

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

HULU, LLC,
Petitioner,

v.

SITO MOBILE R&D IP, LLC and SITO MOBILE, LTD.,
Patent Owner.

CBM2020-00028
Patent 8,825,887 B2

Before JONI Y. CHANG, THOMAS L. GIANNETTI, and
KEVIN W. CHERRY, *Administrative Patent Judges*.

CHANG, *Administrative Patent Judge*.

JUDGMENT
Final Written Decision
Determining All Challenged Claims Unpatentable
35 U.S.C. § 328(a)

I. INTRODUCTION

A. Background and Summary

Hulu, LLC (“Petitioner”) filed a Petition requesting a review of claims 1–12, 39–41, 45–56, 68, and 98–126 (“the challenged claims”) of U.S. Patent No. 8,825,887 B2 (Ex. 1001, “the ’887 patent”) under the transitional program for covered business method patents (“CBM”).¹ Paper 1, “Pet.” On March 18, 2021, we instituted a CBM review as to the challenged claims of the ’887 patent. Paper 9 (“Dec.”).

Subsequent to institution, SITO Mobile R&D IP, LLC and SITO Mobile, Ltd. (collectively, “Patent Owner”) filed a corrected Response (Paper 16, “PO Resp.”) and a Sur-reply² (Paper 23, “Sur-reply”). Petitioner filed a Reply (Paper 22, “Reply”). An oral hearing was held on December 13, 2021, and a transcript is included in the record as Paper 32 (“Tr.”).

This Final Written Decision is entered pursuant to 35 U.S.C. § 328(a). For the reasons set forth below, we determine that Petitioner has demonstrated by a preponderance of the evidence that claims 1–12, 39–41, 45–56, 68, and 98–126 of the ’887 patent are unpatentable.

¹ See § 18(a) of the Leahy-Smith America Invents Act, Pub. L. No. 112-29, 125 Stat. 284, 329 (2011) (“AIA”). Although the transitional CBM program has sunset, existing CBM proceedings, based on petitions filed before September 16, 2020, including the instant Petition, are still pending.

² Patent Owner improperly filed a second Sur-reply (Paper 24) that appears as a duplicate of the first Sur-reply. As such, we will consider the first Sur-reply (Paper 23), but not the second Sur-reply.

B. Related Matters

The parties indicate that the '887 patent is involved in *SITO Mobile R&D IP, LLC and SITO Mobile, Ltd. v. Hulu, LLC*, No. 6:20-cv-00472-ADA (W.D. Tex.). Pet. 67; Paper 6, 1. Petitioner also filed a Petition for an *inter partes* review, challenging of claims 39, 40, 45, 47, 52, 68, 98–101, 103, 105, 111, and 115–117 of the '887 patent in IPR2021-00308 (instituted on May 19, 2021). IPR2021-00308, Paper 11.

C. The '887 Patent

The '887 patent is titled “System and Method for Routing Media” and “is related to the fields of management and administration of media streaming.” Ex. 1001, code 54, 1:36–37. According to the '887 patent, the demand for digital media streaming services was increasing because digital media streaming can be used to create enhanced consumer and business services. *Id.* at 1:49–52. Figure 1 is reproduced below.

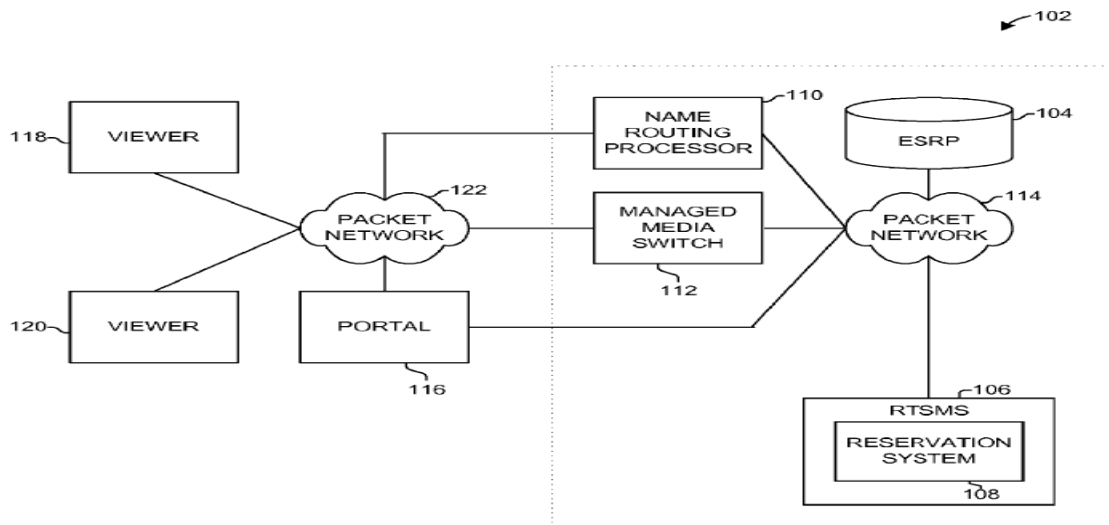


Figure 1 above depicts an exemplary embodiment of a streaming system. *Id.* at 4:55–56. Streaming system 102 comprises enhanced service routing processor (“ESRP”) 104, real time switch management system (“RTSMS”) 106, reservation system 108, name routing processor (“NRP”) 110, and managed media switch (“MMS”) 112, each of which communicates through packet network 114. *Id.* at 4:55–63. Portal 116 communicates with reservation system 108 of RTSMS 106 via packet network 114, and one or more viewers 118 and 120 may communicate with NRP 110, MMS 112, and/or portal 116 via packet network 122. *Id.* at 4:63–67.

D. Illustrative Claims

Of the challenged claims, claims 1, 39, 45, 68, and 98 are independent. Claims 2–12 depend from claim 1; claims 40–41 depend from claim 39; claims 46–56 depend from claim 45; and claims 99–126 depend from claim 98. Claims 1, 98, and 125, reproduced below, are illustrative:

1. A method comprising:

receiving, at least one computing device via a communication network, a request for media from at least one communication device, the at least one communication device capable of executing instructions received from the at least one computing device to obtain at least one portion of the requested media using at least one resource other than the at least one computing device, the requested media associated with *at least one revenue sharing rule requiring sharing of at least a percentage of revenue generated by streaming* the at least one portion of the requested media;

identifying, at the at least one computing device, whether at least a portion of the requested media is available for streaming to the at least one communication device in accordance with at least one program;

generating, at the at least one computing device based on the at least one program, one or more capabilities of the communication device, and at least one characteristic associated with a user of the communication device, (i) at least one list identifying the at least the portion of the requested media, (ii) at least one identification of the at least one resource other than the at least one computing device available to facilitate streaming of the at least one portion of the requested media, and (iii) one or more instructions as to how the at least one portion of the requested media is to be streamed to the communication device;

transmitting the at least one list, the least one identification of the at least one resource, and the one or more instructions to the at least one communication device from the at least one computing device via the communication network; and

producing at least one settlement record reflecting a sharing of the at least the percentage of revenue generated by streaming the at least the portion of the requested media.

Ex. 1001, 50:52–51:21 (emphases added).

98. A media streaming management method, comprising:

receiving, via a communication network by at least one computing device, a request from a communication device to receive streamed media, the communication device capable of executing instructions received from the at least one computing device to obtain at least one portion of the requested media using at least one resource other than the at least one computing device, wherein the requested media is associated with *at least one revenue sharing rule requiring sharing of at least a percentage of revenue generated by streaming* the at least one portion of the requested media;

in response to receiving the request for media to be streamed to the communication device, and based on one or more capabilities of the communication device and at least one characteristic associated with a user of the communication device, generating and transmitting by the at least one computing device to the communication device, over the communication network, a communication including:

- (i) at least one identification of the at least one portion of the requested media,
- (ii) at least one identification of the at least one resource other than the at least one computing device available to facilitate streaming of the at least one portion of the requested media, and
- (iii) one or more instructions as to how the at least one portion of the requested media is to be streamed to the communication device; and

producing at least one settlement record reflecting a sharing of the percentage of revenue generated by streaming the at least the portion of the requested media.

Id. at 63:25–56 (emphases added).

125. The media streaming management method of claim 98, further comprising *identifying a settlement rule requiring payment for targeting advertisements* to the at least one communication device to be shared between an advertiser and a publisher, and the method comprising generating the at least one settlement record indicating payment is due for targeting advertisements to the at least one communication device.

Id. at 66:33–39 (emphasis added).

A. Asserted Ground of Unpatentability

Petitioner asserts the following ground of unpatentability (Pet. 3):

Claims Challenged	35 U.S.C. §	Basis
1–12, 39–41, 45–56, 68, 98–126	101	Eligibility

II. ANALYSIS

A. Level of Ordinary Skill

In determining the level of ordinary skill in the art at the time of the invention³, various factors may be considered, including the “type of problems encountered in the art; prior art solutions to those problems; rapidity with which innovations are made; sophistication of the technology; and educational level of active workers in the field.” *In re GPAC, Inc.*, 57 F.3d 1573, 1579 (Fed. Cir. 1995) (citation omitted). Petitioner’s declarant, Henry Houh, Ph.D., testifies that a person with ordinary skill in the art would have been “someone with at least a bachelor’s degree in computer science, electrical or computer engineering, or equivalent, and at least two years of experience in distributed systems, multimedia streaming, and

³ Petitioner indicates that Patent Owner has argued in the related District Court litigation that the claims of the ’887 patent are entitled to an earlier priority date of March 31, 2000. Pet. 10 n.2 (citing Ex. 1006, 6). In this proceeding, Petitioner submitted arguments and supporting evidence regarding the state of the art that are based on March 31, 2000. *See, e.g., id.* at 10; Ex. 1003 ¶ 37.

various HTTP-related technologies, or an equivalent amount of relevant work or research experience.” Ex. 1003 ¶ 35.

Patent Owner’s declarant, Michael Sprenger, Ph.D., similarly testifies that a person of ordinary skill in the art would have had “a Bachelor of Science degree in computer science, electrical engineering, or computer engineering (or a related academic field), and at least two additional years of work experience in the design and development of distributed network systems and/or multimedia streaming.” Ex. 2009 ¶ 33; PO Resp. 4–5. Dr. Sprenger also testifies that, alternatively, such an artisan would have had “at least five years of work experience and training in the design and development of distributed network systems and/or multimedia streaming.” Ex. 2009 ¶ 33; PO Resp. 4–5. Neither party points out any meaningful difference between the parties’ assessments. Based on the evidence of record, we apply Patent Owner’s assessment on the level of ordinary skill in the art, as Dr. Sprenger provides an alternative to a college degree.

B. Claim Construction

In a covered business method patent review, we interpret claims using the same claim construction standard used 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. § 42.300(b) (2019). Under this standard, the words of a claim are generally given their “ordinary and customary meaning,” which is the meaning the

term would have to a person of ordinary skill at the time of the invention, in the context of the entire patent including the specification. *See Phillips v. AWH Corp.*, 415 F.3d 1303, 1312–13 (Fed. Cir. 2005) (en banc).

In light of the parties’ arguments and evidence, we find that it is necessary to construe only the claim terms “at least one portion of the requested media” and “settlement record” expressly. *See Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co. et al.*, 868 F.3d 1013, 1017 (Fed. Cir. 2017) (quoting *Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999)) (noting that “we need only construe terms ‘that are in controversy, and only to the extent necessary to resolve the controversy’”).

1. “*at least one portion of the requested media*”

Claim 98 recites:

receiving, via a communication network by at least one computing device, *a request from a communication device to receive streamed media*,

the communication device capable of executing instructions received from the at least one computing device to obtain *at least one portion of the requested media* using at least one resource other than the at least one computing device.

Ex. 1001, 63:25–36 (emphases added). Claims 1, 39, 45, and 68 each recite similar limitations.

