

UNITED STATES PATENT AND TRADEMARK OFFICE

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**BEFORE THE PATENT TRIAL AND APPEAL BOARD**

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WEBPOWER, INC.,

FRIENDFINDER NETWORKS INC., STEAMRAY INC., WMM, LLC,  
WMM HOLDINGS, LLC, and MULTI MEDIA, LLC,

DUODECAD IT SERVICES LUXEMBOURG S.À R.L.,  
ACCRETIVE TECHNOLOGY GROUP, INC., ICF TECHNOLOGY, INC.,  
RISER APPS LLC, and STREAMME, INC. (f/k/a VUBEOLOGY, INC.),

Petitioners

v.

WAG ACQUISITION, LLC  
Patent Owner.

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*Inter Partes* Review Case No. IPR2016-01238  
U.S. Patent No. 8,122,141

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**PATENT OWNER'S NOTICE OF APPEAL**

via PTAB E2E  
Patent Trial and Appeal Board

via Hand Carry  
Director of the United States Patent and Trademark Office  
c/o Office of the General Counsel, 10B20  
Madison Building East, 600 Dulany Street  
Alexandria, VA 22314

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

Pursuant to 35 U.S.C. §§ 141(c), 142, 319 and 37 C.F.R. §§ 90.2(a), 90.3(a), notice is hereby given that Patent Owner WAG ACQUISITION, LLC, (“Patent Owner”) hereby appeals to the United States Court of Appeals for the Federal Circuit from the Final Written Decision of the Patent Trial and Appeal Board, entered on December 26, 2017, in case IPR2016-01238, Paper 22 (a copy of which is attached as Appendix A), and from all underlying findings, orders, decisions, rulings, and opinions. This notice is timely filed within 63 days of the December 26, 2017 Final Written Decision, Paper 22. 37 C.F.R. § 90.3.

In accordance with 37 C.F.R. § 90.2(a)(3)(ii), Patent Owner indicates that the issues on appeal include, but are not limited to, the Board's determinations with respect to (i) claim construction, (ii) patentability of claims 10-23 of U.S. Patent No. 8,122,141 over the asserted art, (iii) denial of leave to take discovery on whether the Petition was time barred pursuant to 35 U.S.C. § 315(b), and (iv) its findings supporting or relating to the aforementioned issues. Patent Owner also indicates that the issues on appeal include any other issues decided adversely to Patent Owner in any orders, decisions, rulings, or opinions issued in the IPR proceeding.

A copy of this Notice of Appeal is being filed with the Patent Trial and Appeal Board as well as with the Director of the United States Patent and Trademark Office in accordance with 37 C.F.R. § 90.2(a)(1). In addition, this Notice of Appeal and the

required fee are being submitted to the Clerk's Office for the United States Court of Appeals for the Federal Circuit.

Dated: February 26, 2018

By: /Ronald Abramson/  
Ronald Abramson

By: /s/Ronald Abramson  
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*Attorney for Patent Owner*

**CERTIFICATE OF SERVICE (37 C.F.R. § 42.6(e))**

The undersigned hereby certifies that on February 26, 2018, a true and correct copy of the above-captioned “Patent Owner’s Notice of Appeal” was filed electronically through the Patent Trial and Appeal Board’s E2E System and was filed with the Director of the United States Patent and Trademark office c/o the Office of General Counsel via hand delivery to the following address:

Director of the United States Patent and Trademark Office  
c/o Office of the General Counsel  
United States Patent and Trademark Office  
Madison Building East, Room 10B20  
600 Dulany Street  
Alexandria, VA 22314

**CERTIFICATE OF FILING**

The undersigned hereby also certify that on February 26, 2018, a true and correct copy of the above-captioned “Patent Owner’s Notice of Appeal” was filed electronically with the Clerk’s Office of the United States Court of Appeals for the Federal Circuit via CM/ECF, along with a copy of the Final Written Decision (Paper 22).

The undersigned hereby further certifies that the above-captioned “Patent Owner’s Notice of Appeal” was served in its entirety on February 26, 2018, upon the following counsel of record for the Petitioner via electronic mail:

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Dated: February 26, 2018

Respectfully submitted,

By: /Ronald Abramson/  
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**APPENDIX A**

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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WEBPOWER, INC.,

FRIENDFINDER NETWORKS INC., STREAMRAY INC., WMM, LLC,  
WWM HOLDINGS, LLC, and MULTIMEDIA, LLC,

DUODECAD IT SERVICES LUXEMBOURG S.À R.L.,  
ACCRETIVE TECHNOLOGY GROUP INC., ICF TECHNOLOGY, INC.,  
RISER APPS LLC, and STREAMME, INC. (f/k/a VUBEOLOGY, INC.),

Petitioner,

v.

WAG ACQUISITION, LLC,  
Patent Owner.

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Case IPR2016-01238  
Patent 8,122,141 B2

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Before TREVOR M. JEFFERSON, BRIAN J. McNAMARA, and  
PATRICK M. BOUCHER, *Administrative Patent Judges*.

BOUCHER, *Administrative Patent Judge*.

FINAL WRITTEN DECISION  
35 U.S.C. § 318(a) and 37 C.F.R. § 42.73



In response to a Petition (Paper 1, “Pet.”) filed by WebPower, Inc., we instituted an *inter partes* review of claims 10–23 of U.S. Patent No. 8,122,141 B2 (“the ’141 patent”). Paper 7 (“Dec.”), 22–23. We subsequently joined FriendFinder Networks Inc., Steamray Inc., WWM, LLC, WWM Holdings, LLC, Multi Media, LLC, Duodecad IT Services Luxembourg S.à r.l., Accretive Technology Group, Inc., ICF Technology, Inc., Riser Apps LLC, and StreamMe, Inc. (f/k/a Vubeology, Inc.) as parties to the proceeding. Papers 12, 13. We refer collectively to all petitioners herein as “Petitioner.”

During the trial, WAG Acquisition, LLC (“Patent Owner”) timely filed a Response (Paper 11, “PO Resp.”), to which Petitioner timely filed a Reply (Paper 15, “Reply”). An oral hearing was held on September 25, 2017, and a copy of the transcript was entered into the record. Paper 21 (“Tr.”).

We have jurisdiction under 35 U.S.C. § 6. This Decision is a Final Written Decision under 35 U.S.C. § 318(a) as to the patentability of the claims on which we instituted trial. Based on the record before us, Petitioner has shown, by a preponderance of the evidence that claims 10–23 are unpatentable.

## I. BACKGROUND

### A. *The ’141 Patent*

The ’141 patent describes a system for streaming media, such as audio or video, via the Internet with reduced playback interruptions. Ex. 1001, col. 4, ll. 39–44. A number of factors can affect the continuity of streaming media, including the quality of a user’s connection with the Internet,

variations in Internet traffic that may cause congestion at various points along the route that data flows, and the dropping of data packets by overloaded routers. *Id.* at col. 2, ll. 10–30. The '141 patent describes a buffering system for streaming media that seeks to limit such deficiencies. *Id.* at col. 4, ll. 33–35.

Figure 1 of the '141 patent is reproduced below.

