

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

TIKTOK INC.,
Petitioner,

v.

NTECH PROPERTIES, INC.,
Patent Owner.

IPR2024-01340
Patent 8,145,704 B2

Before KEN B. BARRETT, TERRENCE W. McMILLIN, and
SCOTT B. HOWARD, *Administrative Patent Judges*.

McMILLIN, *Administrative Patent Judge*.

JUDGMENT
Final Written Decision
Determining Some Challenged Claims Unpatentable
35 U.S.C. § 318(a)

I. INTRODUCTION

A. *Background and Summary*

TikTok Inc. (“Petitioner”)¹ filed a Petition for *inter partes* review of claims 1–24 of U.S. Patent No. 8,145,704 B2 (Ex. 1001, “the ’704 patent”). Paper 2 (“Pet.”). NTECH Properties, Inc. (“Patent Owner”)² filed a Preliminary Response. Paper 6 (“Preliminary Response” or “Prelim. Resp.”). We instituted the petitioned review (Paper 7, “Inst. Dec.”).

Patent Owner filed a Patent Owner Response (Paper 15, “PO Resp.”) to oppose the Petition. Petitioner filed a Reply (Paper 18, “Pet. Reply”) to the Patent Owner Response. Patent Owner filed a Sur-reply (Paper 24, “PO Sur-reply”) to the Reply. We conducted an oral hearing on December 18, 2025. A transcript has been entered into the record (Paper 34, “Tr.”).³

We have jurisdiction under 35 U.S.C. § 6(b)(4) and § 318(a). This Decision is a final written decision under 35 U.S.C. § 318(a) and 37 C.F.R. § 42.73 as to the patentability of claims 1–24 of the ’704 patent. We determine Petitioner has shown by a preponderance of the evidence that claims 1–12 and 14–18 of the ’704 patent are unpatentable, but has not shown that claims 13 and 19–24 of the ’704 patent are unpatentable.

B. *Related Proceedings*

The parties identify the following district court matter related to the ’704 patent: *NTECH Properties, Inc. v. ByteDance Ltd.*, Case No. 2:24-cv-

¹ Petitioner identifies TikTok Inc., Bytedance Ltd., Bytedance Pte. Ltd., and TikTok Pte. Ltd. as the real parties-in-interest to this proceeding. Pet. 2.

² Patent Owner identifies NTECH Properties, Inc. as the real party-in-interest to this proceeding. Paper 4, 1.

³ Patent Owner’s Objections to Petitioner’s Demonstratives (Paper 33) are overruled for the reasons given during oral argument. See Tr. 5:10–16.

00130-JRG (E.D. Tex.), transferred to the Central District of California as *NTECH Properties, Inc. v. ByteDance Ltd.*, Case No. 2:25-cv-03635-FLA-JC (C.D. Cal.). Pet. 2; Paper 4, 1; Paper 13, 2.

The parties also identify U.S. Patent Nos. 8,886,753, 9,215,261, and 9,923,947 as patents that are in the same family as the '704 patent and against which Petitioner has filed IPR petitions. Pet. 2; Paper 4, 1; Paper 13, 2. Although the parties do not identify these other IPR petitions, we identify them as: IPR2024-01342⁴ (challenging U.S. 8,886,753, final written decision entered); IPR2024-01341 (challenging U.S. 9,215,261, not instituted); and IPR2024-01343 (challenging U.S. 9,923,947, not instituted).

C. The '704 Patent (Ex. 1001)

The '704 patent is titled “Method and System for Providing Media Programming.” Ex. 1001, code (54). The '704 patent generally relates to providing media programming. *Id.* at 1:13–14. The '704 patent discloses methods and systems for generating, aggregating, and providing media programming. *Id.* at 1:32–2:3. For example, the '704 patent discloses a method of generating media programming including the steps of: providing by an aggregator to a client a list of feeds; receiving by the aggregator from the client a selection of one of the feeds; receiving by a publisher from the aggregator the feed selection; and providing to the client media programming based on a publisher-initiated feed responsive to the feed selection and including media elements selected and concatenated with the feed responsive to the client information. *Id.* at code (57).

⁴ The oral argument in IPR2024-01342 was consolidated with the oral argument in this proceeding. *See* Tr. 1; Paper 27 (Order Setting Oral Argument), 2.

Figure 1 of the '704 patent, reproduced below, depicts a system for providing media programming:

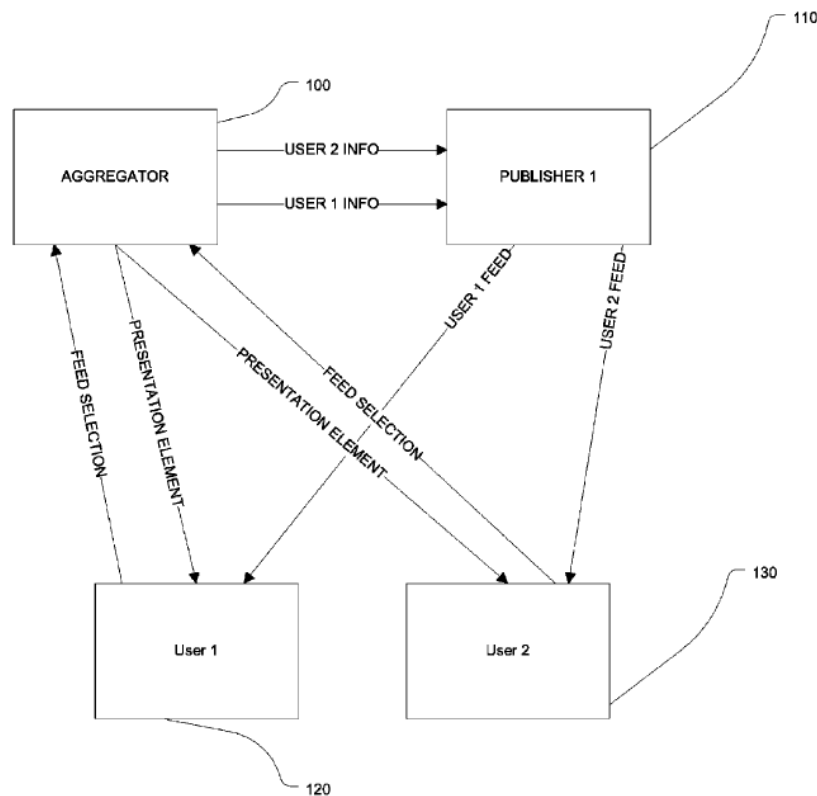


Fig. 1

Id. at 2:44–3:34. In Figure 1, aggregator 100 (which may be a web server) provides a presentation element, including one or more feeds, to user 1 and user 2. *Id.* at 2:45–52, 3:16–17. A presentation element may include selections of sources of media programming, such as by a menu or selectable icons. *Id.* at 3:12–14. The users each provide a selection of a feed to aggregator 100. *Id.* at 2:53–54. Aggregator 100 provides information relating to each user to publisher 110. *Id.* at 2:54–55. Based on the selected feed and the user information, publisher 110 provides individual feeds to the users, the feeds being responsive at least in part to the user information, in addition to feed selection. *Id.* at 2:55–60. The feeds may include media

elements selected and concatenated by publisher 110 responsive to at least both feed selection and user information. *Id.* at 2:60–62. The same feed selection by user 1 and user 2 may result in the provision of different feeds by publisher 110 to the different users. *Id.* at 2:62–65. The feeds may include a concatenated sequence of media elements, in which the order and selection of media elements is determined by algorithms including as variables user information. *Id.* at 2:65–3:1. The content of a media feed may include a video feed, an audio only feed, a sequence of still images, and a combination of one or more of audio, video and still images. *Id.* at 3:3–5.

Figure 5 of the '704 patent, reproduced below, depicts an example display 500 showing a presentation element generated by an aggregator:

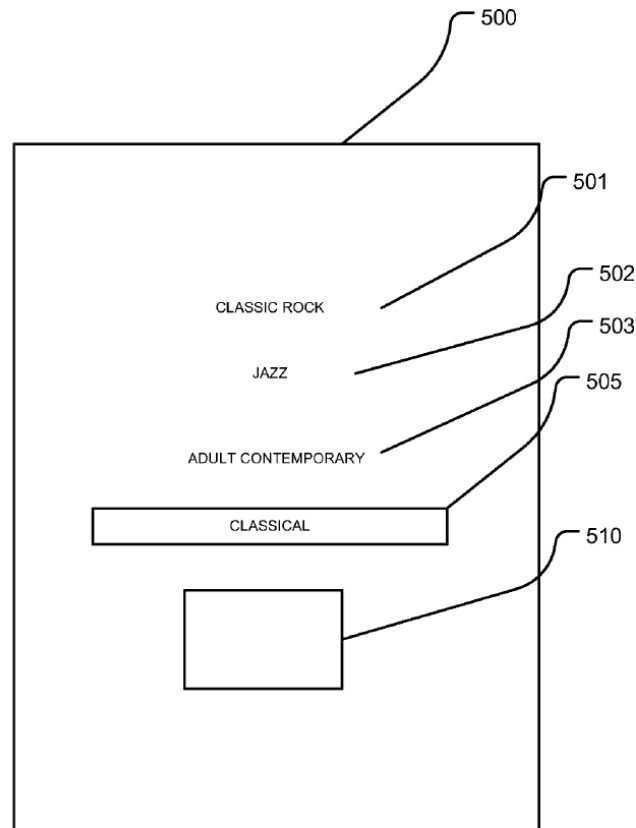


Fig. 5

Id. at 5:63–64. In display 500 of Figure 5, music feeds 501–503, 505 are

available, and “classical” feed 505 has been highlighted in response to user selection. *Id.* at 5:64–66. The user may select a feed by clicking on a mouse or on an enter button on a television remote control, or by scrolling up to highlight a different feed. *Id.* at 5:65–6:3.

Figure 7 of the ’704 patent, reproduced below, illustrates operations for providing user-specific feeds:

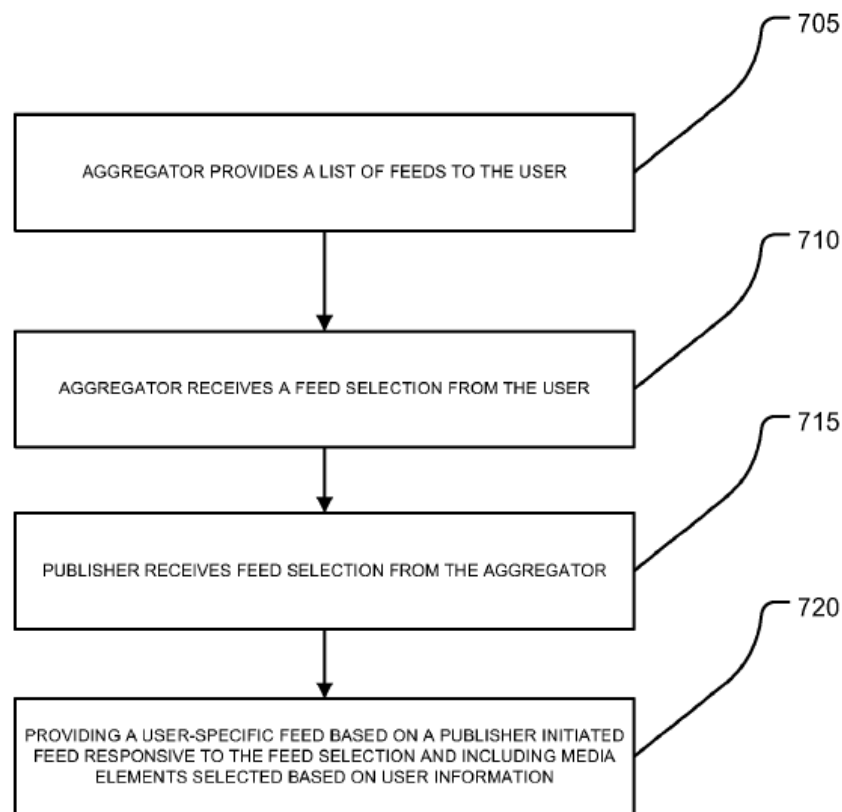


Fig. 7

Id. at 13:13–15. In the process flow illustrated in Figure 7, a list of feeds is provided to a client device by an aggregator (operation 705). *Id.* at 13:14–27. The aggregator receives a client selection of one of the listed feeds (step 710). *Id.* The aggregator provides the selection to a publisher (step 715). *Id.* The aggregator may also provide client information to the publisher, for

the publisher to use in generating a user-specific stream. *Id.* A feed is then provided to the user, based at least on a stream from the publisher and media elements selected based on the user information (step 720). *Id.* The publisher may generate a stream including selection of media elements based on the user information, or the publisher may provide a predetermined stream to a client device, which selects additional media elements based on user information to create the user-specific stream. *Id.*

Figure 8 of the '704 patent, reproduced below, illustrates a method for aggregating media programming:

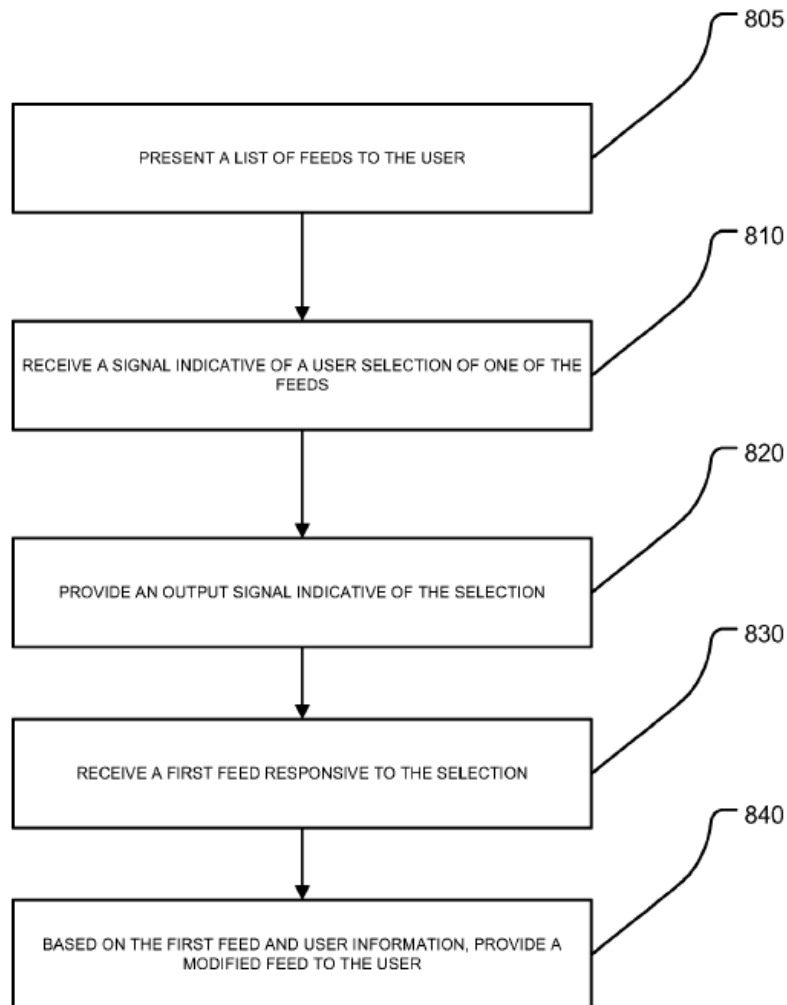


Fig. 8

Id. at 13:28–30. In step 805 in Figure 8, which may be performed by an aggregator, a list of feeds is presented to a user. *Id.* at 13:30–46. An input signal is received, indicative of a selection of one of the feeds from the list (step 810), whereby the signal may also be received by the aggregator. *Id.* An output signal is provided indicative of the selection at step 820, which may also be performed by the aggregator and the signal provided to a publisher. *Id.* At least a first feed is received responsive to the output signal (step 830), whereby the first feed may be received from a publisher at a client device, at an aggregator, or other media assembly engine. *Id.* Based on the first feed and user information, a modified feed is provided to the user (step 840). *Id.* Step 840 may be performed by a media assembly engine at a client device, at an aggregator, or at a component of a publisher. *Id.*

D. Challenged Claims

Petitioner challenges claims 1–24 of the ’704 patent. Pet. 3–4. Claims 1, 19, and 23 are independent. Independent claim 1 recites:⁵

- 1[pre] A method of generating media programming for display on a client, comprising:
- 1[a] receiving by an aggregator data relating to a plurality of media streams;
- 1[b] accessing by the aggregator user information;
- 1[c] based on the user information and the data related to the plurality of media streams, determining by the aggregator a temporal sequence of media programming comprising the media streams;
- 1[d] accessing by the aggregator over a network the plurality of media streams; and

⁵ In order to follow the arguments of the parties, we have adopted the limitation numbering from the Petition. *See* Pet. 3–7. We note that after the “List of Challenged Claims” on pages 3–7, the page numbering in the Petition starts over at page 1.

1[e] providing by the aggregator to the client media programming in the determined temporal sequence, the media programming comprising concatenated elements of the plurality of media streams.

Ex. 1001, 14:42–56.

Claim 19 recites:

19[pre] A system for providing media programming, comprising:

19[a][i] an aggregator having a memory and a processor, the processor adapted for 19[a][ii] presenting a plurality of media streams to a user, 19[a][iii] receiving a signal having data indicative of a selection of one of the media streams, and 19[a][iv] providing an output signal including data indicative of the selection and of user data; and

19[b][i] a publisher having a memory and a processor, the publisher processor adapted to 19[b][ii] receive the output signal from the aggregator, and, 19[b][iii] responsive to the data indicative of the selection and of user data, access from the memory at least one algorithm for selection and sequencing of media elements, 19[b][iv] select a temporal sequence of media programming comprising the selected media stream and other media elements based on an output of the algorithm using the selection and the user data, 19[b][v] assemble the selected media stream and the other media elements in the temporal sequence, and 19 [b][vi] provide media programming to the user including the assembled media stream and other media elements in the temporal sequence.

Id. at 15:49–16:16.

Independent claim 23 recites:

23[pre] A method for aggregating media programming, comprising:

presenting to a user a list of media streams;⁶
23[a] receiving an input signal having data indicative of a selection of one of the media streams feeds from the list;
23[b] providing an output signal having data indicative of the selection;
23[c] receiving, responsive to the output signal, at least the selected media stream; and
23[d] responsive to the data indicative of the selection and user information, and using at least one algorithm for selection and sequencing of media elements, selecting a temporal sequence of media programming comprising the selected media stream and other media elements and providing media programming to the user, the media programming comprising the other media elements selected and concatenated in accordance with the temporal sequence with the selected media stream.

Id. at 16:30–47.

E. The Asserted Grounds

Petitioner asserts the following challenges to patentability (Pet. 3–4):

Claims Challenged	35 U.S.C. §	Reference(s)
1–24	103	Whitehead ⁷
1–24	103	Whitehead, Marcus '904 ⁸
1–24	103	Cristofalo, ⁹ Marcus '904

⁶ The first limitation in claim 23 “*presenting to a user a list of media streams*” is not included in the “List of Challenged Claims” on (first) page 6 of the Petition. *Compare* Ex. 1001, 16:30–47 (claim 23), *with* Pet. 6 (claim 23).

⁷ US 8,555,318 B2, issued Oct. 8, 2013 (Ex. 1003).

⁸ US 2006/0015904 A1, published Jan. 19, 2006 (Ex. 1005).

⁹ US 2002/0152117 A1, published Oct. 17, 2002 (Ex. 1004).

To support these challenges, Petitioner relies on Declarations of Kevin Almeroth, Ph.D. (Ex. 1002 (Declaration submitted with Petition), Ex. 1023 (Reply Declaration); *see also* Ex. 2016 (transcript of the deposition of Dr. Almeroth taken on May 30, 2025); Ex. 2032 (transcript of the deposition of Dr. Almeroth taken on October 16, 2025)).

Patent Owner relies on the Declaration of Michael T. Goodrich, Ph.D. (Ex. 2014; *see also* Ex. 2001 (Declaration of Dr. Goodrich submitted in support of the Preliminary Response); Ex. 1028 (transcript of the deposition of Dr. Goodrich)).

II. OBVIOUSNESS ANALYSIS

A. Principles of Law

Under 35 U.S.C. § 103(a), “[a] patent claim is unpatentable if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.” *See KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007) (similar language). The question of obviousness involves resolving underlying factual determinations including (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; (3) the level of ordinary skill in the art; and when presented (4) objective evidence of non-obviousness (not presented here). *Graham v. John Deere Co. of Kan. City*, 383 U.S. 1, 17–18 (1966). Further, “there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.” *See KSR*, 550 U.S. at 418.

B. Level of Ordinary Skill in the Art

Petitioner contends:

[a] person of ordinary skill in the art at the time of the '704 patent ("POSITA") had at least a Bachelor of Science in electrical engineering, computer engineering, or similar fields **and** at least two years of practical experience in the field of media processing and/or transmission. More education can supplement for less practical experience, and vice versa.

Pet. 8 (citing Ex. 1002 ¶¶ 48–50) (emphasis added).

Patent Owner offers a very similar assessment of the level of skill in the art as Petitioner, arguing the following:

[a] person of ordinary skill in the art ("POSITA") at the relevant time period between 2006 and 2007 would be one having a bachelor's degree in computer science, computer engineering, **or** an equivalent, **or** two years of professional experience in the field of distributed computing. More education can supplement for less professional experience, and vice versa.

PO Resp. 4 (citing Ex. 2014 ¶¶ 15–19) (emphasis added).

The parties' definitions are similar, although we observe that Patent Owner proposes that the person of ordinary skill would have a bachelor's degree *or* an equivalent *or* professional experience, whereas Petitioner proposes that such a person would have both a degree *and* experience. Neither party presents any arguments relating or referring to the level of ordinary skill in the art.

Determining the level of ordinary skill in the art involves various factors, 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). The prior art of record also reflects the level of ordinary skill in the art. *See Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001).

We adopt Petitioner’s assessment of the level of skill in the art. Petitioner’s assessment is supported by the testimony of Dr. Almeroth and is consistent with the ’704 patent and the asserted prior art. However, our obviousness analysis would have been the same under either party’s assessment. *See* Ex. 2014 ¶ 17 (Patent Owner’s declarant, Dr. Goodrich, stating that “I note that my definition of a POSITA is similar to that of Dr. Almeroth” and “My opinions in this declaration would not change were I to adopt the definition of a POSITA offered by Dr. Almeroth.”).

C. *Claim Construction*

In *inter partes* reviews, the Board construes claims using the same claim construction standard employed in a civil action under 35 U.S.C. § 282(b). 37 C.F.R. § 42.100(b) (2023). Claim terms are generally given their ordinary and customary meaning. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1313 (Fed. Cir. 2005) (en banc). “[T]he ordinary and customary meaning of a claim term is the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention, i.e., as of the effective filing date of the patent application.” *Id.* at 1313. “In determining the meaning of the disputed claim limitation, we look principally to the intrinsic evidence of record, examining the claim language itself, the written description, and the prosecution history, if in evidence.” *DePuy Spine, Inc. v. Medtronic Sofamor Danek, Inc.*, 469 F.3d 1005, 1014 (Fed. Cir. 2006) (citing *Phillips*, 415 F.3d at 1312–1317). Extrinsic evidence consisting of all evidence external to the patent and prosecution history includes expert and inventor testimony, dictionaries, and learned

treatises. *Phillips* at 1317. While extrinsic evidence can shed useful light on the relevant art, it is less significant than the intrinsic record in determining the legally operative meaning of claim language. *Id.* “[T]he specification and prosecution history only compel departure from the plain meaning in two instances: lexicography and disavowal.” *GE Lighting Sols., LLC v. AgiLight, Inc.*, 750 F.3d 1304, 1309 (Fed. Cir. 2014).

With regard to claim construction, the entire presentation in the Petition consists of a single sentence that states, “No express constructions are required to find the ’704 patent claims invalid; however, Petitioner identifies and addresses the plain meaning of certain terms in the analysis for the presented Grounds.” Pet. 8.

Under the heading “Claim Construction” in the Response, Patent Owner presents arguments relating to: (1) “*media streams*” (all challenged claims) (2) “*an output signal including data indicative of the selection and of user data*” (independent claim 19); and “*accessing by the aggregator*” (independent claim 1). *See* PO Resp. 4–12. We consider each of these arguments in turn below.

1. “media stream”

Patent Owner presents an argument relating to the plain and ordinary meaning of “*media stream*” as recited in the claims of the ’704 patent. PO Resp. 4–8; *see also* PO Sur-reply 2–6. Patent Owner does not present an argument for explicit claim construction or argue lexicography or disavowal. *See id.* In the Sur-reply, Patent Owner states that “[a]lthough the parties fundamentally dispute the plain meaning of the term ‘media stream,’ the Board need not formally construe the term.” PO Sur-reply 2.

The term “*media stream*” and/or its plural “*media streams*” are recited in independent claims 1, 19, and 23, and dependent claims 10–12, 14, 16–18, 20 and 24. Ex. 1001, 14:42–16:52. Patent Owner contends that “[t]he plain and ordinary meaning of the term ‘media stream’ is: “*a continuous sequence of media data.*”¹⁰ PO Resp. 4.

Patent Owner argues that the language of the claims supports this meaning of “*media stream*” as “a continuous sequence of media data” in the context of the ’704 patent. The Response provides:

The plain language of the claims confirms that the term “media stream” refers to an (existing) continuous sequence

¹⁰ In its Preliminary Response, under the heading “Claim Construction,” Patent Owner argued that, “[i]n the context of the ’704 patent, the term ‘media stream’ refers to *a concatenated set of media elements.*” Prelim Resp. 8. In support, Patent Owner argued that the language of the claims, the specification of the ’704 patent, and the inventor’s earlier patents supported this construction of “*media stream.*” *Id.* at 8–10. In its Response, Patent Owner does not explain, or even acknowledge, its earlier, inconsistent argument relating to “*media stream.*” See PO Resp. 4–8; PO Sur-reply 2–6.

The testimony of Patent Owner’s declarant, Dr. Goodrich, cited in the Preliminary Response (*see* Prelim. Resp. 9) and the Response (*see* PO Resp. 4–8) is also inconsistent with regard to “*media stream.*” Compare Ex. 2001 ¶¶ 29–33 with Ex. 2014 ¶¶ 33–41. In Exhibit 2001 (Declaration of Dr. Michael T. Goodrich, Ph.D. in Support of Patent Owner’s Preliminary Response), Dr. Goodrich testifies that “*media stream*” should be construed as “a concatenated set of media elements” based on the language of the claims, the specification of the ’704 patent, and an earlier patent of the inventor. Ex. 2001 ¶¶ 29–33. In Exhibit 2014 (Declaration of Michael T. Goodrich, Ph.D. in Support of Patent Owner’s Response), Dr. Goodrich testifies that the plain and ordinary meaning of “*media stream*” is “a continuous sequence of media data” based on the language of the claims, the specification of the ’704 patent, an earlier patent of the inventor, and use in the art. Ex. 2014 ¶¶ 33–41. Dr. Goodrich does not explain, or even acknowledge, his prior, inconsistent testimony relating to “*media stream.*” See *id.*

media data because each claim requires that the “media stream” be assembled with other media elements. *See, e.g.,* ’704 Patent at Claim 19 (reciting (1) that a user is presented with a “plurality of media streams” and selects “one of the media streams,” and that (2) the publisher “receiv[es] the output signal” including, *inter alia*, “data indicative of the selection” and “assemble[s] the selected media stream and the other media elements in the temporal sequence”). This language, requiring the assembly of “other” media elements, with the media stream would make little sense if “the selected media stream” did not also include media data. *See* Goodrich PO Resp. Decl. at ¶ 35.

PO Resp. 5 (alterations in original). Patent Owner does not adequately explain, and we do not discern, how or why the plain language of claim 19 (or any other claim) supports its asserted meaning. Patent Owner argues that its meaning should be adopted “because each claim requires that the ‘media stream’ be assembled with other media elements.” *Id.* It is not apparent how or why this supports that “*media stream*” means “a continuous sequence of media data.” Patent Owner refers to the recitation in claim 19 of an “*output signal*” including “*data indicative of the selection*” but fails to explain how or why this supports its asserted meaning. This signal including data need not be a continuous sequence and is not media data. Patent Owner does not show that the claim language supports its asserted meaning.