Patent Owner implicitly construes the term “at least one portion of the requested media” and other variations of this term⁴ to exclude the entirety of the “requested media” or to require that the “requested media” be broken up into portions. *See, e.g.*, PO Resp. 1–29, 53–59; Sur-reply 1–17. Patent Owner argues that the Specification supports its implicit construction. Sur-reply 1–17 (citing Ex. 1001, 3:49–50, 5:37–43, 13:49–14:2, 49:30–32). Petitioner counters that the ’887 patent does not support Patent Owner’s assertion. Reply 1–7 (citing Ex. 1001, 4:7–11, 4:18–20, 5:39–43, 5:54–61, 9:9–16, 18:30–32, 19:10–11, 42:1–2, 49:1–5).

We agree with Petitioner. Patent Owner’s implicit claim construction improperly imports extraneous limitations into the claims—namely, excluding the entirety of the “requested media” or requiring that the “requested media” be broken up into portions. It is well-settled that if a feature is not necessary to give meaning to what the inventor means by a claim term, it would be “extraneous” and should not be read into the claim. *Renishaw PLC v. Marposs Societa’ per Azioni*, 158 F.3d 1243, 1249 (Fed. Cir. 1998); *E.I. du Pont de Nemours & Co. v. Phillips Petroleum Co.*, 849 F.2d 1430, 1433 (Fed. Cir. 1988).

The plain and ordinary meaning of the term “*at least* one portion of the *requested* media” as used in the ’887 patent does not support Patent Owner’s implicit construction. In the context of the ’887 patent, the plain

⁴ For example, other variations include “at least a portion of the requested media” recited in claim 1 and “the at least the portion of the requested media” recited in claim 2.

and ordinary meaning of the term encompasses one or more portions of the “requested media,” as well as the entirety of the “requested media.” For example, the portions of the Specification relied upon by Patent Owner disclose that the viewer requests a *media clip* and receives the entirety of the requested *media clip*, not one portion at a time. Ex. 1001, 13:49–14:2. Patent Owner’s implicit construction ignores the modifiers “at least” and “requested” recited in the term.

The claim language “a *request* from a communication device to receive streamed *media*” provides antecedent basis for “the requested media” recited in “at least one portion of *the requested media*.” Hence, Patent Owner fails to recognize that the “requested media” is the media identified by the “communication device” in its request to the “computing device.” *NTP, Inc. v. Research in Motion, Ltd.*, 418 F.3d 1282, 1306 (Fed. Cir. 2005) (noting that “the,” which is a definite article, “is a word of limitation” that “particularizes the subject which precedes it” (quoting *Warner-Lambert Co. v. Apotex Corp.*, 316 F.3d 1348, 1356 (Fed. Cir. 2003))).

The Specification also does not support Patent Owner’s construction, including the portions of the Specification relied upon by Patent Owner. In the context of the ’887 patent, the term “media” “may include audio, video, images,” and “one or more media clips or a part of a media clip.” Ex. 1001, 3:47–50. The Specification discloses that the “content owner may create a program having one or more media items” and that a “viewer may desire to receive one or more of the media identified in the program.” *Id.* at 4:10–14.

“For example, the presentation may contain a list of media from the program, possibly with or without one or more other media items, that is to be streamed to the viewer and that is combined to make a single viewing experience.” *Id.* at 4:15–18. In another example, “a movie trailer followed by a full-length movie may combine two different media to make a simple program,” or a program has “a media clip for a movie and an advertisement.” *Id.* at 4:18–20, 18:30–32, 19:10–11. The media length identifies how long the media takes to stream, such as an estimated number of seconds. *Id.* at 49:30–32. The Specification makes clear that the viewer may request a program or a media clip individually.

The embodiment relied upon by Patent Owner (Sur-reply 9–10) is reproduced below.

In one embodiment, *a request is sent* from the viewer 118 or 120 to the NRP 110 *for each media clip* on the play script. Thus, the NRP 110 must determine a switch that can stream the particular media clip of the play script to the viewer 118 or 120 separately for each media clip on the play script. Each time the NRP 110 determines the switch that can provide the media clip, the NRP transmits an IP address of the switch or a communication device, such as a stream caster on the switch, to the viewer 118 or 120.

For example, if a play script identifies two media clips, the viewer 118 or 120 transmits *a media locator request* to the NRP 110 *for the first media clip*. The NRP 110 determines a switch that can provide the first media clip and transmits an IP address of that switch to the viewer 118 or 120. After the viewer 118 or 120 *receives the first media clip* in a session with that switch, the viewer could send *another media locator request* to the NRP 110 *for the second media clip*. The NRP 110 determines a switch that can provide the second media clip and transmits an IP address of

that switch to the viewer 118 or 120. The viewer 118 or 120 then *receives the second media clip* in a session with that switch.

Ex. 1001, 13:49–14:2 (emphases added).

In this embodiment, the viewer sends a request for *each media clip* (the “requested media”) to NRP 110 (the “computing device”) and each media clip is streamed *in its entirety*, not broken up or streamed one portion at a time as Patent Owner implies. Patent Owner also does not explain why we should adopt its construction that would exclude a preferred embodiment disclosed in the Specification. *Adams Respiratory Therapeutics, Inc. v. Perrigo Co.*, 616 F.3d 1283, 1290 (Fed. Cir. 2010) (“A claim construction that excludes the preferred embodiment is rarely, if ever, correct and would require highly persuasive evidentiary support.” (citation and quotation marks omitted)).

For the foregoing reasons, we decline to adopt Patent Owner’s implicit claim construction that construes the term “at least one portion of the requested media” to exclude the entirety of the “request media” or to require that the “request media” be broken up into portions.

2. “*settlement record*”

Claim 98 recites “producing at least one *settlement record reflecting a sharing of the percentage of revenue* generated by streaming the at least the portion of the requested media.” Ex. 1001, 63:54–56 (emphasis added). Claims 1, 39, 45, and 68 each recite similar limitations.

Patent Owner submits that the District Court construed the claim term “settlement record” as “billable event record to be used for revenue

settlement.” PO Resp. 29–30; Ex. 2008, 2. This construction is consistent with the Specification. *See, e.g.*, Ex. 1001, 9:18–20 (“to generate the settlement rules that define who will be billed or credited”), 12:17–19 (“RTSMS 106 processes the logs, the billing data, and the state model data and creates a message sequence detail record (MSDR).”), 12:25–26 (“The MS DR represents a billable event record that will be used for revenue settlement purposes.”), 12:56–62. As such, we adopt the District Court’s claim construction, construing “settlement record” as “billable event record to be used for revenue settlement.”

C. Covered Business Method Patent Review Eligibility

1. Standing

Section 18(a)(1)(B) of the AIA requires that Petitioner, or its real party in interest or privy, “has been sued for infringement of the patent.” Here, it is undisputed that Petitioner has been sued for infringement of the ’887 patent in *SITO Mobile R&D IP, LLC and SITO Mobile, Ltd. v. Hulu, LLC*, No. 6:20-cv-00472-ADA (W.D. Tex.). Pet. 67; Paper 6, 1; Prelim. Resp. 13; Ex. 2001. Accordingly, Petitioner has standing to file the Petition in this proceeding.

2. Financial Product or Service

Under § 18(a)(1)(E) of the AIA, we may institute a transitional review proceeding only for a covered business method patent. A “covered business method patent” is a patent that “claims a method or corresponding apparatus for performing data processing or other operations used in the practice,

administration, or management of a financial product or service, except that the term does not include patents for technological inventions.” AIA § 18(d)(1). A patent is eligible for review if it has at least one claim directed to a covered business method. Transitional Program for Covered Business Method Patents—Definitions of Covered Business Method Patent and Technological Invention, 77 Fed. Reg. 48,734, 48,736 (Response to Comment 8) (Aug. 14, 2012) (Final Rule). To determine whether a patent is eligible for a CBM review, the focus is on the claims. *Blue Calypso, LLC v. Groupon, Inc.*, 815 F.3d 1331, 1340 (Fed. Cir. 2016) (finding that the challenged patent was eligible for review because the claims recited “an express financial component in the form of a subsidy” that was “central to the operation of the claimed invention”).

Here, Petitioner asserts that “[t]he challenged claims of the ’887 Patent are directed to activities—such as applying revenue sharing rules to distribute revenue and generating a settlement record reflecting the application of such rules—that are financial in nature and thus meet the definition of a CBM patent.” Pet. 22.

In its Preliminary Response, Patent Owner did not proffer any argument regarding this issue. After institution, however, Patent Owner argues that “the revenue sharing rule and settlement record aspects of the claims do not involve the actual sharing of revenue, billing or the payment of money,” but instead, “these claim elements merely pertain to a rule that is stored in a system and a settlement record ‘reflecting’ a sharing of review.” PO Resp. 36–39; Sur-reply 19.

Patent Owner’s argument is unavailing. As Petitioner notes, each of the independent challenged claims recites “at least one revenue sharing rule” for sharing the “revenue generated by streaming.” Pet. 23–25. More importantly, dependent claim 125 expressly recites “identifying a settlement rule requiring *payment* for targeting advertisements . . . to be shared between an advertiser and a publisher, and . . . one settlement record indicating *payment is due* for targeting advertisements.” Ex. 1001, 66:33–39 (emphases added). Claim 2 also recites “advertising revenue sharing rule for a service provider to *collect a percentage of advertising revenue.*” *Id.* at 51:23–26 (emphasis added). Further, claim 9 recites “the revenue sharing rule *requires payment to the first publisher* for targeting advertisements.” *Id.* at 51:64–65 (emphasis added).

The Specification of the ’887 patent confirms that the claims are financial in nature, stating that:

Prior systems could not adequately use multiple switches to provide media programs to a single viewer and clearly identify *billing data* because the prior systems could not adequately track and collate *billing information* from multiple switches.
Ex. 1001, 12:38–43 (emphases added).

Therefore, we are persuaded by Petitioner’s argument that the claims of the ’887 patent encompass a financial activity. *See, e.g., DISH Network Corp. v. Customeia Techs., L.L.C.*, CBM2017-00023, Paper 11 at 10–13 (PTAB June 12, 2017) (“The selling of advertisements, including associated financial transactions, and the rental or purchase of data, including billing a user’s account, are financial activities and services.”).

For the foregoing reasons, we determine that the claims of the '887 patent are directed to a method for performing data processing used in the practice, administration, or management of a financial product or service. Therefore, the '887 patent satisfies the “financial product or service” component of the definition for a covered business method patent under § 18(d)(1) of the AIA.

3. Technological Invention Exception

The definition of “covered business method patent” in § 18(d)(1) of the AIA does not include patents for “technological inventions.” As such, even if a patent includes claims that would otherwise be eligible for treatment as a CBM, a review of the patent is precluded if the claims cover only “technological invention[s],” as defined by 37 C.F.R. § 42.301(b). To determine whether a patent is for a technological invention, we consider “whether the claimed subject matter as a whole [1.] recites a technological feature that is novel and unobvious over the prior art; and [2.] solves a technical problem using a technical solution.” 37 C.F.R. § 42.301(b). Both prongs must be satisfied in order to exclude the patent as a technological invention. *See Apple, Inc. v. Ameranth, Inc.*, 842 F.3d 1229, 1240 (Fed. Cir. 2016) (“*Apple v. Ameranth*”). In *Apple v. Ameranth*, the Federal Circuit noted that it “need not address this argument regarding whether the first prong of 37 C.F.R. § 42.301(b) was met, as [it] affirm[ed] the Board’s determination on the second prong of the regulation—that the

claimed subject matter as a whole does not solve a technical problem using a technical solution.” *Id.*

The following claim drafting techniques, for example, typically do not render a patent a technological invention:

(a) Mere recitation of known technologies, such as computer hardware, communication or computer networks, software, memory, computer-readable storage medium, scanners, display devices or databases, or specialized machines, such as an ATM or point of sale device.