Fig. 1

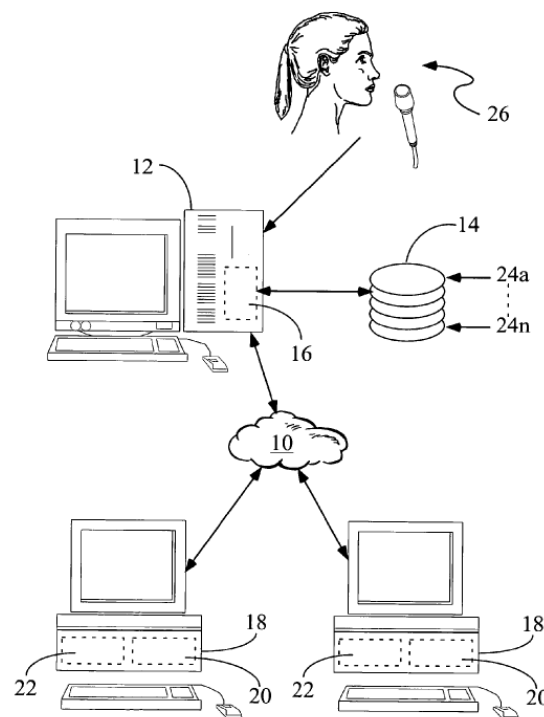


Figure 1 is a schematic diagram that illustrates elements of a streaming media buffering system. *Id.* at col. 10, ll. 7–9. Server 12 is connected to the Internet for transmitting sequenced streaming-media data elements. *Id.* at col. 10, ll. 22–25. Associated with server 12 are buffer manager 16 and first-in–first-out (“FIFO”) buffer 14, which stores at least one of the data elements for transmission. *Id.* at col. 10, ll. 25–27. Buffer manager 16 receives the media data, supplies the media data in order to FIFO buffer 14, and maintains pointers 24a–24n into the buffer for user computers,

indicating the last media data element that has been sent to respective users and thus indicating the next element or elements to be sent. *Id.* at col. 10, ll. 30–38. Once FIFO buffer 14 is full, the oldest data elements in the buffer are deleted as new elements are received. *Id.* at col. 10, ll. 38–40. A predetermined number of data elements are kept in FIFO buffer 14. *Id.* at col. 10, ll. 40–41.

At least one user computer 18 is connected to server 12 via the Internet. *Id.* at col. 10, ll. 45–46. User buffer 20 is associated with user computer 18 and stores a predetermined number of the media data elements. *Id.* at col. 10, ll. 47–49. Buffer manager 22, associated with user computer 18, receives and stores a predetermined number of media data elements received by the media player, plays the data out sequentially as audio and/or video, and deletes media data elements from buffer 20 as they are played out to approximately maintain the predetermined number of data elements in the user's buffer. *Id.* at col. 10, ll. 53–59, col. 8, ll. 31–34.

In an alternative embodiment, buffer manager 22 (or the media source) provides for sequentially numbering the media data elements and does not maintain a pointer into buffer 20 for each user. *Id.* at col. 8, ll. 38–40. “Instead, the media player buffer manager in the user computer maintains a record of the serial number of the last data element that has been received.” *Id.* at col. 8, ll. 40–42. By using standard data communications protocol techniques, “such as TCP,” user computer 18 transmits requests to server 12 for data elements specified by their serial numbers. *Id.* at col. 8, ll. 42–46. Server 12 responds with the requested data elements, depending “upon the reliable transmission protocol” to assure delivery, with user computer 18 then continuing with additional data requests for the duration of

playing the streamed material. *Id.* at col. 8, ll. 46–50. “In this manner, the user computer, not the server, maintains the record of the highest data element number stored in the user computer buffer.” *Id.* at col. 8, ll. 50–52.

### *B. Illustrative Claims*

Independent claims 10 and 19 are illustrative of the claims at issue, and are reproduced below.

10. A server for distributing streaming media via a data communications medium such as the Internet to at least one user system of at least one user, the streaming media comprising a plurality of sequential media data elements for a digitally encoded audio or video program, said user system being assumed to have a media player for receiving and playing the streaming media on said user system, which is operable to obtain media data elements from said server by transmitting requests to said server to send one or more specified media data elements, said server comprising

at least one data storage device, memory for storing machine-readable executable routines and for providing a working memory area for routines executing on the server, a central processing unit for executing the machine-readable executable routines, an operating system, at least one connection to the communications medium, and a communications system providing a set of communications protocols for communicating through said at least one connection;

a machine-readable, executable routine containing instructions to cause the server to assign serial identifiers to the sequential media data elements comprising the program;

a machine-readable, executable routine containing instructions to cause the server to receive requests from the user system for one or more media data elements specifying the identifiers of the requested data elements; and

a machine-readable, executable routine containing instructions to cause the server to send media data elements to the user system responsive to said requests, at a rate more rapid

than the rate at which said streaming media is played back by a user.

*Id.* at col. 13, l. 63–col. 14, l. 28.

19. A non-transitory machine-readable medium on which there has been recorded a computer program for use in operating a computer to prepare streaming media content for transmission by a server wherein said server responds to user requests for media data elements identified by a serial identifier, said program recorded on said non-transitory machine readable medium comprising a routine to store and serially identify sequential data elements comprising said streaming media content, in a format capable of being served to users by said server.

*Id.* at col. 14, ll. 49–58.

### *C. Instituted Grounds of Unpatentability*

Petitioner relies on the following references. Pet. 7–10.

Chen	US 5,822,524	Oct. 13, 1998	Ex. 1002
Carmel	US 6,389,473 B1	May 14, 2002	Ex. 1003

M. H. Willebeek-LeMair, K. G. Kumar, and E. C. Snible, *Bamba—Audio and video streaming over the Internet*, 42 IBM J. Res. Develop. 269 (March, 1998) (Ex. 1004) (“Willebeek”)

International Standard ISO/IEC 11172-1, *Information Technology—Coding of moving pictures and associated audio for digital storage media at up to about 1,5 Mbit/s—Part 1: Systems* (ISO/IEC, August 1993) (Ex. 1018) (“ISO-11172-1”)

International Standard ISO/IEC 11172-2, *Information Technology—Coding of moving pictures and associated audio for digital storage media at up to about 1,5 Mbit/s—Part 2: Video* (ISO/IEC, August 1993) (Ex. 1019) (“ISO-11172-2”)

International Standard ISO/IEC 11172-3, *Information Technology—Coding of moving pictures and associated audio for digital storage media at up to about 1,5 Mbit/s—Part 3: Audio* (ISO/IEC, August 1993) (Ex. 1020) (“ISO-11172-3”)<sup>1</sup>

We instituted trial on the following bases. Dec. 22–23.

Reference(s)	Basis(es)	Claim(s) Challenged
Chen	§ 102(b)	19, 20, and 23
Chen and Willebeek	§ 103(a)	21
Chen and ISO-11172	§ 103(a)	22
Carmel	§ 102(a) § 102(e)	10, 11, 13–21, and 23
Carmel and ISO-11172	§ 103(a)	12 and 22

#### *D. Real Parties in Interest and Related Proceedings*

In addition to the parties identified in the caption, real parties in interest with one or more of the petitioners include Various, Inc., Interactive Network, Inc., DataTech Global, LLC, DataTech Systems, LLC, Docler Media, LLC, Docler Holding S.à r.l., Gattyàn Family Irrevocable Trust (including Mr. György Gattyàn in his capacity as Grantor and Investment Advisor), Duodecad IT Services Hungary KFT, Web Mind Licenses KFT, and Gattyàn Group S.à r.l. Pet. 2; *FriendFinder Networks Inc. et al. v. WAG Acquisition, LLC*, Case No. IPR2017-00786, Paper 2, 1–2; *Duodecad IT Services Luxembourg S.à r.l. v. WAG Acquisition, LLC*, Case No. IPR2017-

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<sup>1</sup> In its challenges, Petitioner refers collectively to ISO-11172-1, ISO-11172-2, and ISO-11172-3 as “ISO-11172.” Because the challenges involving these references are all under 35 U.S.C. § 103(a), and because their description of the same standard provides a self-evident reason to combine their teachings, we do not address whether they are properly considered as a single reference or as three separate references.

