are “serially identified” because

they are based on both a global frame number and a local frame number. *See, e.g., id.* at 5:60–6:16, 7:46–50. Although Patent Owner is correct (*see* Prelim. Resp. 11–14) that Hill only describes sending serial identifiers to source manager 120 (*see, e.g.,* Ex. 1006, 6:7–14) and does not describe expressly the format of the request sent on to source 122, we are persuaded preliminarily by Dr. Polish’s testimony that an ordinarily skilled artisan would have known that requests to source 122 would specify the desired frame using a serial identifier. *See, e.g.,* Ex. 1002 ¶¶ 121–122. His testimony is consistent with Hill’s express disclosure that source manager 120 retrieves requested frame data from source 122. *See, e.g.,* Ex. 1006, 6:14–16, 7:46–50, Fig. 1. We do not agree with Patent Owner’s arguments to the contrary because they are not based on any evidence at this stage.

Claim 1 further recites

receiving each of the requested media data elements via the data connection, wherein the data connection has a data rate more rapid than the playback rate of the media data elements, and each received media data element is received at a rate as fast as the data connection between the media source and the media player allows.

Ex. 1001, 16:42–47. For the recited “receiving,” Petitioner again cites Hill’s teaching that source manager 120 “retrieves the requested frame data from the source 122.” Pet. 20 (quoting Ex. 1006, 6:13–16). Regarding the “data rate more rapid than the playback rate,” Petitioner cites Hill’s discussion of a scenario where the “play rate” is 24 frames per second, and the data rate is 48 frames per second. *Id.* (citing Ex. 1006, 7:20–22). Petitioner contends that an ordinarily skilled artisan would have understood that “the data rate in

this scenario (48 frames/second) is ‘more rapid than’ the playback rate (24 frames/second).” *Id.* (citing Ex. 1002 ¶ 126).

For the recitation “as fast as the data connection . . . allows,” Petitioner contends an ordinarily skilled artisan “would have found it obvious that Hill would receive frames from source 122 at workstation 104 as fast as the data connection allows.” *Id.* at 21 (citing Ex. 1002 ¶¶ 129–130). In support of this contention, Petitioner cites Hill’s teaching that sources 122 may be remote servers connected to workstations 104 via the Internet. *Id.* (citing Ex. 1006, 3:48–56). Accordingly, Petitioner contends that an ordinarily skilled artisan would have found it obvious “that a source sending data via Internet protocol, such as TCP, would send the data as fast as the data connection allows.” *Id.* (citing Ex. 1002 ¶ 129). Petitioner also asserts that Patent Owner’s declarant in a related litigation testified that the “as fast as the data connection . . . allows” limitation “requires nothing more than simply handing the data to the transport mechanism.” *Id.* (quoting Ex. 1041 ¶ 30).

Patent Owner disputes that Hill teaches or suggests data connections more rapid than the playback rate. Prelim. Resp. 15–17. In particular, Patent Owner argues that the playback rate scenario in Hill cited by Petitioner (i.e., a playback rate of 24 frames per second and a data rate of 48 frames per second) “concerns a *transient* condition, triggered when the buffer manager 118 is more than one frame behind” as opposed to “normal operation—where one frame at a time is requested.” *Id.* at 16 (internal quotations omitted) (citing Ex. 1006, 7:7–10, 7:15–16).

Based on the present record, Petitioner shows sufficiently for institution that Hill teaches the “receiving” limitation of claim 1. For

example, Petitioner presents evidence that Hill's source manager 120 receives the requested video frames (i.e., "media data elements") from source 122. *See, e.g.*, Ex. 1006, 6:13–16. We also find sufficient Petitioner's citation to Hill's data rate being twice the playback rate (*see* Ex. 1006, 7:20–22) for teaching the "more rapid" limitation of claim 1 even if this relates to a transient scenario, as Patent Owner alleges (Prelim. Resp. 16). At this juncture, we do not interpret claim 1 as being tied to any particular (e.g., "normal") operating mode. We also are persuaded preliminarily that an ordinarily skilled artisan would have known that data transferred over the Internet using common protocols would move as fast as available connections would allow. *See, e.g.*, Ex. 1002 ¶ 129; Ex. 1006, 3:48–56; Ex. 1041 ¶ 30.

Claim 1 further recites "storing the received media data elements in a memory of the media player." Ex. 1001, 16:48–49. Petitioner presents evidence that Hill's source manager 120 transfers retrieved frames to buffer manager 118, which stores frames in local digital memory. Pet. 23 (citing Ex. 1006, 4:8–11, 6:30–34, 6:58–67, 11:17–28, 12:7–44). Patent Owner does not dispute Petitioner's analysis of this limitation. We find Petitioner's showing for this limitation sufficient for institution.