(b) Reciting the use of known prior art technology to accomplish a process or method, even if that process or method is novel and non-obvious.

(c) Combining prior art structures to achieve the normal, expected, or predictable result of that combination.

*See Consolidated Trial Practice Guide*⁵ at 42–43; *see also* 84 Fed. Reg. 64,280 (Nov. 21, 2019) (“Trial Practice Guide”).

We have considered the parties’ arguments and supporting evidence as to both prongs of § 42.301(b). Like in *Apple v. Ameranth*, we need not address the parties’ arguments regarding whether the first prong is met, as we determine for the reasons stated below that the claimed subject matter as a whole does not solve a technical problem using a technical solution.

According to the ’887 patent, “[p]rior systems could not adequately use multiple switches to provide media programs to a single viewer and clearly *identify billing data* because *the prior systems could not adequately*

⁵ Available at <https://www.uspto.gov/TrialPracticeGuideConsolidated>.

track and collate billing information from multiple switches.” Ex. 1001, 12:38–42 (emphases added). Hence, the problem the ’887 patent seeks to solve is “*adequately track and collate billing information.*” This was a business problem, not a technical one. Similarly, the solution of producing a settlement record that reflects a revenue sharing as recited in claim 98, or generating a settlement record indicating payment is due for targeting advertisement as recited in claim 125, was not technical. *See also id.* at 51:23–26 (Claim 2 reciting “advertising revenue sharing rule for a service provider to *collect a percentage of advertising revenue*” (emphasis added)); *id.* at 51:64–65 (Claim 9 reciting “the revenue sharing rule *requires payment to the first publisher* for targeting advertisements” (emphasis added)).

After Institution, Patent Owner advances several arguments. PO Resp. 86–89; Sur-reply 19–20. First, Patent Owner argues that the ’887 patent incorporated by reference U.S. Provisional Application No. 60/263,044 (“the ’044 provisional application,” Ex. 2010)⁶ clearly identifies “the problems with prior streaming system as related to system performance including issues affecting a user’s viewing experience.” PO Resp. 86–89, *see also id.* at 16–19 (citing Ex. 2010, 9). According to Patent Owner, “[t]o solve these problems, the inventors conceived of a fundamentally *different* way of streaming media—delivering media (e.g., a program) in smaller *portions* and enabling the *user device* (not the backend streaming

⁶ Our citations to Exhibit 2010 refer to the original page number on the top right corner.

system) to control the process of streaming the portions in order to present the user with a complete media presentation.” *Id.*; *see also id.* at 19–24 (citing Ex. 2010, 5, 11, 13, 15–16, 19); Sur-reply 19–20. Patent Owner argues that “[s]olving system *performance* issues including those affecting a user’s viewing experience are *technical* problems that require a *technical* solution.” PO Resp. 86–89.

Patent Owner’s arguments are unavailing. Patent Owner’s arguments here are similar to the arguments advanced by Patent Owner for the first and second steps of the *Alice/Mayo* test. As discussed below in our analysis for the *Alice/Mayo* test (Section II.D.4 & 5), Patent Owner’s arguments are not commensurate with the scope of the claims. The portions of the ’044 provisional application relied upon by Patent Owner disclose that the purported “improvement” involves a *reservation* process that uses a Media Routing Algorithm and a *reservation* system in the Real Time Stream Management System. PO Resp. 19–24; Ex. 2010, 5, 11, 13, 15–16, 19. However, none of the claims recites a reservation process or a reservation system, much less a Media Routing Algorithm or a Real Time Stream Management System as disclosed in the ’887 patent or in the ’044 provisional application. *See, e.g.*, Ex. 1001, code 57, 10:20–26, 50:52–66:43, Fig. 1; Ex. 2010, 3, 5, 11, 13, 15–16, 19.

Patent Owner’s arguments also rest on its implicit claim construction that construes the term “at least one portion of the requested media” to exclude the entirety of the “requested media” or to require that the “requested media” be broken up into portions. As discussed above in our

claim construction analysis (Section II.B.1), we decline to adopt Patent Owner's construction. To be clear, however, even if we were to apply Patent Owner's construction, our determination would not change for the reasons discussed below.

As discussed below (Section II.D.4 & 5), nothing in the claims requires a user device to *control* the process of streaming the media *in portions*, as Patent Owner alleges. The Specification does not disclose the user device controlling the streaming process, let alone solving the purported "system performance issues" by enabling the user device to control the streaming process in portions. *See, e.g.*, Ex. 1001, 4:1–6, 5:37–43. The embodiment relied upon by Patent Owner does not disclose that the user device controls the streaming process. *Id.* at 13:49–14:2. In that embodiment, the viewer sends a request for each media clip to the "computing device," and each requested media clip is streamed *in its entirety*, not broken up or streamed in portions. *Id.*

Second, Patent Owner argues that "the billing problem described in the specification pertains to how to track billing information when media is being served from multiple media servers," and that "this problem has nothing to do with the 'revenue sharing rule' and the 'settlement record' that are recited in the claims." PO Resp. 87–89.

However, Patent Owner admits that the District Court construed "settlement record" as "billable event record to be used for revenue settlement." PO Resp. 29–30. Patent Owner does not propose a different construction in this proceeding here. As discussed above in our claim

construction analysis (Section II.B.2), we adopted the District Court’s claim construction, as it is consistent with the Specification. *See, e.g.*, Ex. 1001, 9:18–20, 12:17–19, 12:25–26, 12:56–62.

In its Preliminary Response, Patent Owner also admits that the Specification identifies a problem that “prior systems could not adequately track and collate billing information from multiple switches.” Prelim. Resp. 9–10 (citing Ex. 1001, 12:38–43). The problem of tracking and collating billing information adequately is a business problem, not a technical one. Similarly, the solution of producing a settlement record that reflects a revenue sharing as recited in claim 98, or generating a settlement record indicating payment is due for targeting advertisement as recited in claim 125, is not technical.

Furthermore, as we discussed in our Institution Decision (Dec. 24–25), all of the independent claims, including claim 98, merely recite a generic “communication network” for transmitting (1) a request for a media, (2) a communication from a generic “computing device” to a generic “communication device,” and (3) the media from a generic “resource” other than the “computing device.” *See e.g.*, Ex. 1001, 63:25–56. Claim 98 does not even specify how the settlement record for the revenue sharing is produced by a computer. *Id.* Claim 98 merely recites “producing at least one settlement record reflecting a sharing of the percentage of revenue generated by streaming the at least the portion of the requested media.” *Id.* at 63:54–56. The ’887 patent itself acknowledges that real-time media streaming, using computing devices and communication networks “to

access, retrieve, interact with, report and/or handle media or other information,” was known in the art at the time of the invention. *Id.* at 1:41–2:4.

Moreover, Dr. Houh testifies that, before March 2000, the following were known in the art: (1) “on-demand video streaming over the Web,” (2) “a system with a separate web server and streaming server for media streaming,” and (3) revenue sharing in streaming media. Ex. 1003 ¶¶ 38–49 (citing Ex. 1007, 40; Ex. 1010, 1; Ex. 1011, 2; Ex. 1012, 1; Ex. 1013, 3; Ex. 1014, code 57, 5:26–44; Ex. 1015, 95–96; Ex. 1019). Both Patent Owner and Dr. Sprenger admit that Hua dated 1999 (Ex. 1012) discloses that (1) “a web server providing a video script to a user device”; (2) “[t]he user device uses the video script to obtain a video from a video server”; (3) the “video is divided into a sequence of data segments; and (4) the “data segments are downloaded” and “playback” on the user device. PO Resp. 40–42 (citing Ex. 1012, 1–3); Ex. 2009 ¶¶ 114–115. Therefore, using a web server as an intermediary between the user device and a streaming server in a distributed network was known in the art at the time of the invention.

The Federal Circuit has held that a claim does not include a “technological feature” if its “elements are nothing more than general computer system components used to carry out the claimed process.” *Blue Calypso*, 815 F.3d at 1341; *see also* Trial Practice Guide at 42–43 (noting that “[m]ere recitation of known technologies, such as computer hardware,

communication or computer networks, software . . .” does not render a patent a technological invention).

For the foregoing reasons, Patent Owner’s arguments are unavailing, and we agree with Petitioner and find that claims 98 and 125 do not solve a technical problem using a technical solution. Because both prongs must be satisfied for a patent to be excluded from CBM patent review for being a technological invention, we determine that the ’887 patent does not claim a technological invention based on the second prong alone. *See Apple v. Ameranth*, 842 F.3d at 1240.

4. Conclusion on CBM Eligibility

For the foregoing reasons, we determine that Petitioner has demonstrated that at least one claim of the ’887 patent is directed to a financial service or activity and is not for a technological invention. Accordingly, we conclude that the ’887 patent is eligible for CBM patent review.

D. Patent Subject Matter Eligibility Under § 101

Petitioner asserts that claims 1–12, 39–41, 45–56, 68, and 98–126 of the ’887 patent are directed to patent-ineligible subject matter under 35 U.S.C. § 101, citing to Dr. Houh’s Declaration for support. Pet. 30–62 (citing Ex. 1003). Petitioner avers that the challenged claims are directed to the abstract idea of “managing distribution of audio and video content based on characteristics of the consumer,” and that further adding revenue sharing rules and an associated settlement record does not transform the abstract idea

into a patentable invention. *Id.* at 30. Petitioner also contends that the challenged claims do not recite an inventive concept. *Id.* at 43–62.

1. Principles of Law

An invention is patent-eligible if it claims a “new and useful process, machine, manufacture, or composition of matter.” 35 U.S.C. § 101 (2018). However, the Supreme Court has long interpreted 35 U.S.C. § 101 to include implicit exceptions: “[l]aws of nature, natural phenomena, and abstract ideas” are not patentable. *See, e.g., Alice Corp. Pty. Ltd. v. CLS Bank Int’l*, 573 U.S. 208, 216 (2014).

In determining whether a claim falls within the “abstract ideas” exception, we are guided by the Supreme Court’s two-step framework, described in *Mayo* and *Alice*. *Id.* at 217–18 (citing *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 75–77 (2012)). In accordance with that framework, we first determine whether each claim at issue is “directed to” a patent-ineligible abstract idea. *See id.* at 219 (“On their face, the claims before us are drawn to the concept of intermediated settlement, *i.e.*, the use of a third party to mitigate settlement risk.”); *see also Bilski v. Kappos*, 561 U.S. 593, 611 (2010) (“Claims 1 and 4 in petitioners’ application explain the basic concept of hedging, or protecting against risk.”).

Concepts determined to be abstract ideas, and thus patent-ineligible, include certain methods of organizing human activity, such as fundamental economic practices (*Alice*, 573 U.S. at 219–20; *Bilski*, 561

U.S. at 611); mathematical formulas (*Parker v. Flook*, 437 U.S. 584, 594–95 (1978)); and mental processes (*Gottschalk v. Benson*, 409 U.S. 63, 69 (1972)). Concepts determined to be patent-eligible include physical and chemical processes, such as “molding rubber products” (*Diamond v. Diehr*, 450 U.S. 175, 191 (1981)); “tanning, dyeing, making water-proof cloth, vulcanizing India rubber, smelting ores” (*id.* at 182 n.7 (quoting *Corning v. Burden*, 56 U.S. 252, 267–68 (1854))); and manufacturing flour (*Benson*, 409 U.S. at 69 (citing *Cochrane v. Deener*, 94 U.S. 780, 785 (1876))).