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00820, Paper 2, 2. Patent Owner identifies only itself as a real party in interest. Paper 4, 2.

The parties identify the following matters as involving the '141 patent: (1) *WAG Acquisition, LLC v. Sobonito Investments, Ltd.*, No. 2A14-cv-1661-ES-MAH (D.N.J.); (2) *WAG Acquisition, LLC v. Multi Media, LLC*, No. 2:14-cv-2340-ES-MAH (D.N.J.); (3) *WAG Acquisition, LLC v. Data Conversions, Inc.*, No. 2:14-cv-2345-ES-MAH (D.N.J.); (4) *WAG Acquisition, LLC v. Flying Crocodile, Inc.*, No. 2:14-cv-2674-ES-MAH (D.N.J.); (5) *WAG Acquisition, LLC v. Gattyan Group S.à r.l.*, No. 2:14-cv-2832-ES-MAH (D.N.J.); (6) *WAG Acquisition, LLC v. FriendFinder Networks Inc.*, No. 2:14-cv-3456-ES-MAH (D.N.J.); (7) *WAG Acquisition, LLC v. Vubeology, Inc.*, No. 2:14-cv-4531-ES-MAH (D.N.J.); (8) *WAG Acquisition, LLC v. Gamelink Int'l Ltd.* No. 2:15-cv-3416-ES-MAH (D.N.J.); (9) *WAG Acquisition LLC v. WebPower, Inc.*, No. 2:15-cv-3581-ES-MAH (D.N.J.); and (10) *WAG Acquisition, LLC v. MFCXY, Inc.*, No. 2:14-cv-3196-ES-MAH (D.N.J.). Pet. 2, Paper 4, 2–3.

The '141 patent is also the subject of IPR2015-01037, and a continuation of the '141 patent, U.S. Patent No. 8,327,011 B2, is the subject of IPR2015-01033 and IPR2016-01161. The petitions for institution of an *inter partes* review were denied for each of those proceedings. In addition, two other related patents were the subject of further *inter partes* review proceedings: (1) U.S. Patent No. 8,185,611 B2 was the subject of IPR2015-01035 and IPR2016-01162, both of whose petitions for institution of an *inter partes* review were denied; and (2) U.S. Patent No. 8,364,836 was the subject of IPR2015-01036, for which a final written decision was issued by the Board on October 20, 2016.

## II. ANALYSIS

### A. *Claim Construction*

The Board interprets claims of an unexpired patent using the broadest reasonable construction in light of the specification of the patent in which they appear. *See* 37 C.F.R. § 42.100(b); *Cuozzo Speed Techs., LLC v. Lee*, 136 S. Ct. 2131, 2144–46 (2016) (upholding the use of the broadest reasonable interpretation standard); Office Patent Trial Practice Guide, 77 Fed. Reg. 48,756, 48,766 (Aug. 14, 2012).

Petitioner asserts that, in this proceeding, “no constructions are necessary,” and “proposes . . . that all claim terms of the ’141 patent take on their ordinary and customary meaning that the terms would have to one of ordinary skill in the art.” Pet. 10. Patent Owner does not expressly address claim construction in its Response. Nevertheless, the parties’ arguments regarding the prior art apply different understandings of the term “rate,” which is recited in independent claim 10 as part of the limitation “a machine-readable, executable routine containing instructions to cause the server to send media data elements to the user system responsive to said requests, at a *rate* more rapid than the *rate* at which said streaming media is played back by the user” (emphases added).

Patent Owner implicitly applies a construction in which it construes “rate” as the rate at which data elements are sent on an *individual link* to the user system, while Petitioner applies a broader construction in which the “rate” may collectively include the overall rate achieved with *multiple links* to the user system. *Compare, e.g.,* Pet. 56 with PO Resp. 4. Because the import of this distinction is clearer when applied to the prior art, we discuss



it more fully below. We discern nothing in the express language of the claim, nor in the Specification of the '141 patent, that compels a construction of "rate" limited to the rate at which data are sent over an individual link. The broader construction applied by Petitioner is reasonable in light of the Specification of the '141 patent.

### *B. Legal Principles*

Petitioner makes both anticipation and obviousness challenges. A claim is unpatentable as anticipated under 35 U.S.C. § 102 if a single prior-art reference expressly or inherently describes each limitation set forth in the claim. *See Perricone v. Medicis Pharm. Corp.*, 432 F.3d 1368, 1375 (Fed. Cir. 2005); *Verdegaal Bros., Inc. v. Union Oil Co. of Cal.*, 814 F.2d 628, 631 (Fed. Cir. 1987).

A claim is unpatentable for obviousness under 35 U.S.C. § 103 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." *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) objective evidence of non-obviousness, i.e., secondary considerations.<sup>2</sup> *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).

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<sup>2</sup> The parties do not address secondary considerations, which, accordingly, do not form part of our analysis.

Additionally, the obviousness inquiry typically requires an analysis of “whether there was an apparent reason to combine the known elements in the fashion claimed by the patent at issue.” *KSR*, 550 U.S. at 418 (citing *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006) (requiring “articulated reasoning with some rational underpinning to support the legal conclusion of obviousness”)); see *In re Warsaw Orthopedic, Inc.*, 832 F.3d 1327, 1333 (Fed. Cir. 2016) (citing *DyStar Textilfarben GmbH & Co. Deutschland KG v. C. H. Patrick Co.*, 464 F.3d 1356, 1360 (Fed. Cir. 2006)).

To prevail on its challenges, Petitioner must demonstrate by a preponderance of the evidence that the claims are unpatentable. 35 U.S.C. § 316(e); 37 C.F.R. § 42.1(d). “In an [*inter partes* review], the petitioner has the burden from the onset to show with particularity why the patent it challenges is unpatentable.” *Harmonic Inc. v. Avid Tech., Inc.* 815 F.3d 1356, 1363 (Fed. Cir. 2016) (citing 35 U.S.C. § 312(a)(3) (requiring *inter partes* review petitions to identify “with particularity . . . the evidence that supports the grounds for the challenge to each claim”)). This burden never shifts to Patent Owner. See *Dynamic Drinkware, LLC. v. Nat’l Graphics, Inc.*, 800 F.3d 1375, 1378 (Fed. Cir. 2015) (citing *Tech. Licensing Corp. v. Videotek, Inc.*, 545 F.3d 1316, 1326–27 (Fed. Cir. 2008)) (discussing the burden of proof in *inter partes* review). Furthermore, Petitioner does not satisfy its burden of proving obviousness by employing “mere conclusory statements.” *In re Magnum Oil Tools Int’l, Ltd.*, 829 F.3d 1364, 1380 (Fed. Cir. 2016).

*C. Level of Skill in the Art*

Petitioner’s declarant, Nathaniel Polish, Ph.D., asserts that a person of ordinary skill in the art “would have had a B.S. degree in computer science or electrical engineering (or comparable degree) and two years of experience in networking or streaming media, or a M.S. in computer science or electrical engineering (or comparable degree).” Ex. 1005 ¶ 21. Dr. Polish further states that “[t]hese descriptions are approximate, and a higher level of education or specific skill might make up for less experience, and vice-versa.” *Id.* ¶ 22.