Claim 1 further recites "playing the received media data elements in series from the memory of the media player." Ex. 1001, 16:50–51. Petitioner presents evidence that Hill's control unit 114 receives frames from buffer manager 118 and feeds them on to decompressor/renderer 110 for display "in correct synchronization." Pet. 24 (citing, *inter alia*, Ex. 1006, 3:67–4:4, 4:7–8, 4:66–5:1). Patent Owner does not dispute Petitioner's

analysis of this limitation. We find Petitioner’s showing for this limitation sufficient for institution.

Claim 1 further recites

as the received media data elements are played, the media player automatically sending additional requests for subsequent media data elements for storage in the memory of the media player as required to maintain about a predetermined number of media data elements in the memory of the media player during playing.

Ex. 1001, 16:52–57. Petitioner cites Hill’s “prefetching process that occurs as buffer manager 118 provides frames to the control unit 114 (via cliplist manager 116) for subsequent playback via the display 108.” Pet. 25 (citing Ex. 1006, 5:10–15). Petitioner contends that, when buffer manager 118 sends a frame to control unit 114, two paths are followed concurrently: (1) “the buffer manager continues receiving requests from control unit 114 and continues providing frames for playback”; and (2) “the buffer manager requests new future frames to fill the buffer to the request threshold.” *Id.* (citing Ex. 1006, 5:44–47, Figs. 2–3). Thus, Petitioner contends that Hill teaches prefetching future frames “as the received media data elements are played.” *Id.* (citing Ex. 1002 ¶ 143).

For the recited “predetermined number of media data elements in the memory,” Petitioner cites Hill’s teaching of a “request threshold,” which is “the optimum number of future frames stored in the buffer at any given time.” Pet. 25–26 (quoting Ex. 1006, 6:58–67) (citing Ex. 1006, Fig. 4A). Petitioner contends that Hill’s buffer manager 118 attempts to maintain the buffer fill level at the “request threshold.” *Id.* at 26 (citing Ex. 1006, 6:58–7:32).

Patent Owner does not dispute Petitioner’s analysis of this limitation. Petitioner shows sufficiently that Hill’s buffer manager 118 provides frames to control unit 114 at the same time it makes additional requests for future frames. *See, e.g.*, Ex. 1006, 5:44–47, Figs. 2, 3. Petitioner also shows sufficiently that Hill’s “request threshold” for frames is a “predetermined number of media data elements,” and buffer manager 118 attempts to maintain the number of frames in the buffer. *See, e.g.*, Ex. 1006, 6:58–7:32, Fig. 4A.

Petitioner has shown sufficiently that Hill teaches all limitations of claim 1. Based on the present record, we determine that Petitioner has established a reasonable likelihood that it would prevail in showing that the subject matter of claim 1 would have been obvious over Hill.

3. *Claims 2–5*

We have reviewed Petitioner’s analysis for claims 2–5, which depend directly or indirectly from claim 1. Pet. 28–30. Patent Owner relies on the same arguments we have discussed above with respect to claim 1. Based on the present record, we determine that Petitioner has established a reasonable likelihood that it would prevail in showing that the subject matter of claims 2–5 would have been obvious over Hill.

4. *Claims 6–10*

Claim 6 is an independent claim that recites “[a] device comprising a media player,” which itself comprises “a processor, memory accessible to the processor, and a data connection.” Ex. 1001, 17:1–6. The recited device further comprises a series of “machine-readable, executable routine[s]

containing instructions to cause the processor” to perform steps similar to those recited in the method of claim 1. *Id.* at 17:7–40. For the recited device, Petitioner cites Hill’s workstation 104, which “may be a conventional personal computer, a high performance workstation, or dedicated hardware specially suited for audio/video playback.” Pet. 31 (quoting Ex. 1006, 3:29–32). Petitioner contends an ordinarily skilled artisan would have known that “a conventional personal computer or workstation would including [sic] a processor, memory accessible to the processor, and a data connection.” *Id.* (citing Ex. 1002 ¶ 160). Petitioner relies on the same analysis from claim 1 for teaching each of the “machine-readable, executable routine[s].” *Id.* at 31–32.

Claims 7–10 depend directly or indirectly from claim 6, and Petitioner relies on the same analysis from claims 2–5. Pet. 32.

Patent Owner relies on the same arguments we have discussed above with respect to claim 1. To the extent claims 6–10 differ from claims 1–5, we are persuaded preliminarily by Petitioner’s analysis. Thus, based on the present record, and for reasons similar to those discussed above for claims 1–5, we determine that Petitioner has established a reasonable likelihood that it would prevail in showing that the subject matter of claims 6–10 would have been obvious over Hill.