In *Diehr*, the claim at issue recited a mathematical formula, but the Supreme Court held that “[a] claim drawn to subject matter otherwise statutory does not become nonstatutory simply because it uses a mathematical formula.” *Diehr*, 450 U.S. at 176; *see also id.* at 191 (“We view respondents’ claims as nothing more than a process for molding rubber products and not as an attempt to patent a mathematical formula.”). That being said, the Supreme Court also indicated that a claim “seeking patent protection for that formula in the abstract . . . is not accorded the protection of our patent laws, . . . and this principle cannot be circumvented by attempting to limit the use of the formula to a particular technological environment.” *Id.* (citing *Benson* and *Flook*); *see, e.g., id.* at 187 (“It is now commonplace that an *application* of a law of nature or mathematical formula to a known structure or process may well be deserving of patent protection.”).

If the claim is “directed to” an abstract idea, we turn to the second step of the *Alice/Mayo* test, where “we must examine the elements of the claim to determine whether it contains an ‘inventive concept’ sufficient to ‘transform’ the claimed abstract idea into a patent-eligible application.” *Alice*, 573 U.S. at 221. “A claim that recites an abstract idea must include ‘additional features’ to ensure ‘that the [claim] is more than a drafting effort designed to monopolize the [abstract idea].’” *Id.* (quoting *Mayo*, 566 U.S. at 77). “[M]erely requir[ing] generic computer implementation[] fail[s] to transform that abstract idea into a patent-eligible invention.” *Id.*

The U.S. Patent and Trademark Office (“USPTO” or “Office”) published revised guidance on the application of § 101. *2019 Revised Patent Subject Matter Eligibility Guidance*, 84 Fed. Reg. 50 (Jan. 7, 2019) (“Guidance”).⁷ Under the Guidance, we first look to whether the claim recites:

- (1) any judicial exceptions, including certain groupings of abstract ideas (i.e., mathematical concepts, certain methods of organizing human activity such as a fundamental economic practice, or mental processes) (“Step 2A, Prong 1”); and

⁷ We also have considered the October 2019 Patent Eligibility Guidance Update at https://www.uspto.gov/sites/default/files/documents/peg_oct_2019_update.pdf. And we note that the Guidance has been incorporated in the MPEP under Section 2106, Patent Subject Matter Eligibility.

(2) additional elements that integrate the judicial exception into a practical application (*see* MPEP § 2106.05(a)–(c), (e)–(h) (Rev. 10.2019 June 2020)) (“Step 2A, Prong 2”).

Guidance, 84 Fed. Reg. at 52–55.

Only if a claim (1) recites a judicial exception and (2) does not integrate that exception into a practical application, do we then look to whether the claim:

(3) adds a specific limitation beyond the judicial exception that is not “well-understood, routine, conventional” in the field (*see* MPEP § 2106.05(d)); or

(4) simply appends well-understood, routine, conventional activities previously known to the industry, specified at a high level of generality, to the judicial exception.

Id. at 56.

2. Step 1: Statutory Category

We first determine “whether the claim is to a statutory category (Step 1),” namely a process, machine, manufacture, or composition of matter. Guidance, 84 Fed. Reg. at 53–54. Here, each of the challenged claims is directed to a method. For example, claim 98 recites “[a] media streaming management method.” Ex. 1001, 63:25. Therefore, we determine that each of the challenged claims is directed to at least one statutory category.

3. *Step 2A, Prong 1: Judicial Exception*

The Guidance breaks the first step of the *Alice/Mayo* test for judicial exceptions into two prongs. Guidance, 84 Fed. Reg. at 53. Step 2A, Prong 1 asks whether the claims *recite* a judicial exception. *Id.* at 54.

Here, Petitioner asserts that the challenged claims are directed to an abstract idea of “managing distribution of audio and video content based on characteristics of the consumer.” Pet. 32–40. According to Petitioner, claim 98 exemplifies this by reciting broadly the idea of “receiving . . . a request” for media from a user, and communicating a “response” based upon user and device characteristics. *Id.* at 33 (citing Ex. 1003 ¶¶ 58–59). Petitioner argues that “[n]othing in claim 98 teaches how the responsive communication is generated or recites any new technology.” *Id.* Petitioner contends that “there is no meaningful distinction between the concept of managing distribution of audio and video content based on characteristics of the consumer, as claimed in the ’887 Patent and the concept of ‘delivering targeted advertising to a user’ found to be an abstract idea in *DISH v. Customedia*, CBM2017-00032, Paper 50.” *Id.* at 34. Petitioner argues that all other challenged claims are directed to the same abstract idea of “managing distribution of audio and video content based on characteristics of the consumer.” *Id.* at 50–62. Petitioner further argues that the claim limitations involving a “revenue sharing rule” and “producing a settlement record” do not render the claims non-abstract because revenue sharing and reporting are fundamental economic practices. *Id.* at 38–40.

Upon review of this entire trial record, we are persuaded by Petitioner’s showing and find that the challenged claims recite a concept that falls within one of the enumerated groupings of abstract ideas—certain methods of organizing human activity, e.g., “commercial or legal interactions (including agreements in the form of contracts; legal obligations; advertising, marketing or sales activities or behaviors; business relations).” *See* Guidance, 84 Fed. Reg. at 52.

The abstract idea here is not meaningfully different from the ideas found to be abstract in other cases before the Federal Circuit. Notably, each challenged claim recites a method in which a “computing device” generates a “communication” based on the characteristics of the user in response to a request for media to be streamed. The Federal Circuit has held that “the concept of delivering user-selected media content to portable devices is an abstract idea.” *Affinity Labs of Texas, LLC v. Amazon.com Inc.*, 838 F.3d 1266, 1269 (Fed. Cir. 2016). The Federal Circuit also has held that claims related to “customizing information based on (1) information known about the user and (2) [specific] data” are directed to abstract ideas. *Intellectual Ventures I LLC v. Capital One Bank (USA)*, 792 F.3d 1363, 1369–70 (Fed. Cir. 2015) (noting that “[a]n advertisement taking into account the time of day and tailoring the information presented to the user based on that information is another ‘fundamental . . . practice long prevalent in our system’” (quoting *Alice*, 573 U.S. 219)); *see also British Telecommunications PLC v. IAC/InterActiveCorp*, 813 F. App’x 584, 587 (Fed. Cir. 2020) (holding that the concept of “providing lists of

location-specific information sources to users based on their location” was an abstract idea).

In addition, we find that the claim limitations involving a “revenue sharing rule” and “producing a settlement record” that reflects the revenue sharing do not remove the challenged claims from the realm of abstract ideas. *See, e.g.*, Pet. 38–40. Notably, recording revenue sharing constitutes a practice of organizing human activity, which is rooted in assessing sales and economic interactions—a fundamental economic practice. The Supreme Court has held in *Alice* that “a method of exchanging financial obligations between two parties using a third-party intermediary to mitigate settlement risk” is “a fundamental economic practice long prevalent in our system of commerce” and that “the concept of intermediated settlement . . . [is] squarely within the realm of ‘abstract ideas.’” *Alice*, 573 U.S. at 219–22.

The Federal Circuit also has held that the concept of “offer-based price optimization” is an abstract idea “similar to other ‘fundamental economic concepts’ found to be abstract ideas by the Supreme Court and this court.” *OIP Techs., Inc. v. Amazon.com, Inc.*, 788 F.3d 1359, 1362 (Fed. Cir. 2015) (citing, e.g., *Alice*, 573 U.S. at 221 (intermediated settlement); *Bilski*, 561 U.S. at 611 (risk hedging); *Ultramercial, Inc. v. Hulu, LLC*, 772 F.3d 709, 715 (Fed. Cir. 2014) (using advertising as an exchange or currency)). “And that the claims do not preempt all price optimization or may be limited to price optimization in the e-commerce setting do not make them any less abstract.” *Id.* at 1362–63 (citing *buySAFE, Inc. v. Google, Inc.*, 765 F.3d 1350, 1355 (Fed. Cir. 2014)

(collecting cases); *Accenture Global Servs., GmbH v. Guidewire Software, Inc.*, 728 F.3d 1336, 1345 (Fed. Cir. 2013) (generating tasks in an insurance organization)). Moreover, “[a]dding one abstract idea . . . to another abstract idea . . . does not render the claim non-abstract.” *RecogniCorp, LLC v. Nintendo Co.*, 855 F.3d 1322, 1327 (Fed. Cir. 2017); *see also In re Morsa*, 809 F. App’x 913, 917 (Fed. Cir. 2020) (holding that “the claim recites both targeted advertising and bidding to display the advertising, which are both abstract ideas relating to customizing information based on the user and matching them to the advertiser”).

Accordingly, we find that Petitioner has shown sufficiently that the challenged claims recite a concept that falls within one of the enumerated groupings of abstract ideas—certain methods of organizing human activity, e.g., “commercial or legal interactions (including agreements in the form of contracts; legal obligations; advertising, marketing or sales activities or behaviors; business relations).” *See Guidance*, 84 Fed. Reg. at 52.

4. Step 2A, Prong 2: Practical Application

a. Discussion of Petitioner’s Showing

We also consider whether the claims integrate the judicial exception into a practical application “by: (a) [i]dentifying whether there are any additional elements recited in the claim beyond the judicial exception(s); and (b) evaluating those additional elements individually and in combination to determine whether they integrate the exception into a practical application.” *Guidance*, 84 Fed. Reg. at 54–55. Some exemplary considerations

include whether the additional elements reflect an improvement to the functioning of a computer or use the judicial exception in some other meaningful way beyond generally linking the use of the judicial exception to a particular technological environment. *Id.* at 55. The term “additional elements” refers to features, limitations, or steps that the claim recites beyond the abstract idea itself. *Id.* at 55 n.24.

Petitioner contends that the claims add no meaningful limitations beyond application of generic computing components to achieve the underlying abstract idea. Pet. 44. Petitioner argues that claim 98, for example, recites generic components such as a “computing device,” a “communication device,” and a “resource” to perform the conventional task of requesting media streaming. *Id.* at 45. Petitioner avers that utilizing computers to send and respond to requests for media merely uses computers as a tool to improve basic human activity. *Id.* at 48–49.

We agree with Petitioner. A claim does not integrate a judicial exception into a practical application when it “merely uses a computer as a tool to perform an abstract idea,” such as reciting limitations for creating and maintaining electronic records, without specifying how. Guidance, 84 Fed. Reg. at 55, 55 n.30. In order for a claim reciting a judicial exception to be patent-eligible, the additional element or combination of elements must do “more than simply stat[e] the [abstract idea] while adding the words ‘apply it.’” *Alice*, 573 U.S. at 221 (quoting *Mayo*, 566 U.S. at 72); *see also Benson*, 409 U.S. at 93 (holding that merely implementing a mathematical principle on a general-purpose computer is a patent-ineligible abstract idea).

Here, we find that the challenged claims merely recite generic computer components and functions, invoking those computer components as a tool to implement the abstract idea, not directed to any improvement in computer functionality. *See, e.g.*, Pet. 43–50. In particular, the additional claim elements—a “communication device,” a “computing device,” a “communication network,” and a “resource”—are generic computer components. And the recited functions—receiving a request for media, generating and transmitting a responsive “communication” by the “computing device” to the “communication device” over a “communication network,” and executing an instruction received from the “computing device” to obtain the media from the “resource”—are likewise basic and routine for requesting media. Ex. 1003 ¶¶ 37–49, 58–60 (citing Ex. 1007, 40; Ex. 1010, 1; Ex. 1011, 2; Ex. 1012, 1; Ex. 1013, 3; Ex. 1014, code 57, 5:26–44; Ex. 1015, 95–96; Ex. 1019). The claims do not even specify how the settlement record for the revenue sharing is produced by a computer. *See, e.g.*, Ex. 1001, 63:54–56.

The ’887 patent itself acknowledges that real-time media streaming, using computing devices and communication networks “to access, retrieve, interact with, report and/or handle media or other information,” was known in the art at the time of the invention. Ex. 1001, 1:41–2:4. Moreover, Dr. Houh testifies that, before March 2000, the following were known in the art: (1) “on-demand video streaming over the Web,” (2) “a system with a separate web server and streaming server for media streaming,” and (3) revenue sharing in streaming media. Ex. 1003 ¶¶ 38–49 (citing

Ex. 1007, 40; Ex. 1010, 1; Ex. 1011, 2; Ex. 1012, 1; Ex. 1013, 3; Ex. 1014, code 57, 5:26–44; Ex. 1015, 95–96; Ex. 1019). We credit Dr. Houh’s testimony as it is supported by sufficient evidence.