Patent Owner argues that “[a]ntecedent basis confirms that the media stream must also include a plurality of media elements at the time selected from ‘a plurality of media streams.’” PO Resp. 5. Regardless whether this is accurate, Patent Owner does not explain, and we do not discern, how or why this supports its argument that “*media stream*” means “a continuous sequence of media data.”

Patent Owner argues that “Dictionary definitions of ‘media stream’ from around the time of the invention confirm that the term refers to a continuous sequence of media **elements**. These definitions show that the term is known in the art to refer to a continuous sequence of media **elements**.” PO Resp. 6 (emphasis added). However, Patent Owner does not argue that “*media stream*” means “a continuous sequence of media **elements**.” Patent Owner’s asserted meaning of “*media stream*” is “a continuous sequence of media **data**.” Patent Owner does not argue that in this context, or generally, that “elements” has the same meaning as “data.”

Moreover, Patent Owner’s argument based on dictionary definitions also fails because Patent Owner has not shown that the dictionary definition of “*media stream*” is “a continuous sequence of media data.” *See* PO Resp. 6. The two definitions of “*media stream*” offered in the Response are “[s]treaming media is video or audio content sent in compressed form over the internet” and a “***continuous sequence of*** audio or audio-and-video through a network.” PO Resp. 6 (citing Ex. 2015¹¹, 1; Ex. 2020, 332). Again, Patent Owner asserts that these definitions “refer to a continuous sequence of media **elements**” (not “media **data**”). *See id.* And, Patent Owner does not provide any explanation as to how or why these definitions support its asserted meaning.

Patent Owner also argues that the specification of the ’704 patent supports that “*media stream*” means “a continuous sequence of media data.” PO Resp. 6–7. Patent Owner argues that “[t]he specification also uses the term “media stream” in concert with this plain and ordinary meaning

¹¹ Exhibit 2015 is not a dictionary. In Patent Owner’s exhibit list, Exhibit 2015 is described as a “Tech Target webpage.” PO Resp. vii.

because it consistently refers to a media stream as including media data.” *Id.* at 6. This argument fails as it is not supported by a showing of consistent reference to “a media stream as including media data” in the specification of the ’704 patent. *See id.* at 6–7. In this argument, Patent Owner provides a single cite to the specification of the ’704 patent (*see id.* at 6 (citing Ex. 1001, 5:44–47)) that refers to an earlier patent by the inventor and that states: “U.S. Pat. No. 6,032,156 provides exemplary methods of generating a media stream, such as a video stream, adapted for a specific user/viewer into a unicast concatenated media stream” (Ex. 1001, 5:44–47). With regard the ’156 patent, the Response states:

These methods include arranging a sequence of media elements (or otherwise assets) to create a media stream. Goodrich PO Resp. Decl. at ¶¶ 38-39.

Marcus156 describes a system that is “capable of arranging assets in an order, and creating transitions between assets, to create a concatenated stream of audiovisual programming that has transitions that appear to the viewer to have been edited by a human editor.” Marcus156 at 14:14-18. These “assets,” or “media elements” (e.g., video clips or audio elements), are stored in a library and are sequenced together to generate what the ’704 Patent refers to as a media stream. *Id.* at 1:63-64, 2:58-64, 4:39-41, 9:23-32.

PO Resp. 6–7. The specification of the ’704 patent has not been shown to provide support for Patent Owner’s asserted meaning of “*media stream*” as “a continuous sequence of media data.”

For these reasons,¹² we do not adopt Patent Owner’s contention that “*media stream*” is “a continuous sequence of media data.”

¹² We also consider Patent Owner’s argument in the Preliminary Response that substantially the same evidence as relied on in the Response supports an inconsistent construction of “*media stream*” (*see* n.8 *supra*).

2. “an output signal including data indicative of the selection and of user data” as recited in Claim 19

Patent Owner argues that the plain meaning of “an output signal including data indicative of the selection and of user data” as recited in claim 19 (limitation 19[a][iv]) means a single signal includes both data indicative of the selection and user data. PO Resp. 8–10. We agree.

Petitioner argues that “the claims should not be construed to require a ‘single signal.’ ‘[A]n indefinite article ‘a’ or ‘an’ in patent parlance carries the meaning of ‘one or more.’” Pet. Reply 4 (citing *Convolve, Inc. v. Compaq Computer Corp.*, 812 F.3d 1313, 1321 (Fed. Cir. 2016)). In the context of the disputed limitation, the proper interpretation of “an” results in interpreting this limitation in claim 19 as requiring one or more “output signals,” but each of the signals must “*includ[e] data indicative of the selection **and** of user data.*” Stated differently, this limitation allows for a plurality of signals but each signal is required to include both “*data indicative of the selection*” and “*of user data.*”

Federal Circuit case law makes this clear. In explaining *Convolve*, the case on which Petitioner relies, the Federal Circuit said: “we interpreted ‘[u]ser interface for . . . working with a processor . . . comprising’ in claims 1, 3, and 5 to require ‘a single processor’ having all of the subsequently recited characteristics.” *Salazar v. AT&T Mobility LLC*, 64 F.4th 1311, 1316 (Fed. Cir. 2023) (cited by Patent Owner (PO Resp. 10)). In *Salazar*, the Federal Circuit was reviewing the construction of a claim reciting “a microprocessor for generating,” “creating,” “retrieving,” and “generating.” *Id.* at 1313–14. The Federal Circuit held, “it does not suffice to have multiple processors, each able to perform one of the recited functions; the claim language requires at least one microprocessor capable of performing

each of the recited functions.” *Id.* at 1318. “For a dog owner to have ‘a dog that rolls over and fetches sticks,’ it does not suffice that he have two dogs, each able to perform one of the tasks.” *Id.* at 1317 (quoting *In re Varma*, 816 F.3d 1352, 1362–63 (Fed. Cir. 2016)).

The plain meaning of “*an output signal including data indicative of the selection and of user data*” as recited in claim 19 (limitation 19[a][iv]) is that a single signal includes both data indicative of the selection and of user data.

3. “*accessing by the aggregator*” as recited in Claim 1

Patent Owner argues that “the term ‘accessing by the aggregator’ in ‘accessing by the aggregator over a network the plurality of media streams’ [claim 1, limitation 1d] refers to the aggregator **using** media streams.” PO Resp. 10 (emphasis added). In this argument, Patent Owner asserts that in the context of claim 1 and the ’704 patent that “*accessing*” means “using.” *Id.* at 10–12. We believe this meaning is too limited and reject this assertion.

First, Patent Owner asserts that “[d]ictionary definitions of the term ‘access’ confirm that the term refers to being able to use something.” PO Resp. 10. We agree that “*accessing*” can include “being able to use something,” but the cited dictionary definitions confirm that, in computing applications, this definition is too limited. Patent Owner cites Exhibit 2022 (“Excerpts from Microsoft Computer Dictionary (5th ed. 2002)” (*id.* at viii)) for “defining ‘access’ to mean ‘to be able to use.’” *Id.* at 10. However, Exhibit 2022 also defines “access” to mean “to open or load (a computer file, an internet site, etc.).” Ex. 2022, 2. Patent Owner cites Exhibit 2027 (“Oxford Advanced Learner’s Dictionary webpage” (*id.* at viii)) as stating

“access something (computing) [means] to open a computer file or use a computer system.” *Id.* at 10. This definition confirms that, in “computing,” “*accessing*” not only means “use,” but also means “open.” Patent Owner cites Exhibit 2028 (“PC Mag webpage” (*id.* at viii)) for defining “access” as “[t]he opportunity for use of a resource” and “[t]o store data on and retrieve data from a disk or other peripheral device”). *Id.* at 10. Here again, this definition confirms that “*accessing*” not only means “use” but also means “retrieve.” These dictionary definitions do not support interpreting “*accessing*” “in the context of computing” as Patent Owner argues (*see id.* at 10–11) as limited to being able to use and excluding opening, loading, or retrieving.

Patent Owner asserts that “the specification describes an embodiment where the aggregator obtains and uses media streams to modify the content of the streams.” *Id.* at 11 (citing Ex. 1001, 9:43–10:47). And, Patent Owner further asserts that claim 1 is directed to this embodiment and, therefore, this supports its limiting interpretation of “*accessing*” in limitation 1[d]. Patent Owner argues:

The independent claim recites that the aggregator receives “data relating to a plurality of a media streams” and based in part on the data “determin[es] . . . a temporal sequence of media programming comprising the media streams” and “provid[es] . . . to the client media programming in the determined temporal sequence.” ’704 Patent at Claim 1. Dependent Claim 18 further recites “caching by the aggregator the media streams prior to providing the elements in the media programming, whereby switching between streams.” *Id.* at Claim 18; Goodrich PO Resp. Decl. at ¶ 50.

In view of the foregoing, “accessing by the aggregator . . . the plurality of media streams” is not simply a conduit for

streams to traverse. Paper 7 at 23, 26.^[13] To the contrary, the aggregator’s “access[]” does more with the media streams through its use of these streams to modify stream content. Goodrich PO Resp. Decl. at ¶ 51.

Id. at 12 (alterations in original). Patent Owner does not explain, and we do not discern, how or why the specification or the claim language supports its argument that “accessing by the aggregator over a network the plurality of ‘media streams’ [claim 1, limitation 1 d] refers to the aggregator **using** media streams.” Patent Owner does not argue lexicography or disavowal. And, the questions of whether the specification includes an embodiment in which the aggregator uses media streams and of whether other language in the claims requires use of media streams are distinct from the question of whether the plain and ordinary meaning of “*accessing*” in the context of the claims should be limited to use. A showing that, in an embodiment or other claim limitation, the aggregator uses media streams does not inform, or establish, that “*accessing*” should be limited as proposed by Patent Owner.

¹³ Paper 7 is the Institution Decision. At pages 23 and 26, the Board’s Institution Decision addressed and rejected an argument relating to limitation 1[d] in Patent Owner’s Preliminary Response. *See* Inst. Dec. 23, 26. The Institution Decision said:

Turning to Patent Owner’s next argument, Patent Owner asserts that Whitehead’s alleged aggregator does not access media streams “just by virtue of receiving them and passing them on,” as “accessing” media streams “must require that the aggregator do more than merely act as a conduit between the Content Source and the Media DB.” [Prelim. Resp.] 16. This is a claim construction position that Patent Owner does not adequately support with arguments and evidence at this stage. In our view, on this limited record, “accessing” is a broad term that encompasses acting as a conduit.

Id. at 26.

We do not adopt Patent Owner’s proposed construction of “*accessing*” in limitation 1[d].

4. *Summary*

We do not explicitly construe any terms in the challenged claims of the ’704 patent and accord the claims, and all the recited terms therein, a plain and ordinary meaning. To the extent necessary in considering the patentability of the challenged claims, we will further consider the plain and ordinary meaning of the challenged claims and the recited terms.

D. Asserted Obviousness of Claims 1–24 Based on Whitehead

Petitioner challenges claims 1–24 as being rendered obvious by Whitehead. *See* Pet. 3, 9–51. Patent Owner disputes the showing in the Petition as to limitations of independent claims 1, 19, and 23 and limitations of dependent claims 13, 18, and 24. PO Resp. 15–42. We start our analysis of this ground with a description of the disclosure of Whitehead and then consider arguments and evidence presented by the parties.

1. Whitehead (Ex. 1003)

Whitehead is titled, “Customized Media on Demand.” Ex. 1003, code (54). Whitehead discloses a mixing server configured to create a custom media channel based on a profile indicating topics of interest, and a playback application configured to provide the custom media channel upon a request from a user, the custom media channel including items of multimedia content. *Id.* at code (57). Whitehead’s Figure 1, reproduced below, illustrates a system for delivering video. *Id.* at 1:53–55.

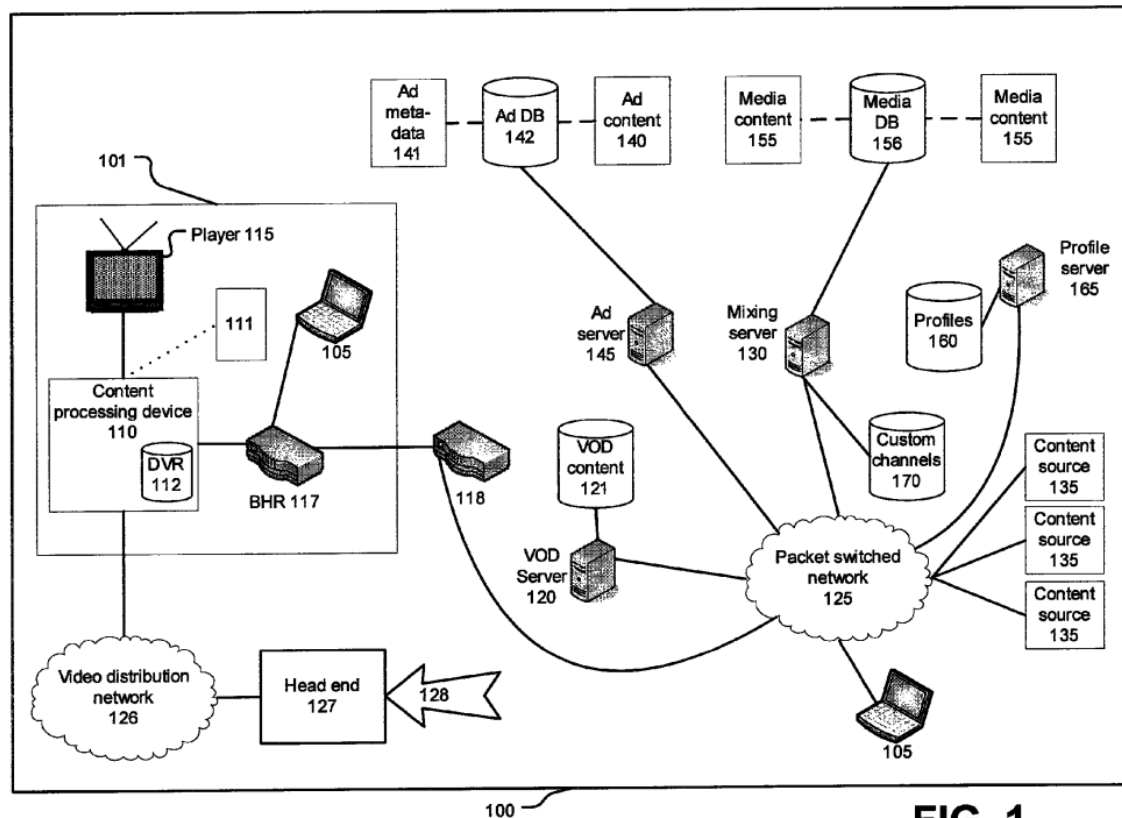


Figure 1 illustrates a system 100 for delivering a video signal 128 and supporting custom media channels 170. *Id.* at 2:4–6.