Neither Patent Owner nor its declarant, Mung Chiang, Ph.D., proffers a characterization of the education and experience of a person of ordinary skill, although Dr. Chiang attests that his own qualifications permit him to provide an opinion, “including what a person having ordinary skill in the art would have understood.” Ex. 2001 ¶ 10.

We find Dr. Polish’s statement of the level of ordinary skill in the art reasonable, and adopt it for this Final Written Decision.

*D. Carmel*

Carmel describes a method for streaming live or prerecorded media from a server to multiple client computers over the Internet. Ex. 1003, col. 2, ll. 1–21. Figure 2 of Carmel is reproduced below.

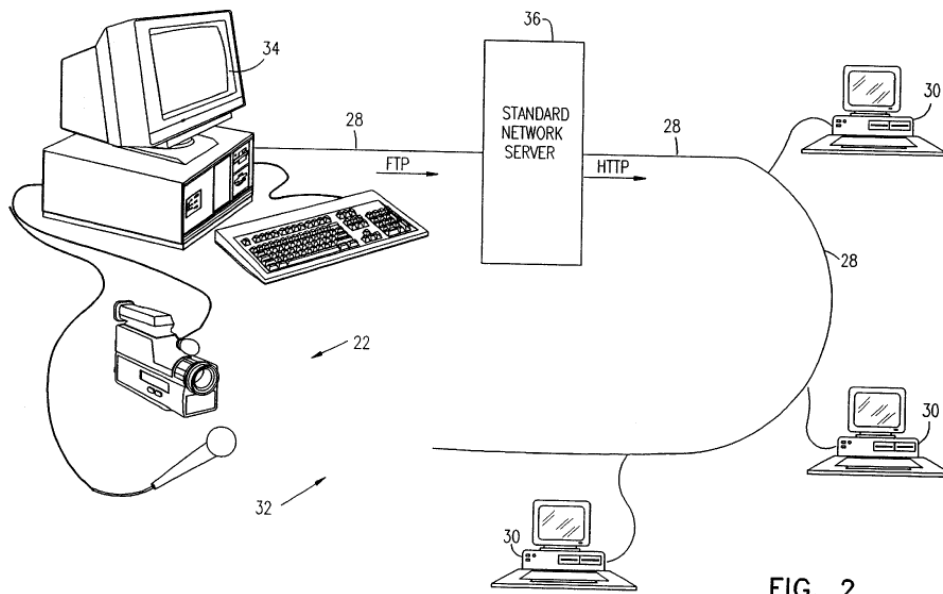


FIG. 2

Figure 2 is a schematic illustration of a computer broadcast network. *Id.* at col. 5, ll. 43–45. System 32 comprises transmitting computer 34 (which receives audiovisual input from devices 22), a plurality of clients 30, and network server 36, all of which communicate over network 28. *Id.* at col. 6, ll. 28–35. After preparing a multimedia sequence, computer 34 uploads the sequence over network 28, thereby allowing clients 30 connected with server 36 to receive the multimedia sequence in substantially real time. *Id.* at col. 6, l. 50–col. 7, l. 17.

Figure 3A of Carmel is reproduced below.

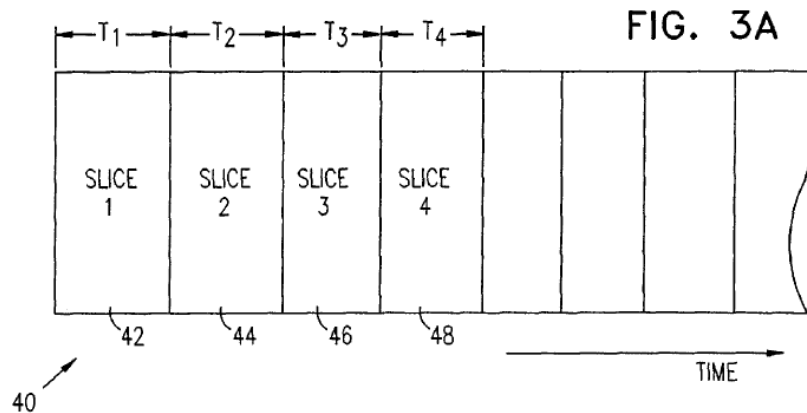


FIG. 3A

Figure 3A schematically illustrates the structure of broadcast data generated by computer 34, “typically corresponding to a multimedia data sequence.” *Id.* at col. 7, ll. 19–23. Data stream 40 comprises a series of data slices 42, 44, 46, 48, etc., with each slice containing a segment of video and/or audio data that corresponds to a respective, successive time interval  $T_1$ ,  $T_2$ ,  $T_3$ , etc. *Id.* at col. 7, ll. 22–25. Each slice is stored as a corresponding file with a running slice index 1, 2, 3, . . . N, and perhaps also a time stamp that indicates 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 col. 7, ll. 27–32. An index file that comprises a slice ID is uploaded to a server, with the slice ID indicating the index of the file in the data stream that was most recently uploaded. *Id.* at col. 7, ll. 59–64. Each time a new file is uploaded, the slide ID is updated. *Id.* at col. 7, ll. 65–66.

Figure 4 of Carmel is reproduced below.

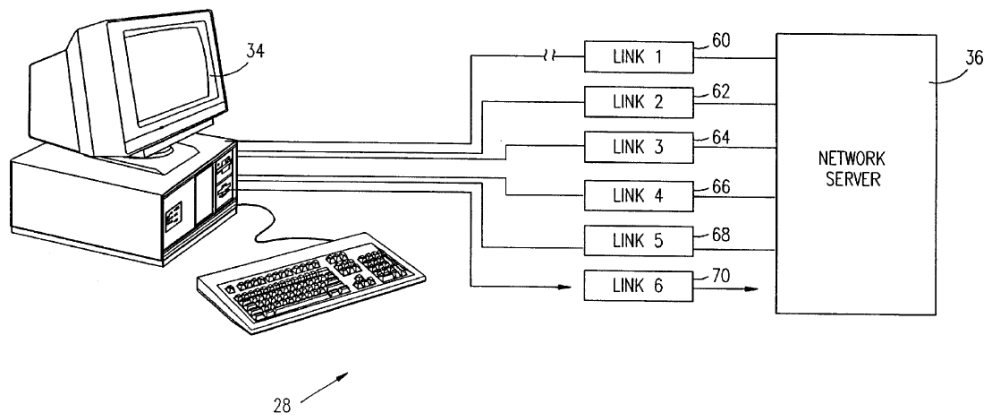


FIG. 4

Figure 4 schematically illustrates communication between computer 34 and server 36 over network 28. *Id.* at col. 9, ll. 10–13. According to Carmel, computer 34 “should preferably ensure that there is sufficient communication bandwidth between the computer and the server.” *Id.* at col. 9, ll. 13–17. Accordingly, the computer may open multiple links 60, 62, 64,

66, 68, 70, multiple of which may “operate simultaneously” over a single line or each of which may be “routed differently from the other links” through different lines. *Id.* at col. 9, ll. 17–23.