For the foregoing reasons, we find that Petitioner has shown sufficiently that the additional elements, considered individually and as a whole, do not integrate the abstract idea into a practical application, and that the additional elements merely invoke a computer as a tool, and do not reflect an improvement to the functioning of a computer or an improvement to other technology or technical field. *See* Guidance, 84 Fed. Reg. at 55; *see also Alice*, 573 U.S. at 224–25 (noting that the method claims that invoke “the use of a computer to create electronic records, track multiple transactions, and issue simultaneous instruction,” “electronic recordkeeping,” and “the use of a computer to obtain data, adjust account balances, and issue automated instructions” do not “purport to improve the functioning of the computer itself”).

b. Discussion of Patent Owner’s Arguments

Relying on Dr. Sprenger’s testimony, Patent Owner contends that the claims are not directed to an abstract idea, advancing several arguments. PO Resp. 1–79; Sur-reply 1–17; Ex. 2009. For the reasons discussed below, we do not find that Patent Owner’s arguments and Dr. Sprenger’s testimony undermine Petitioner’s showing.

i. Streaming in portions

Patent Owner argues that “[t]he claims are directed to *improving* the operation of a streaming media system and, specifically, to delivering requested media in *portions* and enabling the *user device* to control the process of streaming the *portions* in order to present the user with a complete media presentation,” citing to *TecSec, Inc. v. Adobe Inc.*, 978 F.3d 1278, 1293 (Fed. Cir. 2020) for support. PO Resp. 1–29, 53–59, 64–79; Sur-reply 1–17 (citing Ex. 1001, 3:49–50, 5:37–43, 13:49–14:2); Ex. 2012, Slides 2, 6–8. According to Patent Owner, “[i]n modern streaming systems, a program (e.g., movie) is broken up into *portions* (e.g., a few seconds of the movie), which are stored on one or more servers,” and that “[t]he user device, not the server, controls the streaming of the program,” citing Dr. Sprenger’s testimony for support. PO Resp. 6–9 (citing Ex. 2009 ¶¶ 38–42). Patent Owner avers that the ’887 patent “pertains to an *improved* method for *streaming* media (e.g., a movie or television show),” and “describe[s] the problems with existing streaming media systems as relating to system *performance* issues including those affecting a user’s viewing experience (e.g., lack of reliable service delivery infrastructure, poor picture quality, inability to ensure proper quality of service).” PO Resp. 1–4, 18–20, 55 (citing Ex. 2010, 9). Patent Owner contends that “[t]o solve these problems, the inventors envisioned a fundamentally *different* way of streaming media – delivering requested media (e.g., a program) in *portions* and enabling the *user device* (not the backend streaming system) to control the process of streaming the *portions* in order to present the use with a

complete media presentation.” *Id.* at 1–4, 15–24, 55 (citing Ex. 2010, 5, 11, 13, 15–16). Patent Owner further avers that Petitioner and Dr. Houh overgeneralize the claimed method, ignoring “the system *performance* problems with prior streaming media systems” and the specific claim features, such as the user device controls “the processing of streaming *portions* of the requested media.” *Id.* at 30–52, 64–79.

Patent Owner’s arguments are unavailing. Patent Owner’s arguments and Dr. Sprenger’s testimony are not commensurate with the scope of the claims. And Patent Owner’s reliance on *TecSec* is misplaced. 978 F.3d at 1293 (“In cases involving software innovations, [the] inquiry often turns on whether the claims focus on specific asserted improvements in computer capabilities or instead on a process or system that qualifies as an abstract idea for which computers are invoked merely as a tool.”) (quoting *Uniloc USA, Inc. v. LG Electronics USA, Inc.*, 957 F.3d 1303, 1306–07 (Fed. Cir. 2020)). Unlike *TecSec* where the claim elements themselves were disclosed in the specification as “important parts of the claimed advance in the combination of elements,” the challenged claims here do not focus on the purported “improvements” in the computer capabilities, but instead on a process that qualifies as an abstract idea for which computers are invoked merely as a tool. *Id.* at 1294.

Notably, the portions of the ’044 provisional application relied upon by Patent Owner and Dr. Sprenger disclose that the purported “improvement” involves a *reservation* process that uses a Media Routing Algorithm and a *reservation* system in the Real Time Stream Management

System. PO Resp. 20–24; Ex. 2009 ¶¶ 82–84; Ex. 2010, 5, 11 (“The viewer must reserve the media. The WSN reservation process collects information about . . . the network resources required for providing a quality viewing experience to the viewer”), 13 (The reservation must be approved before the viewer is allowed to locate the media.), 15–16 (“When the player receives the play script . . . it will request that the DNS resolve the host name in the URL and return an IP address for that host name. Play scripts that were generated by the WSN reservations system will have the resolve request sent to the NRP. The NRP will find the reservation information in the reservation table by using the reservation number that was embedded in the hostname by the reservation system.”), 19 (“A WSN unique feature is called the ‘reservation’ which is used so network resource utilization can be determined and an individual state model established to monitor the viewer’s session.”). However, none of the challenged claims recites a reservation process or a reservation system, much less a Media Routing Algorithm or a Real Time Stream Management System as disclosed in the ’887 patent or the ’044 provisional application. *See, e.g.*, Ex. 1001, code 57, 50:52–66:43, Fig. 1; Ex. 2010, 3, 5, 11, 13, 15–16, 19.

Further, the Specification of the ’887 patent does not describe solving the purported “system performance issues” by streaming the requested media in portions or by enabling the user device to control the streaming process in portions. The Specification clearly explains that the Media Routing Algorithm “enables *the content owner to control* who views its content and what content is actually streamed for viewing” and “enables *a*

network owner to efficiently control the network and its devices to maximize quality of service while enabling the devices to respond automatically and transparently to viewer problems.” Ex. 1001, 4:1–6 (emphases added).

Even assuming the Specification discloses how to solve the purported “system performance issues,” the challenged claims themselves do not recite an improvement in computer functionality. We focus on the claims “because claims are the definition of what a patent is intended to cover.”

Ultramercial, 772 F.3d at 715; *see also Synopsys, Inc. v. Mentor Graphics Corp.*, 839 F.3d 1138, 1149 (Fed. Cir. 2016) (“The § 101 inquiry must focus on the language of the Asserted Claims themselves.”).

In addition, Patent Owner’s arguments rest on its implicit claim construction that construes the term “at least one portion of the requested media” to exclude the entirety of the “requested media” or to require that the “requested media” be broken up into portions. As discussed above, we decline to adopt Patent Owner’s implicit claim construction. To be clear, however, even if we were to apply Patent Owner’s construction, our determinations would not change for the reasons discussed below.

Notably, streaming media in portions (e.g., live or real-time media streaming) was known in the art at the time of the invention. Both Patent Owner and Dr. Sprenger admit that Hua discloses that (1) “a web server providing a video script to a user device”; (2) “[t]he user device uses the video script to obtain a video from a video server”; (3) the “video is *divided into a sequence of data segments*”; and (4) the “data segments are

downloaded” and “playback” on the user device. PO Resp. 40–42 (citing Ex. 1012, 1–3) (emphasis added); Ex. 2009 ¶¶ 114–115.

The ’044 provisional application also admits that “[t]he streaming industry has been commercialized over the last 4 years beginning with Broadcast.com (now Yahoo/Broadcast).” Ex. 2010, 9. The ’044 provisional application further admits that “Streaming (Live and On Demand)” in a distributed network over the public Internet on a large commercial scale was known in the art. *Id.* (“INTERVU (now Akamai/INTERVU) was the first to implement a distributed network over the public Internet on a large commercial scale. This new type of service architecture is called a ‘Content Delivery Network’ (CDN).”). The ’887 patent also admits that real-time media streaming in portions, using computing devices and communication networks “to access, retrieve, interact with, report and/or handle media or other information,” was known in the art at the time of the invention. Ex. 1001, 1:39–2:19 (disclosing that “[a]s computers and computer based appliances gain popularity, the demand for digital media streaming services also increases,” and that “[r]eal time media streaming often is preferred over pure downloading”).

Moreover, the challenged claims of the ’887 patent are broader than the representative claim in *Affinity Labs*, in which the Federal Circuit held that “the concept of delivering user-selected media content to portable devices is an abstract idea” under § 101. *Affinity Labs*, 838 F.3d at 1267–69; *see also Ultramercial*, 772 F.3d at 714–715 (holding that the process of allowing a consumer to receive copyrighted media in exchange

for watching a selected advertisement was an abstract idea). The Federal Circuit pointed out that “the delivery of media content to electronic devices was well known long before the priority date of” the patent at issue in *Affinity Labs* (March 28, 2000). *Affinity Labs*, 838 F.3d at 1270. The priority date of the *Affinity Labs* patent is earlier than the ’887 patent’s earliest priority date claimed (January 19, 2001).

Significantly, the *Affinity Labs* claim also encompasses the concept of streaming in portions, as it recites “a network based delivery resource maintain a list of network locations for *at least a portion* of the content, the network based delivery resource configured to respond to the request by retrieving the *portion* from an appropriate network location and streaming a representation of the *portion* to the handheld wireless device.” *Affinity Labs*, 838 F.3d at 1267–69 (emphases added). The *Affinity Labs* claim also recites (1) a “media managing system” that maintains a library of content, (2) a “collection of instructions” that are “operable when executed” by a handheld wireless device “to send a request for a streaming delivery of the content,” and (3) a “network based delivery resource” that retrieves and streams for at least a portion of the requested content to the handheld device. *Id.*

Here, each challenged claim, as a whole, broadly recites a “communication” based on the characteristics of the user in response to a request for media to be streamed. *See, e.g.*, Ex. 1001, 63:25–56 (claim 98). The “communication” merely identifies “at least one portion of the requested media,” a “resource,” and “one or more instructions as to how the requested media to be streamed to the communication device,” without any

specificity. *Id.* The challenged claims recite generic components: (1) a “computing device” receiving a request for media, (2) a “communication device” sending the request for media, and (3) a “resource” facilitating streaming the media. *Id.*

In *Affinity Labs*, the Federal Circuit rejected the contention that the patent embodied a concrete technological innovation because “[a]t that level of generality, the claims do no more than describe a desired function or outcome, without providing any limiting detail that confines the claim to a particular solution to an identified problem” and “[t]he purely functional nature of the claim confirms that it is directed to an abstract idea, not to a concrete embodiment of that idea.” *Affinity Labs*, 838 F.3d at 1269–70.

Additionally, the Federal Circuit in *Affinity Labs* held that the claims merely set forth “routine and generic processing and storing capabilities of computers generally” because claim terms such as a “network based media management system” and a “graphical user interface” are “simply generic description of well-known computer components.” *Id.* at 1270; *see also In re TLI Commc’ns LLC Patent Litig.*, 823 F.3d 607, 611 (Fed. Cir. 2016) (physical components such as a telephone and a server “merely provide a generic environment in which to carry out the abstract idea”); *Mortg. Grader, Inc. v. First Choice Loan Servs. Inc.*, 811 F.3d 1314, 1324–25 (Fed. Cir. 2016) (claims reciting an “interface,” “network,” and “database” are directed to an abstract idea).

Tellingly, each challenged claim here, as a whole, recites components (e.g., a “computing device,” a “communication device,” a “resource,” a

“communication,” and an “instruction”) that are more generic than those components in *Affinity Labs*, *TLI Communications*, and *Mortgage Grader*. Like in *Affinity Labs*, Patent Owner here “makes no claim that it invented any of those components or their basic functions, nor does it suggest that those components, at that level of generality, were unknown in the art” as of the ’887 patent’s priority date. 838 F.3d at 1270.