5. *Claims 11–17*

Claim 11 recites “[a] computer program product . . . having a processor and a memory . . . comprising a non-transitory computer readable storage medium having program instructions” to perform to perform steps

similar to those recited in the method of claim 1. Ex. 1001, 17:52–18:35.
Petitioner relies on the same analysis from claims 1 and 6. Pet. 33.

Claims 12, 13, 16, and 17 depend directly or indirectly from claim 11, and Petitioner relies on the same analysis from claims 2–5. Pet. 33.
Claims 14 and 15 each depend from claim 11, and Petitioner contends that these claims “recite the different ways the computer program product recited in claim 11 may be implemented in a user computer.” *Id.* at 34. Petitioner contends that an ordinarily skilled artisan would have found it obvious that “Hill’s system could be either provided as a software application that could be used by a personal computer’s media player or incorporated into a media player on a personal computer.” *Id.* (citing Ex. 1002 ¶ 176).

Patent Owner relies on the same arguments we have discussed above with respect to claim 1. To the extent claims 11–13, 16, and 17 differ from claims 1–5, we are persuaded preliminarily by Petitioner’s analysis. We also are persuaded preliminarily by Petitioner’s analysis for claims 14 and 15. Thus, based on the present record, and for reasons similar to those discussed above for claims 1–5, we determine that Petitioner has established a reasonable likelihood that it would prevail in showing that the subject matter of claims 11–17 would have been obvious over Hill.

E. Obviousness Grounds Based on Hill and Aharoni and on Hill and Ravi

Petitioner contends the subject matter of claims 1–17 would have been obvious over the combinations of (1) Hill and Aharoni; and (2) Hill and Ravi. Pet. 35–40. Patent Owner disputes Petitioner’s contentions. Prelim. Resp. 17–18.

1. *Aharoni*

Aharoni is a U.S. patent directed to “adapting the transport of video and audio information over IP networks having varying bandwidth capacities.” Ex. 1008, 1:5–9. Aharoni discusses a system for transmitting video and audio data over networks that implement TCP/IP (Transmission Control Protocol/Internet Protocol), which Aharoni calls a “reliable mechanism.” *Id.* at 6:37–40, 9:64–66. The system uses “‘best effort’ protocols such as those found on TCP/IP networks, [and] adapts to the time varying nature of the available bandwidth.” *Id.* at 7:31–34.

Petitioner notes that Aharoni’s filing date was June 26, 1997. Pet. 11. Patent Owner does not contest the prior art status of Aharoni at this juncture. For purposes of this Decision, we determine that Aharoni qualifies as prior art under 35 U.S.C. § 102(e) because Aharoni’s filing date of June 26, 1997, is before Patent Owner’s asserted date of invention for the challenged claims, which is November 11, 1999. Ex. 1008, code (22); Ex. 1047, 1.

2. *Ravi*

Ravi is a U.S. patent related to “efficient transmission of multimedia streams from a server to a client computer over a diverse computer network including local area networks (LANs) and wide area networks (WANs) such as the internet.” Ex. 1004, 3:3–7. Ravi describes an embodiment where the client computer includes a playout buffer and the transmission rate is dynamically matched to the available bandwidth capacity of the network connection between the server and the client computer. *Id.* at 3:11–14, 6:32–47.

Petitioner notes that Ravi's filing date was March 14, 1997. Pet. 11. Patent Owner does not contest the prior art status of Ravi at this juncture. For purposes of this Decision, we determine that Ravi qualifies as prior art under 35 U.S.C. § 102(e) because Ravi's filing date of March 14, 1997, is before Patent Owner's asserted date of invention for the challenged claims, which is November 11, 1999. Ex. 1004, code (22); Ex. 1047, 1.

3. Discussion

We have already determined that Petitioner has established a reasonable likelihood of success that it would prevail in showing claims 1–17 would have been obvious over Hill, and we will be instituting review on all challenged claims and all challenged grounds in the Petition. *See SAS Inst. Inc. v. Iancu*, 138 S. Ct. 1348 (2018) (holding that the Board may not institute review on fewer than all claims challenged in the petition); 37 C.F.R. § 42.108(a) (“When instituting *inter partes* review, the Board will authorize the review to proceed on all of the challenged claims and on all grounds of unpatentability asserted for each claim.”). Nevertheless, we include the following discussion regarding Petitioner's obviousness grounds based on the combinations of (1) Hill and Aharoni; and (2) Hill and Ravi.