Computer 34 monitors the rate of data being transmitted over each of the links, and allocates files according to the data rates, perhaps varying file sizes by adjusting slice durations  $T_1$ ,  $T_2$ ,  $T_3$ , etc. *Id.* at col. 9, ll. 31–37. Carmel notes that “[t]he bandwidth open for transmission between computer 34 and server 36 is effectively roughly equal to a sum of the bandwidths of the plurality of open links.” *Id.* at col. 9, ll. 37–39. A similar process is performed when server 36 sends data stream 40 to client computers 30, but, in addition, client computer 30 can read the index file and determine from which slice to begin receiving the data stream. *Id.* at col. 8, ll. 1–9.

### *1. Anticipation of Claim 10 by Carmel*

Petitioner challenges claim 10 as anticipated by Carmel. Pet. 65. Several limitations of claim 10 correspond to limitations recited in independent method claim 1, on which we did not institute review, and Petitioner refers to its analysis of claim 1 for those limitations. *Id.* We have accordingly reviewed Petitioner’s analysis for claim 1, *id.* at 50–62, as well as its identification of which elements of claim 10 have counterparts in claim 1, *see id.* at 31–38, and conclude that Petitioner demonstrates, by a preponderance of the evidence, that claim 10 is anticipated by Carmel. We highlight aspects of that analysis below for emphasis, especially including the single aspect of Petitioner’s analysis that Patent Owner contests in its Response (whether Carmel discloses sending media data elements to a user

system “at a rate more rapid than the rate at which the streaming media is played back by a user”). *See* PO Resp. 3–14.

With respect to the structural components of the server recited in claim 10, Petitioner contends that these “would have been common to any server as of the filing date of the application leading to the ’141 patent,” and supports that contention with testimony by Dr. Polish. *Id.* (citing Ex. 1005 ¶ 43). Such servers include the Sun Microsystems and Windows NT servers explicitly disclosed by Carmel. *Id.* (citing Ex. 1003, col. 1, ll. 34–38, col. 6, ll. 40–44; Ex. 1005 ¶ 43). On this point, we credit the testimony of Dr. Polish, which is uncontested by Patent Owner. In addition, we agree with Petitioner’s identification of explicit disclosure in Carmel of aspects of these elements. Pet. 65 (citing Ex. 1003, col. 1, ll. 34–38 (disclosing operating system), col. 7, ll. 55–58 (disclosing memory), col. 6, ll. 36–40 (disclosing network connection), col. 6, ll. 50–56 (disclosing communications protocols)).

In addition, Petitioner adequately identifies disclosure in Carmel of sequential media data elements (in the form of data slices 42 shown in Figure 4, reproduced above) that are transmitted from the server to a user’s media player. *See id.* at 53–56. Petitioner also adequately identifies disclosure of assigning serial identifiers to the sequential media data elements in the form of the running slice indexes 1, 2, 3, . . . N. *See id.* 54–56. As Petitioner contends, Carmel describes causing the server to receive requests from the user system for such media data elements, specifying such identifiers. *See id.*

With respect to claim 10’s recitation of “instructions to cause the server to send media data elements to the user system responsive to said

requests, at a rate more rapid than the rate at which said streaming media is played back by the user,” i.e., the only limitation that Patent Owner expressly contests, the Petition identifies multiple disclosures. First, the Petition observes that Carmel expresses an objective that “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 56 (quoting Ex. 1003, col. 2, ll. 51–59). In addition, the Petition highlights Carmel’s description of responsive adjustments made to accommodate the detection of lag:

Computer 34 monitors the time codes as file 40 is transmitted, and clients 30 similarly monitor the time codes as the file is received, in order to ensure that the transmission or reception is “keeping up” with the input of the data to the computer. In the event that a lag is detected, steps are taken to increase the data transmission or reception rate, as described further herein below. For example, as shown in FIG. 3A, time intervals  $T_1$ ,  $T_2$ ,  $T_3$ , etc., are not all equal, but rather are adjusted by computer 34 in response to the transmission rate. Alternatively or additionally, the compression level of the data is varied, as is likewise described below, so as to adjust the data streaming rate to the available bandwidth over one or more channels between computer 34 and server 36, and/or between server 36 and client 30.

Ex. 1003, col. 7, ll. 35–49. We agree with Petitioner that the portions of Carmel it cites disclose the limitation.

Patent Owner disputes such a finding, contending that “the Petition fails to explain what Carmel means by ‘the data rate’ in this disclosure [that ‘the data rate should be generally equal to or faster than the rate at which the data are generated at the transmitting computer’].” PO Resp. 4. According to Patent Owner, “[t]he Petition does not explain or provide any basis as to why the words ‘data rate’ necessarily refer to *the rate at which the server in*



*Carmel sends individual slices 42-48 to a user system.”* *Id.* (emphasis added). Patent Owner contends that, in context, Carmel’s reference to the “data rate” “is actually addressing *the bandwidth of the available transmission channel* and not the rate at which individual media data elements are sent.” *Id.* at 5 (citing Ex. 2001 ¶¶ 16–17). Patent Owner supports this reading of Carmel with testimony of Dr. Chiang. Ex. 2001 ¶¶ 16–17.

We do not understand Petitioner’s argument to be that the *individual slices* of Carmel are transmitted at a rate faster than the rate at which they are generated. Rather, Petitioner’s argument is based on the *overall* rate at which slices are sent to a user system, which may include the parallel transmission of such slices over the multiple links disclosed by Carmel. *See* Reply 3 (“A first way Carmel describes increasing the transmission rate (thus recovering from lag) is *by opening additional download links*” (emphasis added)). In this respect, the parties essentially agree on what Carmel discloses, which is consistent with our independent reading of Carmel: transmission on individual links is below the generation rate, but the overall transmission rate across multiple links may be above the generation rate. *See* Tr. 8:11–15 (Petitioner agreeing that the data rate in Carmel for each individual link would still be below the playback rate), 23:23–24:10 (Patent Owner agreeing). Whether Carmel discloses the limitation thus depends on whether “rate” in the claim is construed to be limited to the rate on an individual link or may more broadly encompass the rate across multiple links. As we note above, we discern nothing in the express language of the claim nor in the Specification of the ’141 patent that compels the more narrow reading Patent Owner implicitly applies.

We questioned the parties extensively about this distinction at the oral hearing. *E.g.*, Tr. 6:5–7:9, 19:2–19, 21:14–23:9, 23:23–24:10. Several points are worthy of note.

First, Patent Owner asserted at the oral hearing that it “disclaim[s]” anything that does not operate by an individual link, i.e. “that the claim covers a situation where each media data element is sent in response to a request for an element by its serial identifier, and those are each sent faster than the playback rate.” *Id.* at 21:22–26. Patent Owner also asserted that “[i]f there could be a multichannel implementation I don’t know that we have to disclaim that in order to avoid this art.” *Id.* at 22:1–2. Although the ’141 patent has not expired, Patent Owner has not filed a motion to amend the claims, nor any other paper that would act as a disclaimer of the scope defined by the broadest reasonable interpretation of the claims in light of the Specification. *See* 35 U.S.C. § 316(a)(9); 37 C.F.R. § 42.121(a) (authorizing a patent owner to file one motion to amend a patent after conferring with the Board). Accordingly, notwithstanding the response to a question at the oral hearing, Patent Owner has not formally effected any disclaimer of claim scope.

Second, Patent Owner contends that Petitioner’s arguments are “nowhere in the petition” and that the argument that the download rate is increased with additional download links “didn’t even come up in the reply.” Tr. 19:19–23. We disagree with the latter contention because the Reply specifically argues that “[a] first way Carmel describes increasing the transmission rate (thus recovering from lag) is by opening additional download links.” Reply 3. We find that argument, as well as other certain arguments made in the Reply, to be properly responsive to Patent Owner’s

position in its Response that Carmel does not disclose sending media data elements to the user system at a rate that exceeds the playback rate.