For the foregoing reasons, we do not agree with Patent Owner’s above-identified arguments that the claims are directed to “*improving* the operation of a streaming media system” and “delivering requested media in *portions*.” PO Resp. 1–29, 53–59, 64–79; Sur-reply 1–17.

ii. The user device controls the process of streaming

Patent Owner argues that the claims recite a *specific* combination of providing the user device with *specific* information needed for the *user device* (not the backend streaming system) to control the process of streaming the portions, or “to *pull* media (one portion at a time) as its needs the media (the user device controls streaming), instead of being *pushed* media (all at once) from the backend system as was done in prior systems (where the backend system controls streaming).” PO Resp. 1–29, 53–59, 64–79; Sur-reply 1–17 (citing Ex. 1001, 3:49–50, 5:37–43, 13:49–14:2). As support, Patent Owner argued during the oral hearing that “[u]sing the play script, a user tells the server to send media once it needs the media,” “[i]t could tell it to slow down, to speed up,” “[i]t say basically what happens is the device, the user device, say send it to me now,” and “[i]t tells the system to send the information.” Tr. 35:22–36:2.

However, Patent Owner's arguments are not commensurate with the scope of the claims. Nothing in the challenged claims requires a user device to *control* the process of streaming, or to "*pull* media (one portion at a time) as its needs the media." The claims also do not recite a play script, much less using a play script to control the speed of the streaming.

The Specification also does not disclose the user device controlling the streaming process, as Patent Owner alleges. Notably, the Specification clearly explains that the Media Routing Algorithm "*enables the content owner to control* who view its content and what content is actually streamed for viewing" and "*enables a network owner to efficiently control the network and its devices* to maximize quality of service while enabling the devices to respond automatically and transparently to viewer problems." Ex. 1001, 4:1–6 (emphases added). According to the Specification, "streaming system 102 also *enables a media owner to identify a program* or a portion of a program that is made available to streaming," and "[t]he *program typically identifies the sequencing, where sequential, parallel, timing, or other, in which media clips are to be streamed.*" *Id.* at 5:37–43 (emphases added).

Tellingly, the embodiment relied upon by Patent Owner, which is reproduced below, does not support Patent Owner's arguments:

In one embodiment, a request is sent from the viewer 118 or 120 to the NRP 110 for *each media clip* on the play script. Thus, the NRP 110 must determine a switch that can stream the particular media clip of the play script to the viewer 118 or 120 separately for each media clip on the play script. Each time the NRP 110 determines the switch that can provide the media clip, the NRP transmits an IP address of the switch or a

communication device, such as a stream caster on the switch, to the viewer 118 or 120.

For example, if a play script identifies two media clips, the viewer 118 or 120 transmits *a media locator request* to the NRP 110 for *the first media clip*. The NRP 110 determines a switch that can provide the first media clip and transmits an IP address of that switch to the viewer 118 or 120. After the viewer 118 or 120 receives the first media clip in a session with that switch, the viewer could *send another media locator request* to the NRP 110 for *the second media clip*. The NRP 110 determines a switch that can provide the second media clip and transmits an IP address of that switch to the viewer 118 or 120. The viewer 118 or 120 then receives the second media clip in a session with that switch.

Ex. 1001, 13:49–14:2 (emphases added).

Nothing in this embodiment indicates that the user device controls the streaming process. That embodiment merely discloses that the viewer sends a request for “each media clip” to NRP 110 (the “computing device”) and each requested media clip is streamed *in its entirety*, not broken up or streamed in portions. Merely requesting a media is not a new way of controlling the streaming process.

In addition, each challenged claim, as a whole, simply recites conventional actions in a generic way and does not purport to improve any underlying technology. Indeed, the claims broadly recite a “communication device” to (1) send a request for media, (2) wait for a “communication” that is based on the characteristics of the user, merely identifying a “resource,” “at least one portion of the requested media,” and an “instruction” as to how the media is to be streamed, without any specificity, and then (3) obtain the

media from the “resource.” The claims do not specifically explain how the “communication device” control the streaming process or pull the media.

Nothing in the claims provides an improvement to computer functionality. Even if the claims recite a play script, both Patent Owner and Dr. Sprenger admit that using a “video script” sent from a web server to obtain a user-selected media in portions from a media server was known in the art at the time of the invention. PO Resp. 40–46 (admitting that Hua (Ex. 1012, 1–3) discloses using a “video script” file to obtain a user-selected media in portions from a media server, and admitting that Kurose (Ex. 1013, 2–3) discloses using a “presentation description file,” or a “meta file” that contains the URL of the audio/video file, to obtain a user-selected media from a server); *see also* Ex. 2009 ¶¶ 114–115, 123–124. As discussed above, both Patent Owner and Dr. Sprenger also admit that using a web server as an intermediary between a user device and a streaming server was known in the art. PO Resp. 40–42 (citing Ex. 1012, 1–3); Ex. 2009 ¶¶ 114–115.

As discussed above, using a “computing device,” as an intermediary between the “communication device” and “resource,” to generate a settlement record for revenue sharing constitutes a practice of organizing human activity, which is rooted in assessing sales and economic interactions—a fundamental economic practice, not an improvement to the functioning of a computer. *Alice*, 573 U.S. at 219–22.

For the foregoing reasons, we do not agree with Patent Owner’s argument that the claims recite a *specific* combination of providing the user

device with *specific* information needed “to control the process of streaming the portions,” or “to *pull* media (one portion at a time).” *See, e.g.*, PO Resp. 1–29, 53–59; Sur-reply 1–17.

iii. Capabilities of the user’s device and characteristics of the user

Patent Owner argues that the challenged claims are not directed to an abstract idea because providing “specific information” based on the “capabilities” of the *user device* (e.g., type of media player) and the “characteristics” of the *user* (e.g., user’s location) “is what enables the improvement over the prior art streaming systems.” PO Resp. 1–4, 56–58, 64–79.

Patent Owner’s argument is unavailing. The Federal Circuit in *Affinity Labs* rejected a similar argument and held that claims for delivering user-selected media content to a portable device using a “customized user interface,” described in the specification as having “a radio dial, a playlist, or targeted advertising based on demographic information provided by the user,” were directed to an abstract idea. *Affinity Labs*, 838 F.3d at 1271. Like the claims in *Affinity Labs*, the challenged claims here are not limited to any particular form of customization, but cover the general idea of customizing a “communication” based on one or more capabilities of the “communication device” (like the user portable device in *Affinity Labs*) and at least one characteristic associated with a user of the “communication device” (like the demographic information provided by the user in *Affinity Labs*). *Id.*

The Federal Circuit, in *Intellectual Ventures*, also held that claims related to “customizing web page content” based on “navigation data” (e.g., time of day) and “information known about the user” (e.g., viewer’s location or address) were directed to the abstract idea of “information tailoring”—a “fundamental . . . practice long prevalent” and “practiced in our society.” 792 F.3d at 1369–70. The Federal Circuit explained that there is no dispute “that newspaper inserts had often been tailored based on information known about the customer,” e.g., customer’s location, or “that television commercials for decades tailored advertisements based on the time of day,” e.g., “a television channel might . . . present a commercial for children’s toys during early morning cartoon programs but beer during an evening sporting event.” *Id.* The Federal Circuit also has held that the concept of “providing lists of location-specific information sources to users based on their location” was an abstract idea. *British Telecommunications*, 813 F. App’x at 587.

For the foregoing reasons, do not agree with Patent Owner’s argument that the challenged claims are not directed to an abstract idea and that providing information based on the “capabilities” of the *user device* (e.g., type of media player) and the “characteristics” of the *user* (e.g., user’s location) “is what enables the improvement over the prior art streaming systems.” PO Resp. 1–4, 56–58, 64–79.

*iv. Independent claims 1, 39, 45, and 68, and
dependent claims 2–12, 40–41, 46–56, and 99–126*

Patent Owner argues that the additional elements recited in independent claims 1, 39, 45, and 68 and dependent claims 2–12, 40–41, 46–56, and 99–126 “provide further and specific details regarding *how* the claimed method of streaming is performed to overcome performance problems with prior streaming systems,” citing Dr. Sprenger’s testimony for support. PO Resp. 59–64 (citing Ex. 2009 ¶¶ 167–187); Sur-reply 17–19. Patent Owner identifies the following additional elements recited in independent claims 1, 39, 45, and 68: (1) identifying whether “the at least a portion of the requested media” is available for streaming; (2) generating the “communication” based on “at least one program” or streaming “rule” and (3) “at least one list identifying the at least a portion of the requested media.” *Id.* Dr. Sprenger testifies that identifying “whether the requested media is available for streaming” allows the system to determine whether streaming needs to be re-routed to another switch. Ex. 2009 ¶ 170. Dr. Sprenger also testifies that the Specification describes “viewing/routing rules to prevent unauthorized access to media.” *Id.* ¶ 174 (citing Ex 1001, 9:30–42).

As to the dependent claims, Patent Owner argues the following:

(1) “one or more rules” recited in claims 8, 12, 41, 52, 104, and 105 “improve network performance, delivery of media, and enforce of viewing restrictions”;

(2) “streaming . . . the at least the portion of the requested media to the at least one communication device” recited in claims 11, 40, 55, and 56

ensures “what is actually being streamed to the user device is ‘at least one the [one] portion of the requested media’”;

(3) “generating and transmitting the communication based on capabilities of the communication device and a user identifier” recited in claim 99 ensures that “the user device is receiving the correct portions of media (e.g., media that can be played by the media player and that is supposed to be provided to a user)”;

(4) “characteristics associated with the user” recited in claim 100 ensures that “the user device is receiving the correct portions of media (e.g., media that is supposed to be provided to a user)”;

(5) “unique identifier” recited in claims 101 and 102 is “used so that the streaming system is ‘able to service a media request from more than one switch’”;

(6) “one attribute of the communication device” recited in claim 103 ensures that “the user device is receiving the correct portion of media (e.g., media that can be played by the media player)”;

(7) “name of the requested media” recited in claim 106 and “one or more uniform resource locators (URL)” recited in claims 108 and 116 enable “a user device to request the desired media from the proper location in the streaming system”;

(8) “one or more instructions” (e.g., relating to “an advertisement insertion”) recited in claim 111 “inform[s] the user device how to present a program”;

(9) the feature (e.g., “user identification information”) recited in claim 113 “prevent[s] unauthorized viewing of media”;

(10) “request for video” recited in claim 115 “limits the method to a specific type of media streaming”; and

(11) “generating at least one identification of at least one other portion of the requested media” recited in claim 117 “clarifies that a requested media is made up on multiple portions.” *Id.*

Patent Owner’s arguments and Dr. Sprenger’s testimony are unavailing. Patent Owner does not explain sufficiently how those additional claim elements improve the operability of the claimed devices (“communication device,” “computing device,” and “resource”) beyond implementing the abstract idea using generic processes and devices. We agree with Petitioner that all of the challenged claims are directed to an abstract idea—certain methods of organizing human activity, e.g., “commercial or legal interactions (including agreements in the form of contracts; legal obligations; advertising, marketing or sales activities or behaviors; business relations).” *See Guidance*, 84 Fed. Reg. at 52.

For example, the additional elements recited in independent claims 1, 39, 45, and 68 require: (1) identifying whether “the at least a portion of the requested media” is available for streaming; (2) generating the “communication” based on “at least one program” or streaming “rule” (e.g., to whom media clips can be transmitted) and (3) “at least one list identifying the at least a portion of the requested media.” These elements involve using a generic server as a tool to perform the abstract idea of “managing

distribution of audio and video content based on characteristics of the consumer.”