Petitioner's analysis for claim 1 in these grounds is the same as for the Hill obviousness ground except that it adds Aharoni or Ravi for teaching the limitation “received at a rate as fast as the data connection between the media source and the media player allows.” Pet. 35–37. In particular, Petitioner cites Aharoni's teaching of sending audio and video data using TCP, which Aharoni calls “a reliable mechanism.” *Id.* at 36 (citing Ex. 1008, 2:12–15, 6:37–40, 6:52–54, 7:31–34, 7:39–43, 9:64–66).

Petitioner cites Ravi’s teaching of dynamically selecting media transmission rates to “match the . . . bandwidth capacity of the network connection.” *Id.* at 37 (citing Ex. 1004, 6:43–44). Petitioner also provides reasons for combining each of Aharoni and Ravi with Hill. *Id.* at 37–40. Patent Owner relies on the same arguments it makes against the Hill obviousness ground and contends that Petitioner’s further analysis based on Aharoni or Hill does not cure the alleged deficiencies from the Hill obviousness ground. Prelim. Resp. 17–18.

Given that we have found Petitioner’s analysis of the Hill obviousness ground sufficient for institution (*see supra* § II.D), we also are persuaded preliminarily by Petitioner’s proposal to add further teachings from Aharoni and Ravi in combination with Hill for teaching “a rate as fast as the data connection . . . allows.” We also are persuaded preliminarily by Petitioner’s reasons for combining each of Aharoni and Ravi with Hill. *See* Pet. 37–40.

F. Obviousness Ground Based on Carmel and Hill

Petitioner contends the subject matter of claims 1–17 would have been obvious over the combination of Carmel and Hill. Pet. 41–60. Patent Owner disputes Petitioner’s contentions. Prelim. Resp. 18–23.

1. Carmel

Carmel is a U.S. patent directed to “real-time multimedia broadcasting over a network.” Ex. 1003, 1:10–12. Carmel discloses a system and method for “real-time broadcasting from a transmitting computer to one or more client computers over a network.” *Id.* at 3:25–39, 14:19–32, 15:63–16:8, code (57). The transmitting computer “generates a data stream . . . divided

into a sequence of segments or slices of the data, preferably time slices, wherein the data are preferably compressed.” *Id.* at 2:1–6. Preferably, “each segment or slice is contained in a separate, respective file,” and each file “includes one or more time stamps, indicating a real time at which the data in the file were recorded or an elapsed time relative to the beginning of [the] stream.” *Id.* at 2:22–23, 7:27–31. “Each slice is preferably assigned a respective slice index.” *Id.* at 2:6–7; *see id.* at 7:27–28.

The transmitting computer “uploads the sequence of slices to” the network server “substantially in real time” and “preferably using an Internet protocol, most preferably the File Transfer Protocol (FTP).” Ex. 1003, 2:7–10; *see id.* at 3:60–62, 5:19–21, 6:50–54. The client computers “download the data stream from” the network server “preferably using an Internet protocol, as well, most preferably the Hypertext Transfer Protocol (HTTP)” or another protocol “similarly known in the art.” *Id.* at 2:11–14; *see id.* at 3:63–66, 5:25–28, 7:5–9, 10:37–39, 11:1–2, 15:18–21.

The transmitting computer and the client computers may “monitor the uploading and downloading of data to and from the server, respectively, in order to determine the amount of time required to convey each slice and to verify that the slices are conveyed at a sufficient rate.” Ex. 1003, 2:51–56; *see id.* at 3:8–11, 7:35–40, 10:55–56, 11:9–11. “When the data stream comprises multimedia data, the data rate should be generally equal to or faster than the rate at which the data are generated at the transmitting computer.” *Id.* at 2:56–59.

The network server provides the data slices “at multiple resolution or quality levels.” Ex. 1003, 3:5–6. Each level “has a different degree of data compression, and thus corresponds to a different data bandwidth

requirement.” *Id.* at 3:6–8. The “compression level of the data is varied” to “adjust the data streaming rate to the available bandwidth” of the data link between the network server and a client computer. *Id.* at 7:45–49; *see id.* at 3:6–11, 4:43–47, 9:6–8. For example, “the compression ratio may be adjusted” to “match the data stream bandwidth to the available link bandwidth.” *Id.* at 11:45–48; *see id.* at 3:18–21. Hence, “steps are taken to increase the data transmission or reception rate” if “a lag is detected.” *Id.* at 7:40–42.