As shown in Figure 1, a customer premise 101 includes a content processing device 110 that provides video or other multimedia to a user on a media player 115 (such as a television set or video monitor). *Id.* at 2:7–16. Content processing device 110 may be a set top box (STB) or similar device for receiving a video signal and providing programming to media player 115. *Id.* Content processing device 110 performs and coordinates operations associated with receiving, decoding, storing, and displaying multimedia content 150, and operations related to generating a user interface displayed in media player 115. *Id.* at 2:63–3:2. Computer(s) 105, which communicate with content processing device 110, include program instructions for providing a user interface through which a user may submit

information concerning media of interest, and for submitting such information to a mixing server 130 and/or profile server 165 to be stored in a custom channel profile 160. *Id.* at 2:17–30. A broadband home router (BHR) 117 distributes audio, video, and data to content processing device 110, while gateway router 118 allows content processing device 110 to access a packet switched network 125. *Id.* at 2:60–64, 3:29–32, 3:40–43. Content processing device 110 may accordingly make requests to, and to receive data from, servers 120 and 130 via network 125. *Id.* at 3:48–51. Video on demand (VOD) server 120 provides video-on-demand to a user of content processing device 110, whereby content processing device 110 makes a request to VOD server 120 for VOD content 121 selected by the user. *Id.* at 3:52–64. Mixing server 130 selectively communicates with content processing device 110 via network 125 and/or router 118. Mixing server 130 assembles and delivers to content processing device 110, one or more custom media channels 170. *Id.* at 4:10–20. Mixing server 130 also provides functionality for combining advertising content 140 and/or media content 155 to create the custom media channels 170. *Id.* at 4:27–30.

A custom media channel 170 includes “a logical concept of an aggregated collection of media content 155 and/or advertising content 140, e.g., video clips, along with associated media metadata 150 and/or advertising metadata 141.” *Id.* at 4:33–37. Metadata 150 and 141 may include control information such as metadata information about content 155 and 140, play out order information, or channel policy control information. *Id.* at 4:37–40. Content 155 and 140 included in a custom media channel 170 may be assembled and stored in advance of a user request for the media channel, or it may be assembled and managed in real-time or near real-time.

Id. at 4:40–44. Media content 155 is provided by content sources 135, whereby an individual media content item 155 may contain content pertaining to a single, specific topic, while media metadata 150 includes information about media content 155. *Id.* at 5:9–30. For example, one media content 155 item may be a video clip for a specific news story, while another media content item 155 may be a video clip for another story. *Id.*

Custom channel profiles 160 are created and stored in association with a profile server 165, whereby a custom channel profile 160 is generally created by a user of computer 105 accessing profile server 165. *Id.* at 5:56–57, 6:35–37. Content processing device 110 may also be used to create, modify, and/or delete profiles 160. *Id.* at 6:37–40. The purpose of a profile 160 is to provide criteria for selecting media content 155 to be included in a given custom media channel 170 for a user, as well as to provide other policy control information related to retrieval and playback of a channel 170. *Id.* at 5:57–6:9. Profile 160 may therefore include information by which media metadata 150 may be queried, and according to which it may be determined whether an item of media content 155 meets criteria specified in custom channel profile 160. *Id.* Criteria for selecting media content 155 include categories of content 155 in which a user is interested. *Id.*

Profile server 165 provides a graphical user interface (GUI) through which a user may provide information for a profile 160. *Id.* at 7:3–17. Such information includes a username and other identifying information along with information concerning topics of interest to the user. *Id.*

Figure 2 of Whitehead, reproduced below, illustrates a custom media channel and a playlist. *Id.* at 1:55–56.

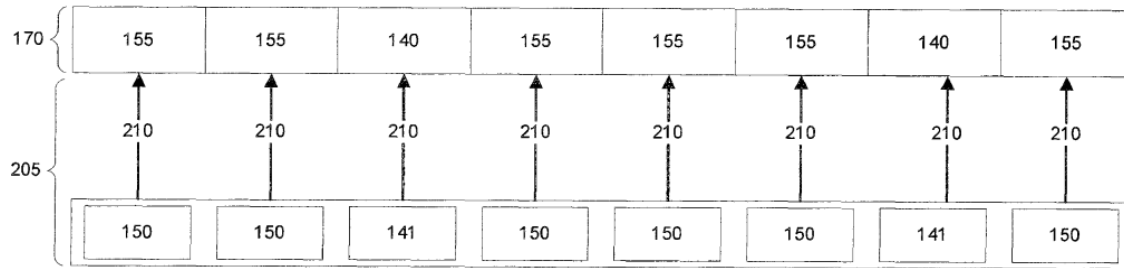


FIG. 2

Figure 2 illustrates a custom media channel 170 and a playlist 205.
Id. at 8:28–30.

As shown in Figure 2, a custom media channel 170 includes advertising content 140 and media content 155, assembled and provided to content processing device 110 according to playlist 205. *Id.* at 8:28–41. The particular advertising content 140 and media content 155 included in custom media channel 170 depends on a custom channel profile 160. *Id.* Playlist 205 determines an order in which items of advertising content 140 and media content 155 are provided in custom media channel 170. *Id.* at 8:42–64. A custom media channel 170 may include multiple multimedia files retrieved by mixing server 130 from databases 142/156 (*see* Figure 1) and sequentially streamed, as a single custom media channel 170, to content processing device 110/computer 105, in response to a user request for a custom media channel 170 on a real-time basis. *Id.* A custom media channel 170 may include different kinds of multimedia files, such as MPEG files and JPEG files. *Id.* A custom media channel 170 may also be instantiated as a single multimedia file (e.g., an MPEG file) created by aggregating or concatenating various items of advertising content 140 and/or media content 155. *Id.*

Figure 4 of Whitehead, reproduced below, illustrates a process for instantiating a custom media channel. *Id.* at 1:59–61.

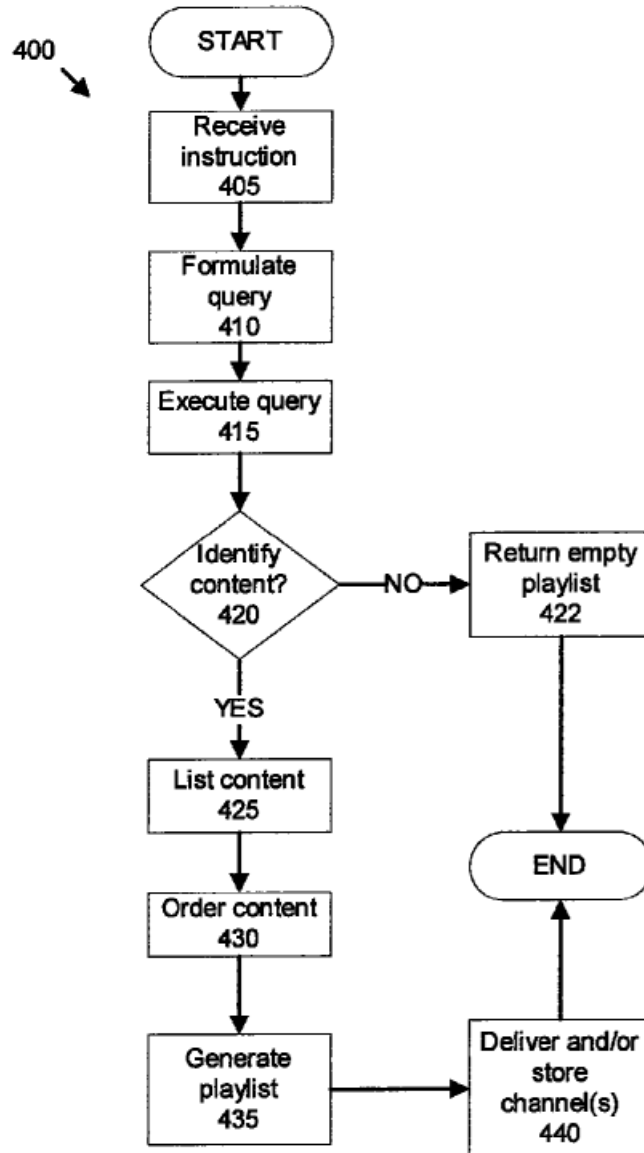


FIG. 4

Figure 4 illustrates a process 400 for instantiating one or more custom media channels 170. *Id.* at 11:38–39.

In step 405 shown in Figure 4, mixing server 130 receives an instruction/message triggering it to create one or more custom media channels 170 based on one or more custom channel profiles 160. *Id.* at 11:40–58. The trigger to create a custom media channels 170 may

result from a user request to access a channel 170, in which case a playlist 205 is generated and a custom media channel 170 is created in real-time or near real-time when a user “tunes” to channel 170. *Id.* Creating and delivering custom media channel 170 in real-time or near real-time based on the custom channel profile 160 allows for providing the user with customized content and providing the user with up-to-date content. *Id.* A custom media channel 170 may also be created and stored prior to a user’s request to access the channel 170. *Id.* at 11:59–65. For example, mixing server 130 could receive a message from profile server 165 that a custom channel profile 160 has been created or revised. *Id.* Receipt of the message may then cause mixing server 130 to invoke a process for creating or modifying one or more custom media channels 170 based on a profile 160 provided in the message. *Id.* at 12:8–17.

Next, in step 410 shown in Figure 4, mixing server 130 analyzes the custom channel profile 160 received in step 405 to formulate a query of media metadata 150. *Id.* at 12:18–37. For example, if a profile 160 indicates a particular subject of interest, such as a particular keyword, then the subject of interest or keyword may be parameters for the query. *Id.* Next, in step 415, mixing server 130 executes the query or queries for media content 155 and advertising content 140, formulated in step 410. *Id.* at 12:64–66. In step 420, mixing server 130 receives results of the query or queries executed in step 415, and evaluates the results to determine if the query results identify any media content 155, e.g., any video file or files. *Id.* at 13:7–14. If media content 155 is identified in the query executed in step 415, then process 400 proceeds to step 425. *Id.*

In step 425, mixing server 130 uses the media metadata 150 and/or advertising content 140 returned in step 420 to generate a list of media content 155 and/or advertising content 140 to be included in a custom channel 170 based on custom channel profile 160. *Id.* at 13:35–45. Information from profile 160 may be used to generate the playlist 205. *Id.* For example, profile 160 may include an indication that media content 155 relating to a first category of media content, e.g., sports, is of more interest to a user than media content 155 relating to a second category, e.g., weather. *Id.* Thus, the order of media content 155 reflected in playlist 205 may be at least partly determined by profile 160. *Id.* In step 430, mixing server 130 determines an order for the media listed in step 425, and in step 435, mixing server 130 generates a playlist 205 based on the query results listed as determined in steps 425 and 430. *Id.* at 13:62–64, 14:20–22. Finally, in step 440, mixing server 130 delivers (e.g., isochronously streams or progressively downloads) media content 155 and/or advertising content 140 to content processing device 110. *Id.* at 14:23–30. According to playlist 205, content 155 and/or advertisements 140 are retrieved from databases 142/156 on a real-time or near real-time basis (that is, when needed as part of a custom media channel 170). *Id.*

2. *Independent Claim 1*

The Petition contains a limitation-by-limitation showing that independent claim 1 is obvious in view of Whitehead. Pet. 39. Patent Owner contends “Independent Claim 1 is patentable because Whitehead does not disclose ‘accessing by the aggregator . . . the plurality of media streams’ [limitation 1[d]] under the correct constructions of both ‘media

streams’ and ‘accessing.’” PO Resp. 35. Our limitation-by-limitation analysis of claim 1 and the arguments and evidence of the parties follows.

1[pre] A method of generating media programming for display on a client, comprising:

Neither party takes a position as to whether the preamble of claim 1 is limiting. With regard to the preamble of claim 1, the Petition provides that “Whitehead discloses the preamble by describing systems and methods for generating and providing a custom media channel 170 (“**media programming**”) for display on media player 115 (“**client**”). Pet. 36 (citing Ex. 1002 (Almeroth Decl.) ¶ 122; Ex. 1003 (Whitehead), code (57) (Abstract), 2:7-16, 9:30-58). Patent Owner does not dispute that Whitehead teaches the preamble of claim 1. See PO Resp.

The passages in Whitehead that are cited in the Petition (see Pet. 36) provide:

[A] customer premise 101 includes a content processing device 110, which may be controlled by a user through a control 111. Content processing device 110 provides video or other multimedia to a user on a media player 115, e.g., a television set or video monitor.

. . . .

[W]hen content processing device 110 sends a request for a custom media channel 170 to mixing server 130, playlist 205 is generated and used to retrieve, e.g., from databases 142 and/or 156, and deliver to content processing device 110, items of media content 155 and/or advertisements 140, i.e., multimedia files, included in custom media channel 170.

Ex. 1003, 9:32–38. These passages in Whitehead provide support for the undisputed showing in the Petition that the preamble of claim 1 is taught by Whitehead. We find that the preamble is taught by Whitehead.