As discussed above, the Federal Circuit has held that “the concept of delivering user-selected media content to portable devices is an abstract idea.” *Affinity Labs*, 838 F.3d at 1271. Tellingly, the additional elements in claims 1, 39, 45, and 68 are similar to those recited in the *Affinity Labs* claim that recites a “network based media managing system” that determines who has access to the media content and a “network based delivery resource” that maintains “a list of network locations for at least a portion of the content.” 838 F.3d 1266, 1267–68. The Federal Circuit also has held that claims reciting a method for controlling access to and retrieving multimedia content were directed to the abstract idea of “conditioning and controlling access to data based on payment.” *Smartflash LLC v. Apple Inc.*, 680 F. App’x 977, 982–83 (Fed. Cir. 2017); *see also Prism Technologies LLC v. T-Mobile USA, Inc.*, 696 F. App’x 1014, 1016 (Fed. Cir. 2017) (holding that the concept of “providing restricted access to resources” is an abstract idea).

As to the dependent claims, the additional elements recited in dependent claims 2–10, 46–54, 104, 107, 111, and 119–126 require: an advertising revenue sharing rule, a settlement rule for sharing revenue between two parties (e.g., an advertiser and a publisher), a collection rule for payment, payment requirements, an advertisement insertion, an advertising service, and a publisher. These additional elements constitute a practice of organizing human activity, which is rooted in assessing sales and economic interactions—a fundamental economic practice. As discussed above, the

Supreme Court has held in *Alice* that “a method of exchanging financial obligations between two parties using a third-party intermediary to mitigate settlement risk” is “a fundamental economic practice long prevalent in our system of commerce” and that “the concept of intermediated settlement . . . [is] squarely within the realm of ‘abstract ideas.’” *Alice*, 573 U.S. at 219–22; *see also Ultramercial*, 772 F.3d at 714–715 (holding that the process of allowing a consumer to receive copyrighted media in exchange for watching a selected advertisement was directed to an abstract idea).

The additional elements recited in dependent claims 99, 100, 103, and 113 require: a characteristic of the user (e.g., demographic information associated with the user or a user identification) or an attribute of the “communication device” of the user (e.g., the type of media player). As discussed above, the Federal Circuit in *Affinity Labs* has held that claims for delivering user-selected media content to a portable device using a “customized user interface,” described in the specification as having “a radio dial, a playlist, or targeted advertising based on demographic information provided by the user,” were directed to an abstract idea. 838 F.3d at 1271 (emphasis added). In *Intellectual Ventures*, the Federal Circuit also has held that claims related to “customizing web page content” based on “navigation data” (e.g., time of day) and “information known about the user” (e.g., viewer’s location or address) were directed to the abstract idea of “information tailoring.” 792 F.3d at 1369–70. The Federal Circuit also has held that the concept of “providing lists of location-specific information

sources to users based on their location” was an abstract idea. *British Telecommunications*, 813 F. App’x at 587.

As to the remaining dependent claims, each of these claims does not provide sufficient specificity to constitute an improvement to computer functionality itself. *See, e.g.*, claims 11, 40, 55, 56, and 118 (streaming from the “resource” or a media server); claims 12, 14, and 41 (a generic “rule” to generate a “list” identifying “the at least the portion of the requested media”); claim 105 (a “rule” associated with the request media (e.g., a format associate with the requested media)); claims 101, 102, and 106 (a “unique identifier” or a name of the requested media); claims 108, 109, 110, and 116 (a URL of the at least one portion of the requested media, a URL of the “resource,” an identification of a routing processors to identify a media server, or an identification of a media server); claim 112 (on-demand or live media); claim 114 (generic statistical information); claim 115 (video); claim 117 (one other portion of the requested media). The elements recited in these claims involve using generic servers and well-known techniques as a tool to perform the abstract idea of “managing distribution of audio and video content based on characteristics of the consumer.”

As discussed above, both Patent Owner and Dr. Sprenger admit that using a “video script” sent from a web server to obtain a user-selected media in portions from a media server, as described in Hua, was known in the art at the time of the invention. PO Resp. 40–44 (citing Ex. 1012, 1–3); Ex. 2009 ¶¶ 114–115. Patent Owner and Dr. Sprenger also admit that Kurose (Ex. 1013) discloses using a “presentation description file” (or a “meta file”

that contains the URL of the audio/video file) to obtain a user-selected media from a media server, and that RealSystem G2 manual (Ex. 1015) discloses that the RealPlayer uses a “SMIL file” that contains URLs of several pieces of media to request media from the RealServer using Real Time Streaming Protocol (RTSP) or Hypertext Transfer Protocol (HTTP). PO Resp. 4–46 (citing Ex. 1013, 2–3); Ex. 2009 ¶¶ 123–124; *see also* PO Resp. 47–49 (citing Ex. 1015, 93, 94, 96); Ex. 2009 ¶ 129.

For the foregoing reasons, we find that the challenged claims merely invoke computers as a tool to implement the abstract idea of “managing distribution of audio and video content based on characteristics of the consumer,” and they are not directed to a specific improvement in computer functionality. Accordingly, each challenged claim, taken as a whole, recites a concept that falls within one of the enumerated groupings of abstract ideas—certain methods of organizing human activity, e.g., “commercial or legal interactions (including agreements in the form of contracts; legal obligations; advertising, marketing or sales activities or behaviors; business relations).” *See* Guidance, 84 Fed. Reg. at 52.

5. Step 2B: Inventive Concept

a. Discussion of Petitioner’s Showing

Under the second step of the *Alice/Mayo* test, we determine whether the claim includes “an ‘inventive concept’—*i.e.*, an element or combination of elements that is ‘sufficient to ensure that the patent in practice amounts to significantly more than a patent upon the [ineligible concept] itself.’” *Alice*,

573 U.S. at 217–18 (quoting *Mayo*, 566 U.S. at 72–73). If the claimed elements involve no more than “well-understood, routine, [and] conventional activity previously engaged in,” they do not include an “inventive concept.” *Mayo*, 566 U.S. at 72–73. “[T]he relevant inquiry is not whether the claimed invention as a whole is unconventional or non-routine” because “a claimed invention’s use of the ineligible concept to which it is directed cannot supply the inventive concept that renders the invention ‘significantly more’ than that ineligible concept.” *BSG Tech LLC v. Buyseasons, Inc.*, 899 F.3d 1281, 1290 (Fed. Cir. 2018).

Consistent with the foregoing, under the Guidance, if a claim has been determined to be directed to a judicial exception at Step 2A, we must evaluate the additional elements individually and in combination at Step 2B to determine “whether they provide an inventive concept (*i.e.*, whether the additional elements amount to significantly more than the exception itself).” Guidance, 84 Fed. Reg. at 56. We must consider in Step 2B whether an additional element or combination of elements: (1) “[a]dds a specific limitation or combination of limitations that are not well-understood, routine, conventional activity in the field, which is indicative that an inventive concept may be present,” or (2) “simply appends well-understood, routine, conventional activities previously known to the industry, specified at a high level of generality, to the judicial exception, which is indicative that an inventive concept may not be present.” *Id.*

Petitioner asserts that “the challenged claims of the ’887 Patent do not describe an inventive concept” that is significantly more than the abstract

idea because “[t]hey simply recite implementing the abstract idea using generic computer components and functions and producing a record reflecting the sharing of the revenue generated by the requested content.”

Pet. 44. According to Petitioner, “[n]o ‘inventive concept’ can be found in the application of these generic computer components to this conventional task.” *Id.* at 45 (citing Ex. 1003 ¶¶ 58–59).

We agree with Petitioner that the additional elements of the challenged claims, both individually and as an ordered combination, do not provide an inventive concept. We determine that the additional elements of the challenged claims do not transform the abstract idea into patent-eligible subject matter because the claims simply implement the abstract idea using routine, conventional activities. As Dr. Houh testifies, the additional claim elements simply add well-understood, routine, and conventional activity for requesting media streaming to the abstract idea. Pet. 43–50; Ex. 1003 ¶¶ 37–49, 58–60 (citing Ex. 1007, 40; Ex. 1010, 1; Ex. 1011, 2; Ex. 1012, 1; Ex. 1013, 3; Ex. 1014, code 57, 5:26–44; Ex. 1015, 95–96; Ex. 1019).

We credit Dr. Houh’s testimony as it is supported by sufficient evidence.

For example, claim 98 involves (1) receiving a request for media, (2) in response to the request, generating and transmitting a communication, and (3) producing a settlement record reflecting the revenue sharing. Ex. 1001, 63:25–56. Independent claims 1, 39, 45, and 68 additionally provide: (1) identifying whether the media is available for streaming; (2) generating the “communication” based on a streaming “rule”; and (3) a “list” identifying

the media. These claims implement the abstract idea using conventional techniques specified at a high degree of generality.

We agree with Petitioner that “[t]his ordering . . . is simply the ordinary course following delivering content.” Pet. 49. Indeed, Dr. Houh testifies that claim 98 uses “only well-known, generic computing components [] without disclosing any particular implementation to transform the abstract idea.” Ex. 1003 ¶ 58; *see also id.* ¶¶ 37–49. Dr. Houh also testifies that the challenged claims “add no meaningful limitations beyond application of generic computing components to achieve the underlying abstract idea.” *Id.* ¶¶ 37–49, 58–59.

Accordingly, we find that independent claims 1, 39, 45, 68, and 98 add no meaningful limitations beyond application of generic computing components to achieve the underlying abstract idea, and they do not recite additional elements, individually or in combination, that would integrate the judicial exception into a practical application.

b. Discussion of Patent Owner’s Arguments

Patent Owner argues that the “specific combination of elements in the claims was not well-understood, routine, conventional at the time of the invention,” transforming “the purported abstract concept into an inventive concept.” PO Resp. 81–82. In particular, Patent Owner argues that Petitioner “ignores the additional claim elements” in claim 98 that “require *specific* information to be exchanged between the backend streaming system and a user device so that the *user device* (instead of the backend streaming system) controls streaming of portions of the requested media.” *Id.*

According to Patent Owner, these additional elements “enable the claimed method to overcome the performance problems with existing streaming systems and integrate the purported abstract concept into a practical application,” and “reflect an *improvement* to the operation of streaming systems, not merely performing an abstract idea using a computer.” *Id.* Patent Owner argues that “the elements of the claim, considered both individually and as an ordered combination, transform the nature of the claim into a patent-eligible application (i.e., the additional claim elements, individually and in combination, integrate the judicial exception into a practical application).” *Id.*

Patent Owner’s arguments are unavailing. Notably, Patent Owner’s arguments for the second step of the *Alice/Mayo* test here are similar to those arguments Patent Owner advances for the first step of the *Alice/Mayo* test. As discussed above in our analysis for the first step of the *Alice/Mayo* test (Section II.D.4), Patent Owner’s arguments are not commensurate with the scope of the claims. The claims neither recite a solution to the purported performance problem nor reflect an improvement to the operation of streaming systems. Patent Owner’s arguments also rest on its implicit claim construction that construes the term “at least one portion of the requested media” to exclude the entirety of the “requested media” or to require that the “requested media” be broken up into portions. As discussed above, we decline to adopt Patent Owner’s construction. To be clear, even if we were to apply Patent Owner’s construction, our determination would not change for the reasons discussed below.

Notably, the additional claim elements in claim 98, relied upon by Patent Owner, merely require: (1) the “communication device” capable of executing instructions received from the “computing device” to obtain “the at least one portion of the requested media using” a “resource,” and (2) a “communication” that includes (i) an identification of “the at least one portion of the requested media,” (ii) an identification of the “resource,” (iii) an instruction as to how “the at least one portion of the requested media” is to be streamed to the “communication device.”

The first element requires no more than sending a request for media to a “resource,” using generic functions (e.g., “executing instructions” and to obtain the “requested media”) and generic devices (e.g., “communication device,” “computing device,” and “resource”). Patent Owner admits that merely sending a request for media to a media server was known in the art. PO Resp. 5–6.