Carmel’s Figure 2 (reproduced below) depicts a system for real-time broadcasting from a transmitting computer to one or more client computers over a network:

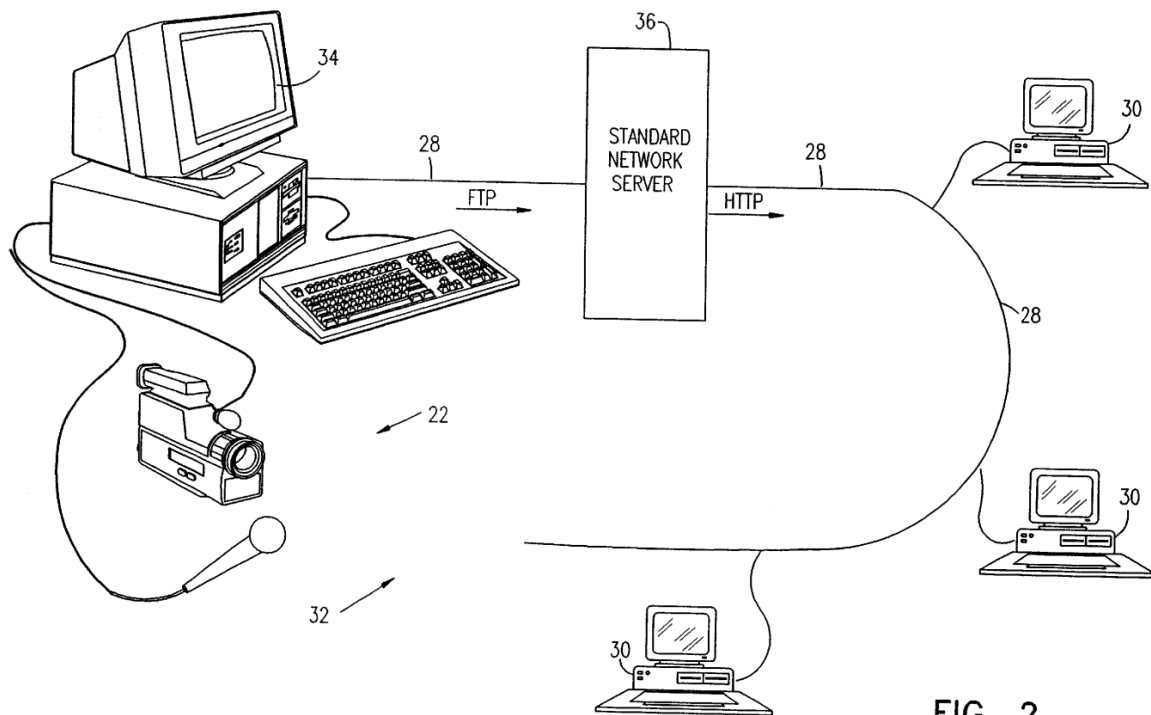


FIG. 2

Figure 2 illustrates computer system 32 including a plurality of client computers 30, transmitting computer 34, and network server 36 that “communicate over network 28, preferably using the well-known Internet Protocol(IP).” Ex. 1003, 6:24–31, Fig. 2; *see id.* at 5:43–45.

Transmitting computer 34 “preferably receives audiovisual input from input devices 22,” e.g., “a video camera and/or microphone” that may “generate a multimedia data stream representing an entertainment or informational program to be transmitted to a plurality of clients” in real time. Ex. 1003, 1:24–28, 3:25–28, 6:32–33, 14:19–20, code (57), Fig. 2. For instance, a streamed program may constitute a sports event. *Id.* at 6:57–59. But “data inputs of other types may be generated at or by computer 34 using any suitable means,” such as prerecorded media. *Id.* at 6:33–35, 6:59–60.

After “preparing the multimedia sequence,” transmitting computer 34 uploads the multimedia sequence to network server 36 over network 28. Ex. 1003, 6:50–54, Fig. 2. Preferably, “the data in the sequence are compressed” and the sequence is “generated and compressed in real time.” *Id.* at 6:54–58. “Clients 30 connect to server 36 and receive the multimedia sequence, substantially in real time.” *Id.* at 7:4–5, Fig. 2.