1[a] receiving by an aggregator data relating to a plurality of media streams;

For this claim,¹⁴ Petitioner maps the “*aggregator*” to Whitehead’s mixing server 130. Pet. 36 (citing Ex. 1002 (Almeroth Decl.) ¶¶ 123–124; Ex. 1003 (Whitehead), 15:16–22) (“Whitehead’s **mixing server 130** is an ‘**aggregator**’ because can [sic] include a ‘playback application’ that presents a menu of media programming available from different sources.”).¹⁵ The cited passage in Whitehead provides:

Process 500 is generally performed by a playback application that may be executed within client 105, content processing device 110, or mixing server 130. The playback application may be stored on a computer readable medium and is generally responsible for receiving a user request for a custom media channel 170, and for providing the custom media channel 170 for playback on player 115, computer 105, etc.

Ex. 1003, 15:16–22. With further regard to this limitation, the Petition contends:

Whitehead further discloses that **mixing server 130** receives metadata 150 about media content 155 available from multiple content sources 135 (“**data relating to a plurality of media streams**”). EX1003, 4:27-45, 5:9-23. Moreover, Whitehead discloses or renders obvious that its content sources 135 are broadcast television channels and thus provide “media streams.”

¹⁴ For independent claims 19 and 23, Petitioner maps the “*aggregator*” to content processing device 110 of Whitehead. Pet. 36 n. 6 (“In contrast, the analysis for claims 19 and 23 relies on the embodiment where the playback application is running on content processing device 110 (qualifying **content processing device 110** as the claimed ‘*aggregator*’).”)

¹⁵ Petitioner uses colored text and colored annotations in figures in the Petition. We omit the colors from our quotations of text from the Petition and other papers filed by the parties, but, in copying annotated figures, we include the coloration in the annotations.

Pet. 37 (citing Ex. 1002 (Almeroth Decl.) ¶ 125). The cited passages in Whitehead provide:

[M]ixing server 130 provides additional functionality for combining advertising content 140 and/or media content 155 to create custom media channels 170, and to deliver custom media channels 170 to content processing device 110. To create and/or store custom media channels 170, mixing server 130 also accesses media metadata 150 and custom channel profiles 160. A custom media channel 170 includes a logical concept of an aggregated collection of media content 155 and or advertising content 140, e.g., video clips, along with associated media metadata 150 and/or advertising meta data 141, which metadata 150 and 141 may include control information such as metadata information about content 155 and 140, play out order information, channel policy control information, etc. Content 155 and 140 included in a custom media channel 170 may be assembled and stored in advance of a user request for custom media channel 170, or it may be assembled and managed in real-time or near real-time, and may not be persistently stored, as discussed further below.

. . . .

Media content 155 is provided by content sources 135. Media metadata 150 includes information about media content 155. Media metadata 150 and media content 155 may be stored in a media database 156, e.g., a relational database or the like. Content sources 135 may include a wide variety of sources for multimedia content 155. Accordingly, for a particular item of media content 155, media metadata 150 may include values for a wide variety of attributes. Such attributes may include, for example, the identity of a content source 135, the type of media content 155, e.g., video, audio, etc., a date associated with media content 155, a geographic location associated with media content 155, a subject matter associated with media content 155, e.g. sports, news, weather, entertainment, etc., one or more keywords associated with the multimedia content 155, etc.

Ex. 1003, 4:27–45, 5:9–23. These cited passages in Whitehead support the contention that all the elements of this limitation are taught.

Patent Owner does not dispute the showing for this limitation. *See* PO Resp.

We find that Whitehead teaches this limitation.

1[b] accessing by the aggregator user information;

With regard to this limitation, the Petition states that, “Whitehead’s **mixing server 130** accesses information from profile 160 for a particular custom media channel (**‘user information’**).” Pet. 37 ((citing Ex. 1002 (Almeroth Decl.) ¶ 126; Ex. 1003 (Whitehead), 4:27-45, 7:3–18, 11:59–12:37). The cited passages in Whitehead provide:

To create and/or store custom media channels 170, mixing server 130 also accesses media metadata 150 and custom channel profiles 160.

. . . .

[P]rofile server 165 generally provides a graphical user interface (GUI) through which a user may provide information for a profile 160. Such information generally includes a username and may include other identifying information along with information concerning topics of interest to the user.

. . . .

[M]ixing server 130 receives an instruction, e.g., a message triggering it to create one or more custom media channels 170 based on one or more custom channel profiles 160.

Ex. 1003, 4:31–33, 7:3–8, 11:40–43. The cited passages in Whitehead support Petitioner’s showing for this limitation.

Patent Owner does not dispute the showing for this limitation. *See* PO Resp.

We find that Whitehead teaches this limitation.

1[c] based on the user information and the data related to the plurality of media streams, determining by the aggregator a temporal sequence of media programming comprising the media streams;

With regard to this limitation, the Petition states:

Whitehead's **mixing server 130** generates a playlist 204 identifying media content 155 and an order for that media content 155 in custom media channel 170 ("***a temporal sequence of media programming***") from multiple content sources 135 ("***media streams***") based on media metadata 150 ("***data relating to the plurality of media streams***") and profile 160 ("***user information***").

Pet. 38 (citing Ex. 1002 (Almeroth Decl.) ¶ 127; Ex. 1003 (Whitehead), 4:10–44, 8:28–41, 13:35–46, Fig. 2). Figure 2 of Whitehead is reproduced below.

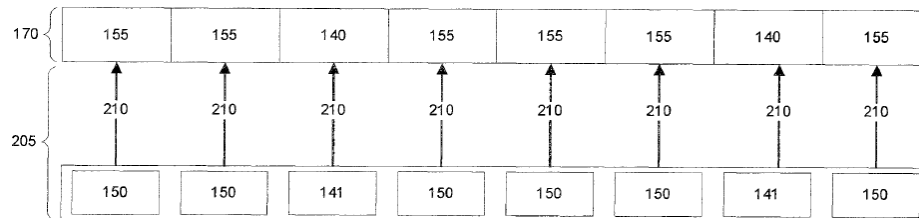


FIG. 2

Figure 2 of Whitehead depicts “an exemplary custom media channel 170 and an exemplary playlist 205.” Ex. 1003, 8:29–30. The cited passages in Whitehead provide:

A basic purpose of the mixing server 130 is to assemble and deliver to content processing device 110 one or more custom media channels 170.

. . . .

As seen in FIG. 2, a custom media channel 170 includes advertising content 140 and media content 155, generally assembled and provided to content processing device 110 according to playlist 205. Custom media channel 170 is

generally associated with a playlist 205, as illustrated in FIG. 2. In general, the particular advertising content 140 and/or media content 155 included in custom media channel 170 depends at least in part on a custom channel profile 160 associated with a custom media channel 170.

. . . .

Playlist 205 determines an order in which items of advertising content 140 and media content 155, e.g., files stored in databases 142 and 156, may be provided in custom media channel 170. A custom media channel 170 may include multiple multimedia files that are retrieved by mixing server 130.

. . . .

[M]ixing server 130 uses the media metadata 150 and/or advertising content 140 returned in step 420 to generate a list of media content 155 and/or advertising content 140 to be included in a custom channel 170 based on custom channel profile 160. Information from profile 160 may be used to generate the playlist 205. For example, profile 160 may include an indication that media content 155 relating to a first category of media content, e.g., sports, is of more interest to a user than media content 155 relating to a second category, e.g., weather. Thus, the order of media content 155 reflected in playlist 205 may be at least partly determined by profile 160.

Id. at 4:17–19, 8:29–38, 8:42–46, 13:35–46. The cited passages in Whitehead support Petitioner’s showing for this limitation.

Patent Owner does not dispute the showing for this limitation. *See* PO Resp.

We find that Whitehead teaches this limitation.

1[d] accessing by the aggregator over a network the plurality of media streams; and

With regard to this limitation, the Petition provides:

Whitehead discloses or renders obvious that **mixing server 130** accesses media content 155 from content sources 135 (“*plurality of media streams*”) over packet switched network 125 (“*network*”). Specifically, content sources 135 provide media content 155 that is then stored in content database 156. EX1003, Fig. 1; EX1003, 5:9-23. From there, **mixing server 130** accesses the content database 156 (again over packet switched network 125 (“*network*”)) to retrieve media content 155 originally received from content sources 135 (“*plurality of media streams*”). EX1003, 5:9-23; EX1002 ¶128.

Pet. 38. The cited passage in Whitehead provides:

Media content 155 is provided by content sources 135. Media metadata 150 includes information about media content 155. Media metadata 150 and media content 155 may be stored in a media database 156, e.g., a relational database or the like. Content sources 135 may include a wide variety of sources for multimedia content 155. Accordingly, for a particular item of media content 155, media metadata 150 may include values for a wide variety of attributes. Such attributes may include, for example, the identity of a content source 135, the type of media content 155, e.g., video, audio, etc., a date associated with media content 155, a geographic location associated with media content 155, a subject matter associated with media content 155, e.g. sports, news, weather, entertainment, etc., one or more keywords associated with the multimedia content 155, etc.

Ex. 1003, 5:9–23. Whitehead supports Petitioner’s contention that this limitation is taught.

Patent Owner disputes the showing for this limitation. PO Resp. 35–37. Patent Owner argues:

Independent Claim 1 is patentable because Whitehead does not disclose “accessing by the aggregator . . . the plurality of media streams” under the correct constructions of both “media streams” and “accessing.” See §§ IV.A & IV.C, *supra*. Rather than use a plurality of media streams to determine a

temporal sequence of media programming comprising the media streams, Whitehead uses individual media elements stored in a database to form custom media channels. Goodrich PO Resp. Decl. at ¶¶ 99-103.

Id. at 35 (alteration in original). Patent Owner’s argument is based on its proposed constructions of “*media stream*” and “*accessing*” that we have not adopted. *See supra* Sections II.C.1. and II.C.3. Patent Owner acknowledges, “Whitehead discloses storing *media elements*, such as video clips, in a database and its alleged aggregator forming a custom media channel from those media elements.” PO Resp. 35 (citing Ex. 1003 (Whitehead), 5:24–55, 8:53–59).

Weighing the evidence and considering the arguments, Petitioner’s contention that this limitation is taught by Whitehead is well-supported. We find that this limitation is taught by Whitehead.

1[e] providing by the aggregator to the client media programming in the determined temporal sequence, the media programming comprising concatenated elements of the plurality of media streams.

With regard to this limitation, the Petition states:

Whitehead discloses that its **mixing server 130** streams custom media channel 170 (“*media programming*”), via content processing device 110, to media player 115 (“*client*”) as, for example, a “single multimedia file” consisting of “concatenat[ed]” media content 155 and/or advertising content 140.

Pet. 39 (citing Ex. 1002 (Almeroth Decl.) ¶ 130; Ex. 1003 (Whitehead), 2:7–16, 8:42–64). The cited passages in Whitehead provide:

As illustrated in FIG. 1, a customer premise 101 includes a content processing device 110, which may be controlled by a user through a control 111. Content processing device 110 provides video or other multimedia to a user on a media player

115, e.g., a television set or video monitor. Content processing device 110 may be a set top box (STB) or similar device known for receiving a video signal from a network and for providing programming such as video to media player 115. A digital video recorder (DVR) 112 may be included in or attached to content processing device 110.

. . . .

Playlist 205 determines an order in which items of advertising content 140 and media content 155, e.g., files stored in databases 142 and 156, may be provided in custom media channel 170. A custom media channel 170 may include multiple multimedia files that are retrieved by mixing server 130 from databases 142 and/or 156 and sequentially streamed, as a single custom media channel 170, to content processing device 110 or computer 105, possibly in response to a user request for a custom media channel 170 on a real-time or near real-time basis. Accordingly, a custom media channel 170 may include different kinds of multimedia files, e.g., MPEG files and JPEG files, etc. However, in some embodiments especially those that involve downloading the content of a custom media channel to a device for temporary storage and later, possibly offline, access-a custom media channel 170 may be instantiated as a single multimedia file, e.g., an MPEG file, created by aggregating or concatenating various items of advertising content 140 and/or media content 155. In these embodiments, the package of information that constitutes the custom media channel could include both a set of content elements comprised of media content 155 and advertising content 140) as well as other control information such as a playlist 205 and other associated control data.

Ex. 1003, 2:7–16, 8:42–64. The cited passages in Whitehead support Petitioner’s showing for this limitation.

Patent Owner does not dispute the showing for this limitation. *See* PO Resp.

We find that Whitehead teaches this limitation.

Summary

Considering all the evidence and arguments related to claim 1, we find that the Petition provides a detailed, well-reasoned, and well-supported showing that Whitehead teaches or suggests all the limitations of claim 1. We conclude that claim 1 is unpatentable in view of Whitehead.

3. Dependent Claims 2–12 and 14–17

Petitioner also asserts that dependent claims 2–12 and 14–17 are rendered obvious by Whitehead. Pet. 3, 39–46 (claims 2–12), 47–51 (claims 14–17). The Petition provides a detailed and supported showing that the additional limitations recited in dependent claims 2–12 and 14–17 are taught or suggested by Whitehead. *Id.*

Patent Owner does not specifically address the showing in the Petition as to dependent claims 2–12 and 14–17. *See* PO Resp.

We find that Petitioner has established that all the limitations of claims 2–12 and 14–17 are taught or suggested by the cited art. We conclude that claims 2–12 and 14–17 are unpatentable as obvious in view of Whitehead.

4. Dependent Claim 13

Petitioner contends that Whitehead discloses or renders obvious all the additional elements recited in claim 13. Pet. 46–47. Patent Owner disputes the showing as to claim 13. PO Resp. 37–40. Claim 13 recites:

13. The method of claim 10, further comprising, in response to the received selection, providing predetermined media programming during a first time period, and providing media programming responsive to the user information in a second time period after the first time period.

Ex. 1001, 15:24–28. The entire presentation in the Petition as to claim 13 provides:

Whitehead discloses that custom media channel 170 may be dynamically generated in “near real-time.” EX1003, 11:40-58. But “near real-time” is different from “real time.” Thus, there is a short interval after the user selects custom media channel 170 and before that custom media channel 170 is generated (“*a first time period*”) where non-custom programming is played (“*predetermined media programming*”). After the system completes this processing (“*after the first time period*”), it begins playing the custom programming (“*providing media programming responsive to the user information*”). EX1002 ¶¶146

Moreover, it would have been obvious during this “*first time period*”—before dynamic programming becomes available—to instead provide “*predetermined media programming*.” For example, it would be obvious to play a predetermined advertisement during this time. Whitehead already discloses that advertisement need not be based on user information. EX1003, 12:38-55. Showing the user a predetermined advertisement rather than forcing the user to just wait while custom media channel 170 is being created would generate additional advertising revenue and lower the likelihood the user loses interest while waiting for custom media channel 170. Moreover, there is a reasonable expectation of success since Whitehead already discloses providing such predetermined advertisements. EX1002 ¶147.