The second element requires no more than a generic “communication” that includes an identification of the requested media (e.g., the name of a song or music video), an identification of the media server (e.g., an IP address of the media server), and an “instruction” as to how the requested media is to be streamed, without any specificity. Using such a “communication” to send a request for media to the media server was also known in the art. *See, e.g.*, Ex. 1003 ¶¶ 43–49 (citing Ex. 1012, 1; Ex. 1013, 3; Ex. 1015, 95–96). Also, both Patent Owner and Dr. Sprenger admit that using a web server (the “computing device”) as an intermediary between a user device (the “communication device”) and a streaming sever (the

“resource”) was known in the art. PO Resp. 40–42 (citing Ex. 1012, 1–3); Ex. 2009 ¶¶ 114–115. These additional claim elements, both individually and as an ordered combination, simply add well-understood, routine, and conventional activities for requesting media streaming to the abstract idea.

As discussed above (Section II.D.4), nothing in the claims requires a user device to *control* the process of streaming the media in portions, as Patent Owner alleges. The additional claim elements relied upon by Patent Owner do not require a “play script” as Patent Owner implies. Tr. 36:1–6.

Even if we were to assume that a “play script” was recited in the claims, both Patent Owner and Dr. Sprenger admit that using a “video script” sent from a web server to obtain a user-selected media in portions from a media server, as described in Hua, was known in the art at the time of the invention. PO Resp. 40–44 (citing Ex. 1012, 1–3); Ex. 2009 ¶¶ 114–115. Patent Owner and Dr. Sprenger also admit that Kurose (Ex. 1013) discloses using a “presentation description file” (or a “meta file” that contains the URL of the audio/video file) to obtain user-selected media from a media server, and that RealSystem G2 manual (Ex. 1015) discloses that the RealPlayer uses a “SMIL file” that contains URLs of several pieces of media to request media from the RealServer using Real Time Streaming Protocol (RTSP) or Hypertext Transfer Protocol (HTTP). PO Resp. 4–46 (citing Ex. 1013, 2–3); Ex. 2009 ¶¶ 123–124; *see also* PO Resp. 47–49 (citing Ex. 1015, 93, 94, 96); Ex. 2009 ¶ 129.

As discussed above (Section II.D.4), the Specification does not disclose the user device controlling the streaming process, let alone solving

the purported “system performance issues” by enabling the user device to control the streaming process in portions, as Patent Owner suggests. *See, e.g.*, Ex. 1001, 4:1–6, 5:37–43. Tellingly, the embodiment relied upon by Patent Owner does not indicate that the user device controls the streaming process. *Id.* at 13:49–14:2. In that embodiment, the viewer sends a request for each media clip to the “computing device,” and each requested media clip is streamed *in its entirety*, not broken up or streamed in portions. *Id.*

Moreover, the portions of the ’044 provisional application relied upon by Patent Owner disclose that the purported “improvement” involves a *reservation* process that uses a Media Routing Algorithm and a *reservation* system in the Real Time Stream Management System. PO Resp. 20–24; Ex. 2010, 5, 11, 13, 15–16, 19. However, none of the challenged claims recites a reservation process or a reservation system, much less a Media Routing Algorithm or a Real Time Stream Management System as disclosed in the ’887 patent and the ’044 provisional application. *See, e.g.*, Ex. 1001, code 57, 10:20–26, Fig. 1; Ex. 2010, 3, 5, 11, 13, 15–16, 19.

In addition, as the Federal Circuit has explained, even if “[w]e may assume that the techniques claimed are ‘[g]roundbreaking, innovative, or even brilliant,’ . . . that is not enough for eligibility.” *SAP Am., Inc. InvestPic, LLC*, 898 F.3d 1161, 1163 (Fed. Cir. 2018) (quoting *Ass’n for Molecular Pathology v. Myriad Genetics, Inc.*, 569 U.S. 576, 591 (2013)); *see also id.* (concluding that it is not “enough for subject matter eligibility that claimed techniques be novel and nonobvious in light of prior art”). “[T]he relevant inquiry is not whether the claimed invention as a whole is

unconventional or non-routine” because “a claimed invention’s use of the ineligible concept to which it is directed cannot supply the inventive concept that renders the invention ‘significantly more’ than that ineligible concept.” *BSG Tech*, 899 F.3d at 1290. “[O]ur precedent is clear that merely adding computer functionality to increase the speed or efficiency of the process does not confer patent eligibility on an otherwise abstract idea.” *Intellectual Ventures*, 792 F.3d at 1370 (noting that “the fact that the web site returns the pre-designed ad more quickly than a newspaper could send the user a location-specific advertisement insert does not confer patent eligibility”); *see also Bancorp Servs., L.L.C. v. Sun Life Assur. Co. of Can. (U.S.)*, 687 F.3d 1266, 1278 (Fed. Cir. 2012) (explaining that “the fact that the required calculations could be performed more efficiently via a computer does not materially alter the patent eligibility of the claimed subject matter.”).

For the foregoing reasons, we are persuaded by Petitioner’s showing that the additional elements of claims 1, 39, 45, 68, and 98, both individually and in combination, do not “‘transform the nature of the claim’ into a patent eligible application.” *Alice*, 573 U.S. at 217–18 (quoting *Mayo*, 566 U.S. at 78–79). And Patent Owner’s arguments do not undermine Petitioner’s showing. Therefore, we determine that Petitioner has shown by a preponderance of the evidence that claims 1, 39, 45, 68, and 98 of the ’887 patent are unpatentable under 35 U.S.C. § 101.

c. Dependent Claims 2–12, 40–41, 46–56, and 99–126

Applying the same analysis to each of dependent claims 2–12, 40–41, 46–56, and 99–126, our conclusion does not differ from our conclusion

above for independent claims 1, 39, 45, 68, and 98. *See* Pet. 60–62. The additional element of these dependent claims, both individually and as an ordered combination, do not provide an inventive concept that is significantly more than the abstract idea. They do not transform the abstract idea into patent-eligible subject matter because the claims simply implement the abstract idea using routine, conventional activities.

As discussed above (Section II.D.4), dependent claims 2–10, 46–54, 104, 107, 111, and 119–126 require: an advertising revenue sharing rule, a settlement rule for sharing revenue between two parties (e.g., an advertiser and a publisher), a collection rule for payment, payment requirements, an advertisement insertion, an advertising service, and a publisher. These additional elements constitute a practice of organizing human activity, which is rooted in assessing sales and economic interactions—a fundamental economic practice. The Supreme Court has held in *Alice* that “a method of exchanging financial obligations between two parties using a third-party intermediary to mitigate settlement risk” is “a fundamental economic practice long prevalent in our system of commerce” and that “the concept of intermediated settlement . . . [is] squarely within the realm of ‘abstract ideas.’” *Alice*, 573 U.S. at 219–22; *see also Ultramercial*, 772 F.3d at 714–715 (holding that the process of allowing a consumer to receive copyrighted media in exchange for watching a selected advertisement was an abstract idea).

As discussed above (Section II.D.4), the additional elements recited in dependent claims 99, 100, 103, and 113 require: a characteristic of the user

(e.g., demographic information associated with the user or a user identification) or an attribute of the “communication device” of the user (e.g., the type of media player). The Federal Circuit in *Affinity Labs* has held that claims for delivering user-selected media content to a portable device using a “customized user interface,” described in the specification as having “a radio dial, a playlist, or targeted advertising based on demographic information provided by the user,” were directed to an abstract idea. 838 F.3d at 1271 (emphasis added). In *Intellectual Ventures*, the Federal Circuit also has held that claims related to “customizing web page content” based on “navigation data” (e.g., time of day) and “information known about the user” (e.g., viewer’s location or address) were directed to the abstract idea of “information tailoring.” 792 F.3d at 1369–70. The Federal Circuit also has held that the concept of “providing lists of location-specific information sources to users based on their location” was an abstract idea. *British Telecommunications*, 813 F. App’x at 587.

As discussed above (Section II.D.4), the additional elements in the remaining dependent claims merely recite generic steps typical of any conventional process for retrieving media based on characteristics of the user. *See, e.g.*, claims 11, 40, 55, 56, and 118 (streaming from the “resource” or a media server); claims 12, 14, and 41 (a generic “rule” to generate a “list” identifying “the at least the portion of the requested media”); claim 105 (a “rule” associated with the request media (e.g., a format associated with the requested media)); claims 101, 102, and 106 (a “unique identifier” or a name of the requested media); claims 108, 109,

110, and 116 (a URL of the at least one portion of the requested media, a URL of the “resource,” an identification of a routing processors to identify a media server, or an identification of a media server); claim 112 (on-demand or live media); claim 114 (generic statistical information); claim 115 (video); claim 117 (one other portion of the requested media). In short, they do not transform the abstract idea into patent-eligible subject matter because the claims simply implement the abstract idea using routine, conventional activities.

For the foregoing reasons, the additional elements of the dependent claims, both individually and as an ordered combination, do not provide an inventive concept that is significantly more than the abstract idea. We determine that Petitioner also has shown by a preponderance of the evidence that claims 2–12, 40–41, 46–56, and 99–126 of the ’887 patent are unpatentable under 35 U.S.C. § 101.

Conclusion for Subject Matter Eligibility

For the foregoing reasons, we determine that Petitioner has shown by a preponderance of the evidence that the challenged claims of the ’887 patent recite an abstract idea, do not integrate that abstract idea into a practical application, and otherwise recite only generic computer components that do not transform the claims into patent eligible applications of that idea. Petitioner, thus, has shown by a preponderance of the evidence that claims 1–12, 39–41, 45–56, 68, and 98–126 of the ’887 patent are unpatentable under 35 U.S.C. § 101.

III. CONCLUSION

We conclude that Petitioner has shown by a preponderance of the evidence that claims 1–12, 39–41, 45–56, 68, and 98–126 of the '887 patent are unpatentable under 35 U.S.C. § 101.

IV. ORDER

In consideration of the foregoing, it is hereby:

ORDERED that claims 1–12, 39–41, 45–56, 68, and 98–126 of the '887 patent have been shown to be unpatentable; and

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

In summary⁸:

Claim(s)	35 U.S.C. §	Reference(s) / Basis	Claims Shown Unpatentable	Claims Not Shown Unpatentable
1–12, 39–41, 45–56, 68, 98– 126	101	Eligibility	1–12, 39–41, 45–56, 68, 98– 126	

⁸ Should Patent Owner wish to pursue amendment of the challenged claims in a reissue or reexamination proceeding subsequent to the issuance of this decision, we draw Patent Owner's attention to the April 2019 *Notice Regarding Options for Amendments by Patent Owner Through Reissue or Reexamination During a Pending AIA Trial Proceeding*. See 84 Fed. Reg. 16,654 (Apr. 22, 2019). If Patent Owner chooses to file a reissue application or a request for reexamination of the challenged patent, we remind Patent Owner of its continuing obligation to notify the Board of any such related matters in updated mandatory notices. See 37 C.F.R. § 42.8(a)(3), (b)(2).

Claim(s)	35 U.S.C. §	Reference(s) / Basis	Claims Shown Unpatentable	Claims Not Shown Unpatentable
Overall Outcome			1–12, 39–41, 45–56, 68, 98– 126	

CBM2020-00028
Patent 8,825,887 B2

For PETITIONER:

Cameron Westin
Amy Liang
O'MELVENY & MYERS LLP
cwestin@omm.com
aliang@omm.com

For PATENT OWNER:

James T. Carmichael
Stephen T. Schreiner
CARMICHAEL IP, PLLC
jim@carmichaelip.com
schreiner@carmichaelip.com

Jason S. Charkow
Chandran B. Iyer
Stephanie R. Mandir
Kevin H. Sprenger
DAIGNAULT IYER LLP
jcharkow@daignaultiyer.com
cbiyer@daignaultiyer.com
smandir@daignaultiyer.com
ksprenger@daignaultiyer.com