Carmel’s Figure 3A (reproduced below) depicts a data structure for a broadcast sequence:

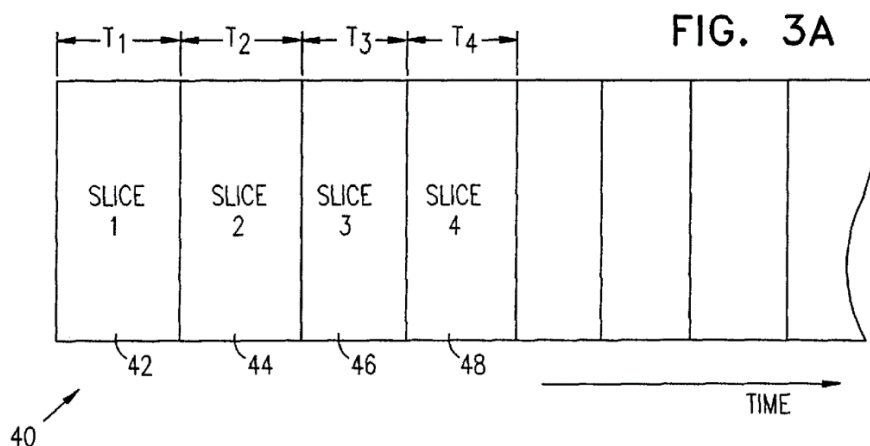


Figure 3A illustrates data stream 40 with broadcast data including “a series of data slices 42, 44, 46, 48, etc.” where “[e]ach slice contains a segment of

video and/or audio data, corresponding to a respective, successive time interval labeled T_1, T_2, T_3 , etc.” Ex. 1003, 5:46–48, 7:18–25, Fig. 3A.

Transmitting computer 34 “stores each slice as a corresponding file, having a running slice index 1, 2, 3 . . . N.” Ex. 1003, 7:27–28.

Transmitting computer 34 may vary the size of each file “by adjusting slice durations T_1, T_2, T_3 , etc.,” e.g., depending on the bandwidth of a data link.

Id. at 9:31–37; *see id.* at 4:67–5:2, 11:53–55.

Figure 6A of Carmel is reproduced below.

FIG. 6A

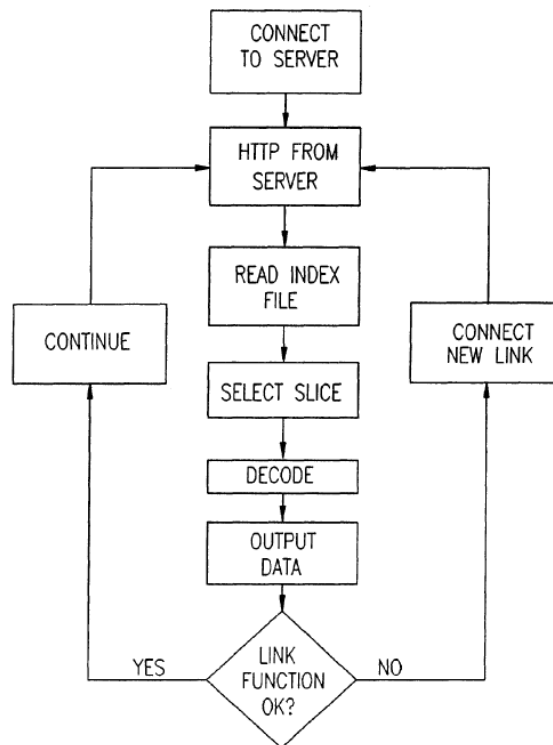


Figure 6A is a flowchart illustrating the operation of clients 30 in downloading and playing back data stream 40 transmitted by transmitting computer 34. Ex. 1003, 10:24–27. Each client 30 connects to server 36 by opening one or more HTTP links, over which files are downloaded in

successive alternation. *Id.* at 10:36–42. Client 30 first reads index file 50 (and, in some cases, user input) and then selects an appropriate starting slice and begins to download and decode files 42, 44, 46, etc. *Id.* at 10:42–47. Client 30 then reconstructs and outputs the multimedia data using time stamps in the data stream “to synchronize the data” such that the multimedia sequence is played back just as it was inputted at transmitting computer 34. *Id.* at 10:48–54. Client 30 monitors the rate of data coming in over each of its links with server 36. *Id.* at 10:55–56. If any link is non-operative or operating slowly, that link is closed, and a new link is opened in its place. *Id.* at 10:56–59.

Petitioner notes that Carmel’s filing date was March 24, 1999. Pet. 10. Patent Owner does not contest the prior art status of Carmel at this juncture. For purposes of this Decision, we determine that Carmel qualifies as prior art under 35 U.S.C. § 102(e) because Carmel’s filing date of March 24, 1999, is before Patent Owner’s asserted date of invention for the challenged claims, which is November 11, 1999. Ex. 1003, code (22); Ex. 1047, 1.

2. *Discussion*

We include the following discussion even though we will be instituting on all challenged claims and all grounds in the Petition.

Claim 1 recites:

receiving each of the requested media data elements via the data connection, wherein the data connection has a data rate more rapid than the playback rate of the media data elements, and each received media data element is received at a rate as fast as the data connection between the media source and the media player allows.