Pet. 46–47. 37 C.F.R. § 42.104(b)(4) states that “[t]he petition must specify where each element of the claim is found in the prior art patents or printed publications relied upon.” As to claim 13, the Petition fails to identify where the elements recited in claim 13 are found in Whitehead.¹⁶

¹⁶ With regard to claim 13, the Petition cites paragraphs 146 and 147 of the Almeroth Declaration (Ex. 1002). *See* Pet. 46–47. We have considered the cited paragraphs in the Almeroth Declaration and found that they consist of

With regard to the first paragraph of Petitioner’s argument relating to claim 13, we do not discern how or why the reference in Whitehead to dynamically generating a custom media channel in “near-real-time” supports finding that Whitehead discloses furnishing “*a first feed . . . during a first time period*” as recited in claim 13. The passage cited in Whitehead (Pet. 46 (citing Ex. 1003, 11:40–58)) provides the following disclosure with regard to “near real-time;”

Creating and delivering custom media channel 170 in real-time or **near real-time** based on the custom channel profile 160 allows for not only providing the user with customized content, but also for providing the user with the most up-to-date content. Further, creating and delivering custom media channel 170 in real-time or **near real-time** means that computer and network resources are not unnecessarily consumed creating and storing custom media channels 170 that a user might never access, or that might become out-of-date before a user accesses access [sic] them.

Ex. 1003, 11:49–58 (emphasis added). The cited passage in Whitehead mentioning “near real-time” does not support finding that Whitehead teaches or suggests the elements recited in claim 13.

With regard to Petitioner’s contention that it would have obvious to play a predetermined advertisement as “*a first feed*” during a “*first time period*,” we also find no support for this contention in Whitehead. The

nothing more than the inadequate and conclusory contentions in the Petition preceded by, in paragraph 146, “[i]n my opinion” and “it is my opinion” and, in paragraph 147, “[i]t is also my opinion.” Ex. 1002 ¶¶ 146, 147. As related to claim 13, we accord the Almeroth Declaration little or no weight. See 37 C.F.R. § 42.65 (a) (“Expert testimony that does not disclose the underlying facts or data on which the opinion is based is entitled to little or no weight.”).

Petition states that “Whitehead already discloses that advertisement need not be based on user information.” Pet. 46 (citing Ex. 1003, 12:38–55).¹⁷ We do not discern, and Petitioner provides no explanation or reasoning, as to how or why disclosing that advertisement need not be based on user information teaches or suggests playing a predetermined advertisement as “*a first feed*” during a “*first time period*.”

Patent Owner argues that “Petitioner does not attempt to estimate how long such a delay would be expected to take in Whitehead’s system or demonstrate that any such delay would be on the right order of magnitude to make it **obvious** to fill that time with an advertisement”¹⁸ and “given that Whitehead states that the custom media channel may be delivered in or close to real-time, it is reasonable to infer that a POSITA would **not** have found it obvious to delay the delivery of the custom media channel in order to play a non-personalized advertisement.” PO Resp. 39.

We find that Petitioner has failed to establish that Whitehead teaches or suggests the additional elements recited in dependent claim 13.

5. *Dependent Claim 18*

Petitioner contends that Whitehead discloses all the additional elements recited in claim 18. Pet. 51. Patent Owner disputes the showing as to claim 18. PO Resp. 40–41. Claim 18 recites:

¹⁷ With regard to not basing advertising content on user information, in the cited passage, Whitehead states that “it is also possible for advertising content 140 to be selected according to some other criteria, for example, according to a number of insertions that an advertiser has paid for, according to random selection, etc.” Ex. 1003, 12:46–50. This sentence does not support finding Whitehead teaches or suggests claim 13.

¹⁸ Upon being questioned at oral argument, Petitioner’s counsel was unable to provide an example or estimate of the length of the delay. Tr. 56–58.

18. The method of claim 1, further comprising caching by the aggregator the media streams prior to providing the elements in the media programming, whereby switching between streams at optimal times is facilitated.

Ex. 1001, 15:45–48. The presentation in the Petition as to claim 18 provides:

Whitehead discloses that this media content 155 is stored (“***cach[ed]***”) in media database 156 for subsequent inclusion (alongside content 155 from other content sources 135) in custom media channel 170 according to the timing defined in playlist 205 (“***whereby switching between streams at optimal times is facilitated***”). EX1003, 5:9-23, 8:42-64, 11:1-8, 11:40-58, 12:18-37, 13:7-14, 13:35-46, 16:66-17:17, 20:8-21:11; EX1002 ¶¶155.

Pet. 51 (alteration in original). In one of the cited passages, Whitehead provides:

In embodiments in which custom media channel 170 includes a plurality of multimedia files, such files may be stored in mixing server 130 or an associated database, and delivered according to playlist 205. Alternatively in such embodiments, playlist 205 may be used to determine media content 155 to be included in custom media channel 170, and to retrieve as needed such media content 155 from the appropriate database, e.g., a database associated with mixing server 130. Such media content 155 may then be delivered to content processing device 110 according to an order provided by playlist 205.

Ex. 1003, 17:4–14.

The entire argument in the Response as to claim 18 provides:

Dependent Claim 18 is patentable because Whitehead’s mixing server 130 does not cache media streams and switch between these media streams. Rather than cache a plurality of ***media streams***, Whitehead stores individual media elements. And rather ***than switch between cached streams*** to modify

these existing media streams, Whitehead generates new custom media channels using only individual media elements. *See* Goodrich PO Resp. Decl. at ¶ 108.

As established above, individual media content items 155 (media elements) are stored in a database and accessed by mixing server 130 to generate custom media channels 170. *See* § VI.C, *supra*; Whitehead at 5:9-13 (describing that “[m]edia metadata 150 and media content 155 may be stored in a media database 156”). Because Whitehead’s mixing server 130 does not cache media streams, it does not switch between these media streams to provide customization of streams, as in the manner required by the claims. ’704 Patent at Claims 1, 18; *see, e.g., id.* at 10:12-18 (describing that “any given feed to the aggregator is dynamically switchable . . . [b]ased on user information, such as a record of browsing or a user profile furnished to the source, and suitable algorithms, the stream may be customized.”); Goodrich PO Resp. Decl. at ¶ 109.

PO Resp. 40–41 (alterations in original). In its argument, Patent Owner acknowledges that “Whitehead stores individual media elements” and “individual media content items 155 (media elements) are stored in a database and accessed by mixing server 130 to generate custom media channels 170.” *Id.* at 40. Patent Owner does not rebut Petitioner’s showing by persuasively arguing or explaining why storing media elements in a database is not “*caching . . . media streams.*” Patent Owner also does not rebut Petitioner’s showing by persuasively arguing or explaining why delivering media content according to a playlist is not switching between media streams.

Weighing the evidence and considering the arguments of the parties, we determine that Petitioner has established that Whitehead teaches or suggests all the limitations of claim 18. We conclude that claim 18 is unpatentable as obvious in view of Whitehead.

6. *Independent Claim 19*

For the reasons that follow, we are not persuaded that Petitioner establishes that the subject matter of independent claim 19 would have been obvious in view of Whitehead. Claim 19 recites “*an aggregator having a memory and a processor, the processor adapted for . . . providing an output signal including data indicative of the selection and of user data.*” Ex. 1001, 15:51–16:3. As discussed above (Section II.C.2), we construe claim 19 as requiring a signal including both “*data indicative of the selection **and** of user data.*” Accordingly, we consider whether Petitioner has shown that Whitehead teaches or suggests that the “*aggregator*” “*provid[e] an output signal including*” both “*data indicative of the selection and of user data.*”

Petitioner argues that Whitehead discloses or renders obvious this limitation (limitation 19[a][iv]) but fails to identify any teaching or suggestion of this limitation in Whitehead.¹⁹ See Pet. 15–24. In the Petition, three alternative mappings (“Output Signal Mapping 1” (*id.* at 16–20), “Output Signal Mapping 2” (*id.* at 21–23), and “Combin[ed] Output Signal Mapping 1 and 2” (*id.* at 23–24)) are provided for this limitation. The Petition provides: “[t]his ‘output signal’ could be (1) a request sent from **content processing device 110** directly to **mixing server 130 (Output Signal Mapping 1)**, (2) data sent by **content processing device 110** to profile server 165, and then from profile server 165 to **mixing server 130 (Output Signal Mapping 2)**, or a combination of the two.” *Id.* at 15–16.

¹⁹ 37 C.F.R. § 42.104(b)(4) states that “[t]he petition must specify where each element of the claim is found in the prior art patents or printed publications relied upon.”

In “Output Signal Mapping 1” (*id.* at 16–20), Petitioner contends that Whitehead discloses or renders obvious the “*aggregator*” (content processing device 110) sending an “*output signal including data indicative of the selection.*” *Id.* at 16–17. According to this mapping, the “output signal” identifies the selection of a custom media channel 170 by the user. *Id.* at 17 (“this request (*‘output signal’*) necessarily identifies the selected custom media channel 170 (*‘include[es] data indicative of the selection’*)” and “**Mixing server 130** must know which custom media channel 170 the user selected to create that channel. . . . An obvious implementation is for **content processing device 110** to include an identifier or other data corresponding to the selected custom media channel 170 (*‘data indicative of the selection’*) in its request (*‘output signal’*).”). With regard to the “*output signal*” including both “*data indicative of the selection and of user data,*” Petitioner argues this is not required by this limitation. *Id.* at 17–18 (“the claimed “*output signal*” does not require transmitting both “*data indicative of the selection*” and “*data indicative of ... user data*” in a single request.”). Nonetheless, Petitioner argues this would be obvious. *Id.* at 18 (“Even if that were required, however, it would be obvious for Whitehead’s request from **content processing device 110** to **mixing server 130** (*‘an output signal including data indicative of the selection’*) to also include “*data indicative ... of user data.*”). No citation to any disclosure of a single output signal including data indicative of the selection and of user data in Whitehead is provided in “Output Signal Mapping 1” (*id.* at 16–20).

In “Output Signal Mapping 2” (*id.* at 21–23), Petitioner contends that Whitehead discloses the “*aggregator*” (content processing device 110)

sending an “*output signal including . . . user data.*” *Id.* at 21–22. The Petition provides:

Whitehead’s **content processing device 110** can be “used to create, modify, and/or delete profiles 160.” EX1003, 6:35-46, 10:6-32, 15:16-22, 15:65-16:21, 19:16-38. This includes provision of “*user data*” included in those profiles, such as a username, user interests, and playback capabilities to profile server 165. EX1003, 5:56-6:9, 7:3-18. Whitehead’s profile server 165 then transmits a message to **mixing server 130** containing that profile 160 (“*user data*”). EX1003, 11:40-12:17. Thus, **content processing device 110** transmits “*an output signal including ... user data*” in connection with creating or modifying a profile 160, and **mixing server 130** receives that same “*user data*” when the user selects the corresponding custom media channel 170. EX1002 ¶92.

Id. With regard to the “*output signal*” including both “*data indicative of the selection and of user data,*” Petitioner again argues this is not required by this limitation. *Id.* at 22 (“the claimed “*output signal*” does not require transmitting both “*data indicative of the selection*” and “*data indicative of ... user data*” in a single message.”). Petitioner argues this would be obvious. *Id.* (“Even if that were required, however, it would be obvious for Whitehead’s message from **content processing device 110** to profile server 165 (“*output signal*”) to also include the claimed “*data indicative of the selection.*”). No citation to any disclosure of a single output signal including data indicative of the selection and of user data in Whitehead is provided in “Output Signal Mapping 2” (*id.* at 21–23).

In “Combin[ed] Output Signal Mapping 1 and 2 (*id.* at 23–24), Petitioner, still again, argues that an “*output signal*” including both “*data indicative of the selection and of user data*” is not required by this limitation. *Id.* at 23–24 (“Petitioner presents these obviousness theories out of an

abundance of caution and not because the claim language actually requires any such single ‘message’ containing both pieces of data.”). Petitioner argues that its showings under “Output Signal Mapping 1” “Output Signal Mapping 2” can be combined without articulating any reasoning or explanation as to how or why this combination would be made. *See id.* No citation to any disclosure of a single output signal including data indicative of the selection and of user data in Whitehead is provided in “Combin[ed] Output Signal Mapping 1 and 2 (*id.*).

Patent Owner argues:

The plain reading of “output signal” refers to a single signal including “data indicative of the selection” and “user data,” which is from the aggregator.

. . . .

Whitehead provides no such signal from its content processing device (the alleged “aggregator”). Instead, Whitehead’s system sends profiles 160 (allegedly, “user data”) from profile server 165. In view of Whitehead’s deficiencies, Petitioner presents different “Output Signal” mappings of Whitehead onto this limitation, but none have merit. *See* Pet. at 16-24; Goodrich PO Resp. Decl. at ¶ 75.

As a preliminary matter, each mapping fails for the same reason: there is no “output signal” with “user data” that is provided *after* “receiving a signal having data indicative of a selection of one of the media streams.” The “data indicative of the selection” in the “output signal” derives antecedent basis from “data indicative of a selection of one of the media streams” in the “receiving a signal.” *See* ’704 Patent at Claim 19 (“receiving a signal having data indicative of a selection of one of the media streams” and then “providing an output signal including data indicative of the selection and of user data”). Because of antecedent basis, this “output signal” is sent after receiving the user’s selection. On the other hand, Whitehead’s profiles 160 (the alleged user data) are the impetus for the creation of the custom media channels and are, therefore, sent

before it is possible to select a custom media channel. *See* Goodrich PO Resp. Decl. at ¶¶ 76, 78-83.

PO Resp. 20–21. Patent Owner’s argument has merit.