Although such arguments expand on the Petition's position that the limitation is disclosed by Carmel, they do not rely on newly submitted evidence. *See* Office Patent Trial Practice Guide, 77 Fed. Reg. 48,756, 48,767 (Aug. 14, 2012). And they relevantly address Patent Owner's implicit construction of the claims at issue.

For example, as the Reply observes, Carmel explains that “[w]hen 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.” Reply 2 (quoting Ex. 1003, col. 2, ll. 51–59). We agree with Petitioner that, because Carmel thus describes a transmission rate that is, at least sometimes, “faster” than the rate at which multimedia data are generated or played, it meets the claim limitation. *See id.*

Furthermore, we agree with Petitioner that, “[e]ven if the data rate refers to the overall bandwidth of the channel,” as Patent Owner contends, “the claim 10 limitation is still met.” *Id.* at 7. Patent Owner agrees that “Carmel teaches adjusting the timing and encoding of slices so as to maximize usage of the total available bandwidth, thereby removing any inter-slice ‘gaps,’ and thus to maintain transmission of slices *at about the playback rate.*” PO Resp. 7 (citing Ex. 2001 ¶¶ 20–21) (emphasis added). When cross-examined, Patent Owner's expert, Dr. Chiang, explained that “[i]f it is transmitted slightly faster than playback rate and then slightly lower, slightly higher, slightly lower, which is what ‘about playback rate’ means,” “jitter” would advantageously be avoided in playback. Ex. 1022, 92:14–22. We agree with Petitioner that this testimony is consistent with its

position because “[t]ransmitting ‘slightly faster’ than the playback rate meets the claim limitation of transmitting at a ‘rate more rapid’ than playback.”<sup>3</sup>

Reply 8.

Third, Patent Owner contends that Petitioner’s expert, Dr. Polish, provided a declaration in a district-court proceeding, *Emblaze Ltd. v. Apple Inc.*, No. 11-cv-01079 (N.D. Cal.), that “is fundamentally inconsistent with Petitioner’s position here.” PO Resp. 9–12; Ex. 2101; *see* Tr. 19:26–20:4, 26:9–22.<sup>4</sup> We disagree with this characterization.

In *Emblaze*, Apple Inc. was accused of infringing Carmel, which includes recitations in its claims of uploading a sequence to a server “at an

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<sup>3</sup> We have considered, but do not rely on, Petitioner’s additional argument that a “second, independent, way Carmel describes increasing the transmission rate is by changing the quality level of the data, permitting each slice to be sent faster than playback.” Reply 4. Because such changes in quality level alter the “media data elements,” it is not apparent that the claim limitation is satisfied under such circumstances. The parties have not addressed in their briefing whether the “media data elements” referred to in claim 10 as being sent by the server are the same “media data elements” recited earlier in the claim as obtained from the server. *See* Tr. 11:10–14:16. In the absence of such briefing, and because resolution of the issue is not needed for this Decision, we do not resolve the issue.

<sup>4</sup> The declaration is unsigned, and Petitioner objected to its use at Dr. Polish’s deposition. Ex. 2003, 48:10–21. At the deposition, Dr. Polish asserted that “this document is a copy of at least some version of a declaration that I executed in a District Court case in [Emblaze] versus Apple in early 2014.” *Id.* at 49:18–22. Also at the deposition, Patent Owner “represent[ed] for the record that we downloaded this from PACER.” *Id.* at 50:6–8. Petitioner has not filed a motion to exclude the declaration from this proceeding, and, when questioned about the declaration at the oral hearing, Petitioner agreed that we “should consider it,” but that it “should carry very little, if any, weight.” Tr. 10:6–11:9.

upload rate generally equal to the data rate.” *See* Ex. 1003, col. 14, ll. 28–33, col. 16, ll. 4–8. In the context of that infringement action, Dr. Polish appears to have testified that “an ordinary artisan would not have understood the ‘upload rate’ to refer to a rate that includes the time during which no uploading occurs,” and that Carmel “also places significant emphasis on maintaining a generally equal relationship between the data rate of the stream and the upload rate (in fact, this is a limitation for all of [Carmel’s] claims).” Ex. 2101 ¶ 11. Patent Owner contends that this testimony “confirms . . . that Carmel contemplates upload transmissions at an upload rate ‘generally equal’ to the playback rate, and that the Carmel specification does not support an interpretation under which slices are sent faster than the playback rate.” PO Resp. 11. Patent Owner supports this contention with testimony by Dr. Chiang. Ex. 2001 ¶ 23.

We discern no irreconcilable inconsistency in Dr. Polish’s testimony, for reasons similar to those discussed above. That is, we agree with Petitioner that the recitation in Carmel’s claims that the upload rate be “generally equal” to the playback rate “does not preclude sometimes sending data faster than the playback rate, nor is it a statement of whether the (unclaimed) disclosure of Carmel contemplates transmission faster than playback under certain conditions.” Reply 10. As Petitioner explains, “it is Carmel’s disclosure of sending at a data rate ‘faster’ than the playback rate—including when recovering from lag—that is relevant,” and “[t]he upload/download rate can be generally equal to (or faster) than the upload

rate, and adjustments can be made when situations such as a lag in transmission occur.” *Id.*<sup>5</sup>

For these reasons, we conclude that Petitioner demonstrates, by a preponderance of the evidence that claim 10 is anticipated by Carmel.

## 2. *Anticipation of Dependent Claims 11, 13, 14, and 16–18*

Petitioner challenges claims 11, 13, 14, and 16–18 as anticipated by Carmel. Pet. 66. In doing so, the Petition makes reference to the analysis provided for corresponding limitations recited in claims that depend from claim 1. *Id.* (referring to analysis for claims 2, 4, 5, and 7–9). Patent Owner does not address the patentability of these dependent claims in its Response outside of its arguments directed at independent claim 10.

These dependent claims recite that the serial identifiers are sequential (claim 11), that the media is encoded at a variable bit rate (claim 13), that the server is adapted to distribute the streaming media to a plurality of simultaneous users (claim 14), that the operating system comprises a reception protocol “such as TCP” (claim 16), and that the server is adapted to obtain the streaming media from a live source (claim 17) or a disk file (claim 18). Ex. 1001, col. 14, ll. 29–48. We have reviewed the specific

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<sup>5</sup> Patent Owner’s additional argument that “Carmel not only does not disclose every feature of claim 10, but also *teaches away from* claim 10 and thus cannot defeat the patentability of claim 10” is unavailing. See PO Resp. 14 n.2. “A reference is no less anticipatory if, after disclosing the invention, the reference then disparages it . . . . [T]he question whether a reference ‘teaches away’ from the invention is inapplicable to an anticipation analysis.” *Celeritas Techs., Ltd. v. Rockwell Int’l Corp.*, 150 F.3d 1354, 1361 (Fed. Cir. 1998).

Carmel disclosures identified by Petitioner for each of these limitations, and agree that they disclose the respective limitations. *See* Pet. 62–64.

Accordingly, we conclude that Petitioner demonstrates, by a preponderance of the evidence, that claims 11, 13, 14, and 16–18 are anticipated by Carmel.