Ex. 1001, 16:42–47. Regarding the “data rate more rapid than the playback rate of the media data elements,” Petitioner cites, *inter alia*, Carmel’s teaching that, “under normal operation, . . . ‘the data rate should be generally equal to or faster than the rate at which the data are generated at the transmitting computer.’” Pet. 47–48 (emphasis omitted) (quoting Ex. 1004, 2:51–59). Patent Owner argues that Petitioner’s quoted passage (and certain other related disclosures) is insufficient to teach the more rapid data rate limitation for *each* of the requested media data elements. *See* Prelim.

Resp. 18–20. Based on the preliminary record, we disagree. As mentioned above for the Hill obviousness ground above, we do not interpret claim 1 as being tied to any particular operating mode. We also do not agree that Carmel’s disclosed system must be “more rapid” in every disclosed mode in order for Carmel to teach the “more rapid” data rate limitation of claim 1.

In addition, Petitioner’s analysis for claim 1 relies on Carmel for teaching all limitations of except the last limitation.³ *See* Pet. 41–52. For the last limitation, which is directed to “sending additional requests for subsequent media data elements,” Petitioner relies on its analysis from the Hill ground, as discussed above. *See id.* at 52; *supra* § II.D.2. Petitioner also puts forth reasons for combining Hill with Carmel. *See* Pet. 52–54.

³ The last limitation of claim 1 recites:

as the received media data elements are played, the media player automatically sending additional requests for subsequent media data elements for storage in the memory of the media player as required to maintain about a predetermined number of media data elements in the memory of the media player during playing.

Ex. 1001, 16:52–57.

Patent Owner argues that, *inter alia*, “[s]ubmitting additional *slice requests*, presumably as the Petition alleges Hill suggests, when the client buffer is low, would do nothing to alleviate the slow *download rate* of the client in Carmel.” Prelim. Resp. 22. Patent Owner also argues that “[r]equesting individual elements on top of the adapted stream is not going to help, and the Petition does not explain how it could.” *Id.*

During the course of trial, we ask the parties to focus on the issue of whether Petitioner has adequately correlated Carmel’s slice request having a slice identifier, which Petitioner cites for “sending requests” (*see* Pet. 42–44), with Hill’s requests for frames based on frame number, which Petitioner cites for “automatically sending additional requests” (*see id.* at 24–26). The parties should address whether Petitioner has adequately described how its proposed combination of Carmel and Hill would work in light of these different request mechanisms. We also ask the parties to consider whether an ordinarily skilled artisan would have understood the combination to improve bandwidth delays over Carmel’s existing adjustments based on bandwidth. *See, e.g.*, Ex. 1003, 7:35–49.

G. Obviousness Ground Based on Carmel and Galensky

Petitioner contends the subject matter of claims 1–17 would have been obvious over the combination of Carmel and Galensky. Pet. 60–63. Patent Owner disputes Petitioner’s contentions. Prelim. Resp. 23–25.

1. Galensky

Galensky is a U.S. patent directed to “a system, method and wireless device . . . for receiving and playing multimedia files streamed from a

multimedia server over a wireless telecommunications network.” Ex. 1007, 2:13–16. The disclosed wireless device creates a temporary buffer in memory for storing multimedia files that have been received. *Id.* at 5:47–53. Once an acceptable buffer is created, the wireless device monitors the size of the buffer to ensure that the data contained in the buffer does not fall below a minimum threshold level. *Id.* at 2:37–41, 6:10–18. If the size of the buffer falls beneath the minimum threshold level, the wireless device signals the network to increase the data transmission rate. *Id.* at 2:41–47, 6:18–22.

Petitioner notes that Galensky’s filing date was August 2, 1999. Pet. 11. Patent Owner does not contest the prior art status of Galensky at this juncture. For purposes of this Decision, we determine that Galensky qualifies as prior art under 35 U.S.C. § 102(e) because Galensky’s filing date of August 2, 1999, is before Patent Owner’s asserted date of invention for the challenged claims, which is November 11, 1999. Ex. 1007, code (22); Ex. 1047, 1.