Under “Output Signal Mapping 1” (*id.* at 16–20), the “*output signal*” identifies the selection of a custom media channel 170 by the user. Under “Output Signal Mapping 2” (*id.* at 21–23), the “*output signal*” is user data sent to the profile server to create, modify, or delete profiles 160. The profile is then used by the mixing server 130 (mapped to the recited “*publisher*”) to create a custom media channel. As shown in the above quote, Patent Owner argues: “Whitehead’s profiles 160 (the alleged user data) are the impetus for the creation of the custom media channels and are, therefore, sent *before* it is possible to select a custom media channel.” PO Resp. 21.

Weighing the evidence, particularly Petitioner’s failure to identify any disclosure in Whitehead of a single output signal including data indicative of the selection and of user data, we find that Petitioner has not established by a preponderance of the evidence that Whitehead teaches or suggests this limitation.

Petitioner has not shown that Whitehead teaches or suggests all the limitations of claim 19. Petitioner has not established that claim 19 is unpatentable in view of Whitehead.

7. *Dependent Claims 20–22*

Claims 20–22 depend, directly or indirectly, from claim 19. Ex. 1001, 16:17–29. In the Petition with regard to claims 20–22, Petitioner’s showing is limited to arguing that the additional elements of claims 20–22 are disclosed or rendered obvious by Whitehead. Pet. 30–34. As Petitioner has

not established that all the limitations of claim 19 are taught or suggested by Whitehead, Petitioner has not established the unpatentability of claims 20–22 that depend from claim 19.

8. *Independent Claim 23*

For the reasons that follow, we are not persuaded that Petitioner establishes that the subject matter of independent claim 23 would have been obvious in view of Whitehead.

The entire presentation in the Petition as to claim 23 and Whitehead under Ground 1 is:

Claim 23 recites most off the same limitations as claim 19. Whitehead thus also discloses or renders obvious the corresponding limitations in claim 23. There are only two differences between the two claims. EX1002 ¶¶117-118.

First, claim 23 is directed to a method, where claim 19 is directed to a system. However, Whitehead’s disclosure is equally applicable to both systems and methods of using those systems. EX1003, 22:14-40; EX1002 ¶119.

Second, claim 23 requires “**concatenate[ing]**,” whereas claim 19 requires “**assembl[ing]**.” However, Whitehead discloses states that “a media channel 170 may be . . . created by . . . **concatenating** the various items of advertising content 140 and/or media content 155.” EX1003, 8:42-64; EX1002 ¶120.

Pet. 35 (alterations in original). This is inaccurate.²⁰ As discussed below, there are multiple differences between claim 23 and claim 19 that are not

²⁰ In the quoted passage from the Petition relating to claim 23 (Pet. 35), Petitioner cites to paragraphs 117–120 of the Declaration of Kevin Almeroth, Ph.D. (Ex. 1002). Paragraph 117 provides a side-by-side comparison of claims 23 and 19 that shows that there are multiple differences between these two independent claims of the ’704 patent. *See* Ex. 1002 ¶ 117. Despite this showing, paragraph 118 states that “There are only two differences between the two claims.” *Id.* at ¶ 118. This assertion is

acknowledged in the Petition. And, the Petition fails to account for most of these differences and to provide any showing that recited elements of claim 23 are taught or suggested by Whitehead. In the analysis that follows, we make no attempt to discuss all the differences between claims 23 and 19. There are too many differences to discuss so we refer only to those we determine should have been acknowledged and discussed in the Petition in order to rely on the showing for claim 19 as establishing the unpatentability of claim 23.

Claim 23 is a method claim which does not recite what performs any of the steps or recite any apparatus. Ex. 1001, 16:30–47. Claim 19 is a system claim in which some of the functions (presenting, receiving, and providing) are performed by a processor of an aggregator and some of the functions (receiv[ing], access[ing], select[ing], assembl[ing], and provid[ing]) are performed by a processor of a publisher. Ex. 1001, 15:49–16:16. Claims 23 and 19 are quite different in wording and scope.

The preamble of claim 23 recites, “*A method for **aggregating** media programming, comprising*” and the preamble of claim 19 recites, “*A system for **providing** media programming, comprising.*” The plain and ordinary meanings of “*aggregating*” and “*providing*” in the context of claims 23 and 19 are different. Stated more succinctly, “*aggregating*” is different than “*providing*.” Petitioner does not acknowledge or reconcile this difference between claims 23 and 19.

contrary to the plain language of claims 23 and 19 and contradicted by the side-by-side comparison of claims 23 and 19 in the immediately preceding paragraph 117. We determine that Dr. Almeroth’s Declaration is obviously inaccurate at least with regard to this assertion and we accord his testimony with regard to claim 23 little or no weight.

Claims 23 and 19 both have “*presenting*” limitations but they are different. Claim 23 recites, “*presenting to a user a **list** of media streams*” and claim 19 recites, “*presenting a **plurality** of media streams to a user.*” The plain and ordinary meanings of “*list*” and “*plurality*” in the context of claims 23 and 19 are different. In discussing the “*presenting*” limitation of claim 19 in the Petition, we can find no reference or citation in Whitehead to “*presenting to a user a **list** of media streams*” as claim 23 recites. *See* Pet. 11–15.

Claim 23 recites, “*receiving, responsive to the output signal, at least the selected media stream.*” Claim 19 recites, “*a publisher having a memory and a processor, the publisher processor adapted to receive the output signal from the aggregator.*” These limitations are quite different. Petitioner does not account for this difference by showing that Whitehead teaches or suggests “*receiving, responsive to the output signal, at least the selected media stream*” as recited in claim 23. *See* Pet. 35.

Patent Owner disputes the showing in the Petition as to claim 23 based on the arguments it makes with regard to claim 19. *See* PO Resp. 15 n.1 (“Because Petitioner asserts substantially the same arguments and evidence for Independent Claim 23 since ‘Claim 23 recites most of the same limitations as [C]laim 19’ (Pet. at 35, 70), [Patent Owner]’s Claim 19 arguments also apply to Claim 23 unless otherwise indicated.”) (first alteration in original)).

Because the Petition does not include evidence or argument showing that the limitations of claim 23 are taught or suggested by Whitehead, we determine that Petitioner has failed to establish the unpatentability of claim 23 in view of Whitehead.

9. Dependent Claim 24

Claim 24 depends from claim 23. Ex. 1001, 16:48–52. In the Petition with regard to claim 24, Petitioner’s showing is limited to arguing that the additional elements of claim 24 are disclosed in Whitehead. Pet. 35–36. As Petitioner has not established that the limitations of claim 23 are taught or suggested by Whitehead, Petitioner has not established the unpatentability of claim 24 that depends from claim 23.

E. Asserted Obviousness of Claims 1–24 Based on Whitehead and Marcus ’904

Petitioner also challenges claims 1–24 as being obvious over Whitehead and Marcus ’904. See Pet. 4, 51–55. Petitioner relies heavily on its showing for Ground 1 and Whitehead alone for Ground 2. See, e.g., *id.* at 51 n.8 (“All limitations of the challenged claims not expressly addressed in Ground 2 are disclosed or rendered obvious by Whitehead for the reasons in Ground 1.”).

Patent Owner argues Ground 2 based on Whitehead and Marcus ’904 fails for the same reasons as Ground 1. PO Resp. 42 (“Ground 2 fails for the same reasons Ground 1 fails.”).

We start our analysis of this ground with a description of the disclosure of Marcus ’904 and then consider the showing in the Petition as to claims 1–24 in view of Whitehead and Marcus ’904.

1. Marcus ’904 (Ex. 1005)

Marcus ’904 is titled “Method and Apparatus for Creation, Distribution, Assembly and Verification of Media.” Ex. 1005, code (54). In Marcus ’904, media is transmitted to a receiver that assembles the media into programming. *Id.* at code (57). A source of media may perform a tagging operation to associate sets of tags with elements of a stream of

media, with different combinations of look-and-feel, content, and other tags being associated with the media stream. *Id.* Tagging of the media stream may also be performed at the receiver. *Id.*

Figure 1 of Marcus '904, reproduced below, illustrates a data distribution system. *Id.* ¶ 21.

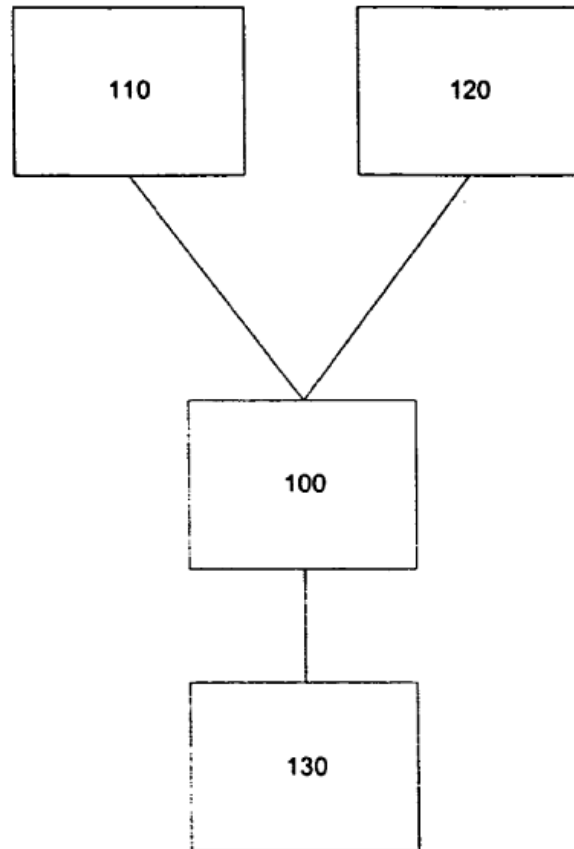


Figure 1

Figure 1 illustrates a data distribution system. *Id.* ¶ 21.

Receiver 100 illustrated in Figure 1 is connected to a first media source 110 and a second media source 120. *Id.* ¶ 31. The receiver collects media from the media sources and assembles a program from the collected media, the program displayed on display 130 to a user. *Id.*

A source of media may perform a tagging operation to associate sets of tags with elements of the stream of media. *Id.* ¶ 33. Some tags may indicate content information about the media stream, or look and feel data about the media stream. *Id.*

Figure 2 of Marcus '904, reproduced below, illustrates a process of assembling media programming. *Id.* ¶ 34.

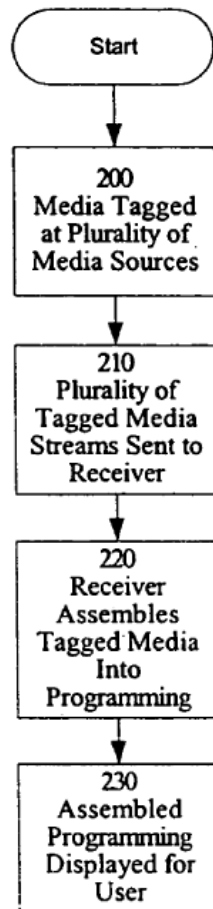


Figure 2

Figure 2 illustrates a process of assembling media programming. *Id.* ¶ 34.

At block 200 shown in Figure 2, media is tagged at a plurality of media sources. *Id.* ¶ 34. At block 210, a plurality of tagged media streams are sent to a receiver. *Id.* At block 220, the receiver assembles the tagged media into programming, and at block 230, the assembled programming is

displayed for the user. *Id.* The tagging of the media stream may also be performed at the receiver, where a media stream may be tagged using artificial intelligence methods, or tagged according to a default tagging scheme. *Id.* ¶ 35. An untagged media stream is thus tagged by the receiver and assembled into a program. *Id.*

Figure 3 of Marcus '904, reproduced below, illustrates a process of assembling media programming from a single untagged source, and Figure 4 of Marcus '904, reproduced below, illustrates a process employing user data and media tags to assemble programming for a user. *Id.* ¶¶ 36, 39.

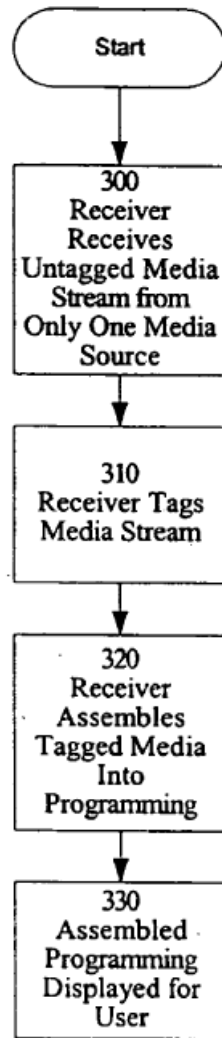


Figure 3

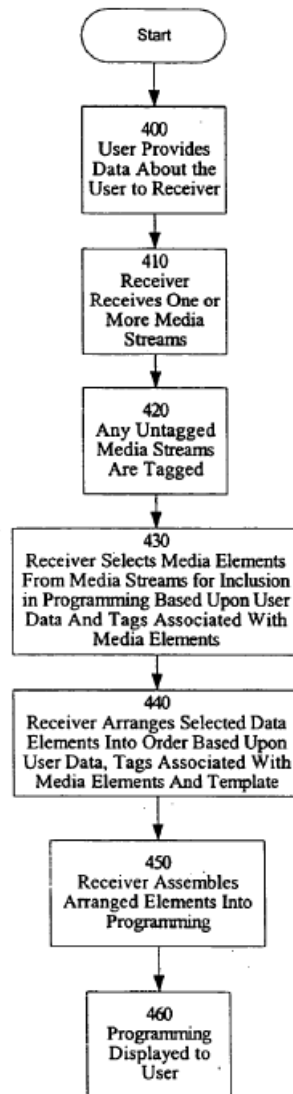


Figure 4

Figure 3 illustrates a process of assembling media programming from a single untagged source, and Figure 4 illustrates a process employing user data and media tags to assemble programming for a user. *Id.* ¶¶ 36, 39.