### *3. Anticipation of Dependent Claim 15*

Claim 15 depends from claim 10 and recites the negative limitation that “said server does not maintain a pointer into a buffer established within said server, for each said user.” Ex. 1001, col. 14, ll. 38–40. Petitioner challenges the claim as anticipated by Carmel, making reference to its analysis of claim 6, which depends from claim 1 (via claim 5) and recites the same limitation. Pet. 66. Specifically, Petitioner contends that “Carmel discloses a system that operates without reference to pointers in a server-side buffer.” *Id.* at 62–63 (citing Ex. 1003, col. 7, ll. 50–58). Instead, according to Petitioner, the *client* in Carmel “uses the indices associated with the media frames to maintain a record of the slices on the client-side, and the server responds to requests for slices identified by index.” *Id.* at 63 (citing Ex. 1003, col. 2, ll. 15–21, col. 10, ll. 45–54, col. 4, ll. 7–11, col. 8, ll. 32–41; Ex. 1005 ¶ 58).

Notwithstanding this reasoning, Patent Owner responds that “Petitioner has offered no evidence that server 36 of Carmel does not maintain a pointer into a buffer for each client 30, and a [person of ordinary skill in the art] would recognize that quite the opposite must be the case.” PO Resp. 14. At the oral hearing, Patent Owner characterized this argument as an inherency argument. Tr. 28:1–3 (“In other words, it is inherent that

Carmel must keep track of user positions within a stream, which is generally what's meant by a pointer.”). To support this position, Patent Owner points to the following disclosure of Carmel:

Files 42, 44, 46, 48, etc., in stream 40 are transmitted respectively over links 60, 62, 64, 66, and 68 in successive alternation, so that at any given time (except at the very beginning of the sequence) up to five files are transmitted in parallel. Alternatively, more than five links may be opened, so that more than five files may accordingly be transmitted in parallel.

Ex. 1003, col. 9, ll. 23–30. Because the disclosure refers to transmission “in successive alternation,” Patent Owner contends that a person of ordinary skill in the art would recognize the “need to keep track of which slices 42-48 have been sent, and which slices 42-48 are to be sent next, on respective links 60-68, and would have used pointers to do so.” PO Resp. 17 (citing Ex. 2001 ¶¶ 24–27).

Although supported by the testimony of Dr. Chiang, this argument is insufficient to maintain Patent Owner's inherency contention. As Petitioner observed at the oral hearing, “[i]t is undisputed that Carmel does not describe a pointer. That is there's no text or figures in Carmel that either describe or illustrate the use of a pointer.” Tr. 16:15–17. And we agree with Petitioner's characterization of Dr. Chiang's testimony on this point as “[c]onclusory . . . [, which] cannot contradict the express disclosure of Carmel explaining that the system operates based on client-side requests for particular slices, not server-side pointers.” Reply 12.

As Petitioner points out, “[t]he Carmel disclosure is the same as the '141 patent in this regard.” *Id.* In describing the embodiment with no pointer, the '141 patent explains that “the media buffer manager in the *user*



*computer* maintains a record of the serial number of the last data element received.” Ex. 1001, col. 8, ll. 40–42 (emphasis added). Using “standard data communications protocol techniques such as TCP, the user computer transmits a request to the server to send one or more data elements, specifying the serial numbers of the data elements,” and the server responds with those data elements. *Id.* at col. 8, ll. 42–48. Similarly, Carmel explains its client-side control by including slice indices in the data stream, which are “used by the *clients* in maintaining synchronization” and which “allows the broadcast to go on substantially in real time without the use of special-purpose hardware.” Ex. 1003, col. 2, ll. 17–21 (emphasis added). We agree with Petitioner that these features of Carmel, including disclosure of client-side control, a lack of specialized server software, and similar pointerless protocols as used in the ’141 patent, meet the claim limitation of a “server [that] does not maintain a pointer into a buffer established within said server, for each said user.” *See* Reply 15.

Accordingly, we conclude that Petitioner demonstrates, by a preponderance of the evidence that claim 15 is anticipated by Carmel.

#### *4. Obviousness of Claim 12*

Petitioner challenges claim 12, which depends from independent claim 10 and recites that “said media is encoded at a constant bit rate,” as unpatentable under 35 U.S.C. § 103(a) over Carmel and ISO-11172. Pet. 68. In doing so, the Petition makes reference to the analysis provided for claim 3, which recites the same limitation but depends from independent claim 1. *Id.* at 67–68.

Citing testimony of Dr. Polish, Petitioner contends that “[i]t was well known at the time of the alleged invention that multimedia data could be encoded at either a constant bit rate or a variable rate.” *Id.* at 67 (citing Ex. 1005 ¶ 66). Petitioner observes that Carmel “discloses using MPEG data compression,” and that ISO-11172 discloses that MPEG compression may use either a constant bit rate or a variable rate. *Id.* at 67–68 (citing Ex. 1005 ¶ 66; Ex. 1003, col. 11, ll. 36–48; Ex. 1018, 22; Ex. 1019, 27). Petitioner reasons that, if the use of a constant bit rate is not inherent in Carmel, a person of ordinary skill in the art would have been motivated to look to ISO-11172 to modify the teachings of Carmel to use a constant bit rate as “one of the well-known options” of MPEG and “for the purposes of supporting a wider variety of data media.” *Id.* at 67–68 (citing Ex. 1005<sup>6</sup> ¶¶ 66–68). Patent Owner does not address the obviousness of claim 12 in its Response apart from its arguments regarding underlying claim 10.

We agree with Petitioner’s reasoning and conclude that Petitioner demonstrates, by a preponderance of the evidence, that claim 12 is unpatentable under 35 U.S.C. § 103(a) over Carmel and ISO-11172.

### 5. Claims 19–23

Petitioner challenges claims 19–21 and 23 as anticipated by Carmel, and challenges claim 22 as unpatentable under 35 U.S.C. § 103(a) over Carmel and ISO-11172. Pet. 65–68. Patent Owner does not address claims 19–23 in its Response. Although Patent Owner agreed at the oral hearing that the Board does not need to address those claims in this Final Written

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<sup>6</sup> Petitioner’s citation to Exhibit 1003 appears to be a typographical error.

Decision, it did not concede that those claims are unpatentable. Tr. 31:12–26. Accordingly, we make the following explicit findings and conclusions.

Independent claim 19 recites a “non-transitory machine-readable medium” with a computer program that prepares streaming media content for transmission by a server, requiring that the “server responds to user requests for media data elements identified by a serial identifier” and that the data elements be identified and stored “in a format capable to being served to users.” Ex. 1001, col. 14, ll. 49–58. For the reasons expressed above in Section II.D.1., we find that Petitioner sufficiently identifies disclosure in Carmel of a server that responds to user requests for media data elements identified by a server. *See* Pet. 41–42, 54–55, 66. In addition, Petitioner sufficiently identifies disclosure in Carmel of data elements identified and stored “in a format capable of being served to users” by observing that Carmel discloses encoding its slices into a corresponding sequence of files for transmission to the multiple clients. *Id.* at 66 (citing Ex. 1003, col. 3, ll. 25–34, col. 4, ll. 53–57, col. 6, ll. 50–52, col. 7, ll. 27–35, col. 9, l. 53–col. 10, l. 5, Fig. 5, claims 1, 25).

Dependent claims 20 (streaming media content obtained from a disk file), 21 (streaming media content obtained from a live source), and 23 (streaming media content encoded at a variable bit rate) respectively parallel claims 17, 18, and 13, and Petitioner makes a sufficient showing that these claims are anticipated by Carmel for the reasons we discuss above.