2. Discussion

We include the following discussion even though we will be instituting on all challenged claims and all grounds in the Petition. Petitioner’s analysis for claim 1 relies on Carmel for teaching all limitations of except the last limitation.⁴ See Pet. 41–52. For the last limitation,

⁴ The last limitation of claim 1 recites:

as the received media data elements are played, the media player automatically sending additional requests for subsequent media data elements for storage in the memory of the media player as required to maintain about a predetermined number of

Petitioner cites Galensky’s teaching that its multimedia device receives multimedia files and “‘creates a temporary buffer’ to ensure ‘there is a continuous transmission of data so that the multimedia file (e.g., digital MP3 audio file) sounds of high quality.’” Pet. 60 (citing Ex. 1007, 5:46–53). Petitioner also cites Galensky’s teaching of receiving and maintaining a “minimum threshold level” of data in the buffer during playback of multimedia files. *Id.* at 60–61 (citing Ex. 1007, 2:29–47, 6:10–27).

Patent Owner argues that Galensky’s system employs a “push” mechanism to deliver multimedia content in which the server meters its delivery to ensure that the buffer maintains the “minimum threshold level.” Prelim. Resp. 24 (citing Ex. 1007, 5:31–46, 6:9–26). Patent Owner contrasts the alleged “push” mechanism of Galensky with the recited “additional requests” of claim 1, which Patent Owner characterizes as a “pull” mechanism. *Id.* at 24–25.

Although we need not comment on Patent Owner’s “push” and “pull” characterizations at this time, we find that Patent Owner’s arguments highlight an apparent deficiency in Petitioner’s contentions: Petitioner does not cite any teaching from either Carmel or Galensky for the “additional requests” aspect in the last limitation of claim 1. Petitioner’s analysis for this ground relies on its analysis earlier in the Petition from the Carmel–Hill ground, but that ground includes no analysis of the last limitation based on Carmel. *See* Pet. 52. Moreover, Petitioner does not address “additional requests” in its discussion of Galensky. *See id.* at 60–61. And, as

media data elements in the memory of the media player during playing.
Ex. 1001, 16:52–57.

mentioned by Patent Owner (Prelim. Resp. 24), Galensky's system meters its data stream via feedback signaling from the wireless device to the wireless network, which causes the wireless network to adjust the data transmission rate. *See, e.g.*, Ex. 1002 ¶ 102; Ex. 1007, 6:9–26. Based on the present record, we find Galensky's metering to be different than “automatically sending additional requests for subsequent media data elements” in order to “maintain about a predetermined number of media data elements,” as recited in claim 1.

H. Obviousness Grounds Based on Carmel, Hill, and Ravi and on Carmel, Galensky, and Ravi

Petitioner contends the subject matter of claims 1–17 would have been obvious over the combinations of (1) Carmel, Hill, and Ravi; and (2) Carmel, Galensky, and Ravi. Pet. 63–68. Patent Owner disputes Petitioner's contentions. Prelim. Resp. 25.

We include the following discussion even though we will be instituting on all challenged claims and all grounds in the Petition. Petitioner's analysis for claim 1 in these grounds is the same as for the Carmel–Hill and Carmel–Galensky grounds except that it adds Ravi for teaching the limitation “received at a rate as fast as the data connection between the media source and the media player allows.” Pet. 63–64. In particular, Petitioner cites Ravi's teaching of “dynamically select[ing] transmission rates in order to better match the varying bandwidth capacity of the network connection.” *Id.* at 64 (quoting Ex. 1004, 6:32–47). Patent Owner argues that these grounds are deficient for the same reasons it presents for the Carmel–Hill and Carmel–Galensky grounds. Prelim. Resp. 25.

Our comments from above for the Carmel–Hill and Carmel–Galensky grounds apply equally here. Specifically, for the Carmel–Hill–Ravi ground, we ask the parties to focus on the issue of whether Petitioner has adequately described how the combination of Carmel, Hill, and Ravi would work and whether an ordinarily skilled artisan would have understood the combination to improve bandwidth delays over Carmel’s existing bandwidth adjustments. *See supra* § II.F.2. For the Carmel–Galensky–Ravi ground, we find preliminarily that Galensky’s metering of the data stream does not sufficiently show “automatically sending additional requests for subsequent media data elements” in order to “maintain about a predetermined number of media data elements.” *See supra* § II.G.2.

III. CONCLUSION

After considering the evidence and arguments presented in the current record, we determine that Petitioner has demonstrated a reasonable likelihood that it would prevail with respect to at least one of the claims challenged in the Petition. Accordingly, we institute an *inter partes* review on all of the challenged claims and all grounds presented in the Petition. At this stage of the proceeding, we have not made a final determination as to the patentability of the challenged claims.

IV. ORDER

Accordingly, it is

ORDERED that pursuant to 35 U.S.C. § 314, *inter partes* review is instituted as to claims 1–17 of the '594 patent with respect to all grounds of unpatentability presented in the Petition; and

FURTHER ORDERED that *inter partes* review is commenced 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 hereby given of the institution of a trial.

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