Dependent claim 22 (streaming media content encoded at a constant bit rate) parallels claim 12, and Petitioner makes a sufficient showing that the claim is unpatentable under 35 U.S.C. § 103(a) over Carmel and ISO-11172 for the reasons we discuss above.

We conclude that Petitioner demonstrates, by a preponderance of the evidence, that claims 19–21 and 23 are anticipated by Carmel, and that claim 22 is unpatentable under 35 U.S.C. § 103(a) over Carmel and ISO-11172.

*E. Chen*

Petitioner challenges claims 19, 20, and 23 as anticipated by Chen; challenges claim 21 as unpatentable under 35 U.S.C. § 103(a) over Chen and Willebeek; and challenges claim 22 as unpatentable under 35 U.S.C. § 103(a) over Chen and ISO-11172. Pet. 41–49, 67. As noted above, Patent Owner does not address claims 19–23 in its Response, but does not concede that those claims are unpatentable. Accordingly, we make the following explicit findings and conclusions.

*1. Overview of Chen*

Chen discloses the transmission of digital data packets from a storage server computer to a playback client computer having a packet buffer that stores data packets, each data packet having a unique packet sequence number, until a multimedia application requests them. Ex. 1002, col. 5, ll. 49–59. According to Chen, the packet buffer should have enough data to minimize the possibility of not having the requested data, and enough available memory space to receive new packets. *Id.* at col. 6, ll. 3–7. Using a just-in-time retrieval method, Chen uses the equivalent of “Water Marks” to inform the server control and regulate the server’s transmission rate based on the amount of data in the client packet buffer as follows: (1) when the amount of data falls between high and low Water Marks, transmission takes place in a NORMAL mode, such as based on the number of frames the

buffer stores; (2) when the amount of data in the packet buffer exceeds a high Water Mark, transmission enters a PAUSE mode; and (3) when the amount of data in the packet buffer falls below a low Water Mark, the delivery of packets is expedited in a RUSH mode. *Id.* at col. 6, l. 7–col. 7, l. 2.

Chen notes that in a non-error-free embodiment, no attempt is made to recover lost packets, while in an error-free embodiment, lost packets are traced and replaced. *Id.* at col. 7, ll. 20–24. In the error-free embodiment, the client detects lost packets using a register that maintains the packet sequence number of the last received packet, so that if the next arriving packet differs from the last received packet number by more than +1, then a packet loss has occurred. *Id.* at col. 7, ll. 24–32. To deal with packet loss, the client maintains a list of lost packets that includes the packet sequence number and time-out value. *Id.* at col. 7, ll. 33–37. The client sends a retransmission request for the lost packet and removes that packet from the missing-packet list if the packet arrives correctly before the expiration of the time-out value; if not, the client sends another retransmission request or gives up obtaining the missing packet. *Id.* at col. 7, ll. 37–44.

## 2. *Anticipation of Claims 19, 20, and 23 by Chen*

With respect to the preamble of independent claim 19, Petitioner refers to its citation of drawings in Chen disclosing a server control that provides a stream buffer with data packets that include a “unique packet sequence number.” *Id.* at 42, 32–38 (citing, *inter alia*, Ex. 1002, col. 9, ll. 7–20, col. 6, l. 55–col. 7, l. 2). Petitioner supports its contention that a person of ordinary skill in the art “would understand that the server

instructions in Chen [used to create and prepare packets of data for transmission from the server to the client] are embodied on a non-transitory machine-readable medium” with testimony by Dr. Polish. *Id.* at 41 (citing Ex. 1005 ¶ 44).

With respect to the body of the claim, Petitioner refers to this same analysis in contending that Chen discloses “said program recorded on said non-transitory machine readable medium comprising a routine to store and serially identify sequential data elements comprising said streaming media content, in a format capable of being served to users by said server.” *Id.* at 42. Petitioner’s further identification of a transmission scheduler that maintains the stream buffer and schedules the data execution path is sufficient to support its contention that Chen discloses that the data elements are stored “in a format capable of being served to users.” *Id.* at 41 (citing Ex. 1002, col. 9, ll. 21–30, claims 10, 11, 16, 20, 27, 31, 42). Petitioner also supports its contention that Chen discloses the server responding to user requests for media data elements identified by a serial identifier with reference to a client controller that sends a command packet to request specific data packets. *Id.* at 42, 18–21 (citing Ex. 1002, col. 5, ll. 59–67).

With respect to claim 20, Petitioner sufficiently demonstrates that Chen teaches “streaming media content is obtained by said computer from a disk file” by disclosing a storage subsystem accessed by a storage interface. *Id.* at 44 (citing Ex. 1002, col. 9, ll. 7–20).

With respect to claim 23, Petitioner sufficiently demonstrates that Chen teaches encoding media data elements at a variable bit rate by disclosing variation in bit rate. *Id.* at 43 (citing Ex. 1002, col. 8, ll. 43–54

(“one frame may be 10K bits and the next frame 25K bits; but each is transmitted in an equal frame time”).

We conclude that Petitioner demonstrates, by a preponderance of the evidence that claims 19, 20, and 23 are anticipated by Chen.

### *3. Obviousness of Claim 21 over Chen and Willebeek*

Claim 21 recites that the streaming media content is obtained from a live source. Ex. 1001, col. 14, ll. 62–64. Petitioner contends that “[i]t would have been obvious to combine Willebeek’s teachings of a live capture station and circular buffer queue with Chen so that Chen could provide live video.” *Id.* at 46 (citing Ex. 1005 ¶ 48). Willebeek describes the Bamba audio and video streaming system, similarly using buffers at a server and client, and packetized data. Ex. 1004, 269, 273–274. Petitioner sufficiently supports its contention that the combination would achieve predictable results of a known technique to improve similar known devices with the testimony of Dr. Polish. *Id.* at 46–47 (citing Ex. 1005 ¶ 48).

We conclude that Petitioner demonstrates, by a preponderance of the evidence, that claim 21 is unpatentable under 35 U.S.C. § 103(a) over Chen and Willebeek.

### *4. Obviousness of Claim 22 over Chen and ISO-11172*

With respect to claim 22, which recites that the streaming media content is encoded at a constant bit rate, Petitioner advances an argument that parallels its argument for this claim for obviousness over Carmel and ISO-11172. That is, Petitioner observes that Chen discloses the MPEG-1 standard for providing the building blocks of the multimedia data stream and

cites ISO-11172 as a description of that standard with both a constant bit rate and a variable rate. Pet. 67, 68. For similar reasons as we discuss above, Petitioner makes a sufficient showing.

We conclude that Petitioner demonstrates, by a preponderance of the evidence, that claim 22 is unpatentable under 35 U.S.C. § 103(a) over Chen and ISO-11172.

### III. CONCLUSION

We conclude that Petitioner demonstrates, by a preponderance of the evidence, that claims 10, 11, 13–21, and 23 are anticipated by Carmel; claims 12 and 22 are unpatentable under 35 U.S.C. § 103(a) over Carmel and ISO-11172; claims 19, 20, and 23 are anticipated by Chen; claim 21 is unpatentable under 35 U.S.C. § 103(a) over Chen and Willebeek; and claim 22 is unpatentable under 35 U.S.C. § 103(a) over Chen and ISO-11172.

### IV. ORDER

It is

ORDERED that, based on a preponderance of the evidence, claims 10–23 of U.S. Patent No. 8,122,141 B2 are held to be unpatentable; and

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



IPR2016-01238  
Patent 8,122,141 B2

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