At block 300 in Figure 3, a receiver receives an untagged media stream from only one media source, and at block 310, the receiver tags the media stream. *Id.* ¶ 36. At block 320, the receiver assembles the tagged media into programming, and at block 330, the assembled programming is displayed for the user. *Id.*

A user at the receiver may provide data (such as demographic information, a desired look and feel for the programming, or desired content for the programming) about the user to the receiver. *Id.* ¶ 38. The receiver uses the user data and media tags to select media elements from a media stream to assemble programming for the user. *Id.* ¶ 39. Figure 4 illustrates a process of using user data and media tags to assemble programming for a user. *Id.* As shown in block 400, a user provides data about the user to the receiver, the receiver receives one or more media streams (block 410), and untagged media streams are tagged (block 420). *Id.* At block 430, the receiver selects media elements from the media streams for inclusion in the programming based upon the user data and the tags associated with the media elements. *Id.* ¶ 40. At block 440, the receiver arranges the selected data elements into an order based upon the user data, the tags associated with the media elements and a template. *Id.* At block 450, the receiver assembles the arranged elements into programming, and at block 460, the programming is displayed to the user. *Id.*

Figure 5 of Marcus '904, reproduced below, illustrates a process of media delivery with separately delivered advertisements. *Id.* ¶ 48.

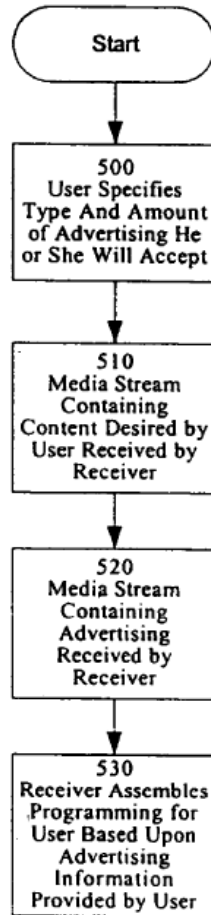


Figure 5

Figure 5 illustrates a process of media delivery with separately delivered advertisements. *Id.* ¶ 48.

At block 500 in Figure 5, a user specifies the type and amount of advertising the user will accept, and at block 510, a media stream containing content desired by the user is received by the receiver. *Id.* ¶ 48. At block 520, a media stream containing advertising is received by the receiver, and at block 530, the receiver assembles programming for the user based upon the advertising information provided by the user. *Id.*

2. *Motivation to Combine and Reasonable Expectation of Success*

Petitioner contends, “[a] POSITA would have modified Whitehead’s **mixing server 130** to incorporate Marcus ’904’s algorithm (running on Marcus ’904’s receiver) for receiving, selecting, ordering, and assembling different media streams (both for content and advertising).” Pet. 51.

Petitioner supports this contention by articulating the following reasons for the asserted modification of Whitehead’s mixing server 130 to incorporate Marcus ’904’s algorithm: “makes it more likely the system will identify content best suited for a particular user,” “to unlock additional potential sources of revenue for Whitehead’s system,” “[b]y starting with or having as fallback Marcus ’904’s “primary” stream, rather than individually selecting each piece of media content, Whitehead’s system would need to select fewer pieces of media content for its custom media channel,” “[b]oth Whitehead and Marcus ’904 generate custom media programming based on a user profile,” “incorporating Marcus ’904’s teachings would not require redesigning Whitehead’s architecture and instead merely supplements Whitehead’s disclosure,” and “Petitioner’s proposed modification can be implemented entirely in software and does not require any hardware modifications. Indeed, Whitehead acknowledges that such modifications are possible. EX1003 at 19:64-20:6, 22:26-40.” *Id.* at 52–53 (citing Ex. 1002 (Almeroth Decl.) ¶¶ 158–163). Based on this undisputed showing, we find that one of ordinary skill would have had a motivation to combine the teachings of Whitehead and Marcus ’904 as asserted in the Petition with a reasonable expectation of success.

3. *All Claims*

The Petition states:

All independent claims require “*a plurality of media streams.*” As addressed in Ground 1, **Media Stream Mapping 2** maps the claimed “*plurality of media streams*” onto Whitehead’s content sources 135. Marcus ’904 further renders obvious that Whitehead’s content providers 135 are “*media streams.*” Marcus ’904 expressly discloses a “receiver” that receives “a plurality of tagged media streams” and “assembles” those “media streams” into “programming.” EX1005 ¶¶34, 37-42, 48; EX1002 ¶164.

Pet. 54; *see also id.* at 54 n.9 (“For **Media Stream Mapping 1**, there should be no dispute that Whitehead’s custom media channels are “media streams.” Whitehead expressly teaches “stream[ing]” these channels. EX1003, 8:42-64; EX1002 ¶165.” (alteration in original)).

We agree with Petitioner that Marcus ’904 teaches “*a plurality of media streams*” as asserted, but determine that this does not alter our analysis of the claims set forth with regard to Whitehead and Ground 1. We found Whitehead discloses “*a plurality of media streams*” in our analysis of Ground 1. *See, e.g.,* Section II.D. 2 *supra* (analysis of claim 1 under Ground 1 (Whitehead alone)).

4. *Independent Claims 1, 19 and 23*

The Petition states:

As addressed in Ground 3, Marcus ’904 discloses all aspects of the challenged claims pertaining to selecting, ordering, and assembling media programming by a “publisher.” Section VII.C.2.g. To the extent any of those elements are missing from Whitehead, they are rendered obvious by Marcus ’904. EX1002 ¶168.

Pet. 55. This argument is not well-developed or well-explained. Under Ground 1, Petitioner contends that all the elements of all the claims of the '704 patent are taught or suggested by Whitehead. Our decisions as to the patentability of independent claims 1, 19, and 23 under Ground 1 did not turn on whether Whitehead “discloses all aspects of the challenged claims pertaining to selecting, ordering, and assembling media programming by a ‘publisher.’” This argument does not alter our analysis relating to claims 1, 19, and 23 set forth above with regard to Whitehead and Ground 1.

5. *Dependent Claim 17*

Petitioner asserts that Marcus '904 provides teachings or suggestions relating to the additional elements of claim 17. Pet. 55. The Petition states:

Marcus '904 further discloses storing media with “headers” (“*labels*”) indicating an advertiser’s “willingness, or contractual commitment, to underwrite the delivery and/or creation of all or part of the value-item” (“*indicative of payment due from an advertiser*”) or “the relative royalties each creator will receive from the anticipated download of the item.” EX1005 ¶¶464, 469, 520, 547-575, 580, 582. When Marcus '904’s advertising and content media streams (including these headers) are added to Whitehead, the resultant system renders obvious claim 17. EX1002 ¶167.

Id. Marcus '904 supports these contentions. Claim 17 recites:

17. The method of claim 1, wherein at least one of the media streams comprises media elements having labels indicative of payment due from an advertiser and payment due to a content provider.

Ex. 1001, 15:41–45. We find that Marcus '904 teaches or suggests the additional limitation of claim 17.

6. *Dependent Claims 22 and 24*

Petitioner asserts that Marcus '904 provides teachings or suggestions relating to the additional limitations of claims 22 and 24. Pet. 54. The Petition states:

Claim 22 requires “*at least second and third media streams,*” and claim 24 requires “*a second media stream.*” As addressed in Ground 1, this “second” or “third” media stream corresponds to Whitehead’s advertising content 140. Marcus '904 further renders obvious that such advertising content can be received in the form of a “media stream.” EX1005 ¶¶48, 252, 275; EX1002 ¶165.

Id. We have considered this argument and determine that it does not alter our analysis as related to claims 22 and 24 as set forth above under Ground 1.

7. *Dependent Claims 18 and 24*

Petitioner asserts that Marcus '904 provides teachings or suggestions relating to the additional limitations of claims 18 and 24. Pet. 54–55. The Petition states:

Claim 18 requires “*caching by the aggregator the media streams prior to providing the elements in the media programming, whereby switching between streams at optimal times is facilitated,*” and claim 24 requires “*switching at least between the selected media stream and the second media stream in accordance with the temporal sequence.*” Marcus '904 further renders obvious these caching and switching steps. EX1005 ¶¶250-252, 301, 641; EX1002 ¶166.

Id. We have considered this argument and determine that his argument does not alter our analysis as related to claims 18 and 24 as set forth above under Ground 1.

*F. Asserted Obviousness of Claims 1–24 Based on
Cristofalo and Marcus '904*

Petitioner challenges claims 1–24 as being obvious over Cristofalo and Marcus '904. *See* Pet. 4, 56–80. Patent Owner disputes the showing as to certain limitations of independent claims 1, 19, and 23, motivation to combine, and limitations of dependent claims 13 and 18. PO Resp. 42–59. We start our analysis of this ground with a description of the disclosure of Cristofalo.

1. Cristofalo (Ex. 1004)

Cristofalo is titled “System and Method for Targeting Object Oriented Audio and Video Content to Users.” Ex. 1004, code (54). Cristofalo’s system and method provides for the generation of media object-based content, formatting and transmitting the content, and receiving and presenting the content to a user based upon user profile information. *Id.* at code (57). The system includes a media object creator, which creates media objects utilized in a programming signal, a transmitting system for transmitting the media objects, a receiving system connected to a presentation device for receiving and presenting the media objects, and a user profiling system which determines which media objects a user is to receive based upon user profile information. *Id.*

Figure 1 of Cristofalo, reproduced below, illustrates a system providing media object based content targeted to users based upon user profiles. *Id.* ¶ 11.

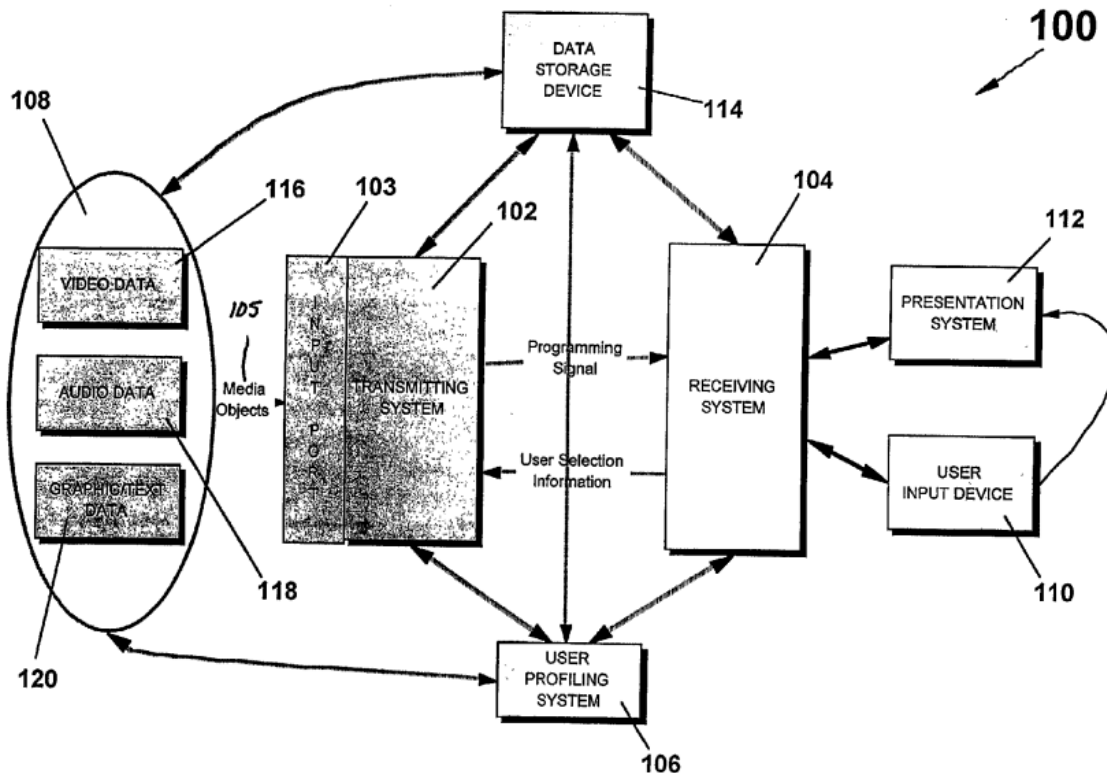


Figure 1 illustrates a system 100 providing media object based content targeted to users based upon user profiles. *Id.* ¶¶ 11, 20.

System 100 provides media object based content targeted to users and includes (i) a transmitting system 102, (ii) a receiving system 104, (iii) a user profiling system 106, (iv) media object creators 108 (which create content in the form of media objects utilized in the targeted advertising), and (v) ancillary devices such as user input devices 110, presentation systems 112, and data storage devices 114. *Id.* ¶ 20. Presentation system 112 provides output device(s) (such as television receivers, computer workstations, and wireless communication systems) by which content of media objects is presented to a user. *Id.* ¶ 24. Input devices 110 are utilized by the user to identify themselves, select media objects, select programming signals, and respond to queries. *Id.* ¶ 25. Data storage devices 114 are used for temporary or permanent storage of media objects. *Id.* ¶ 26.

Transmitting system 102 includes a medium, system, or device capable of communicating media object oriented content to a user. *Id.* ¶ 21. Such media objects are communicated to the transmitting system by media object creators 108 over interface 105. *Id.* Transmitting system 102 may transmit the media objects as a live signal or as a pre-recorded signal from a previously recorded medium, and, with respect to an Internet connection, the media objects may be streamed. *Id.* ¶ 22. Media object creators 108 may utilize software programs, content creation techniques, and content capturing devices to generate media objects including natural, synthetic, and combined natural/synthetic content. *Id.* ¶ 23. Types of data utilized in creating media objects include video data 116, audio data 118, and graphic/textual data 120. *Id.*

Receiving system 104 receives the signal provided by transmitting system 102, and supports the reception, selection, and composition of media object based content into audio, video, and audio-video presentations. *Id.* ¶ 27. Receiving system 104 is not limited to receiving media objects in communications signals from only specific sources or only via specific mediums, and may be configured to support sources/media and provide bidirectional communications as needed. *Id.* ¶ 28. Receiving system 104 may also transmit information to transmitting system 102 and to user profiling system 106. *Id.* User/input device 110 facilitates interaction between the user and receiving system 104 by receiving selections, requests, queries, and responses by the user to system 100. *Id.* ¶ 32.

User profiling system 106 utilizes demographic and/or user specific information to determine which of the various media objects are available, at any time, to present and target to a user at a particular instance during a

program. *Id.* ¶ 34. User profiling system 106 develops a user profile and determines which media objects to present to the user during a program. *Id.* User profile information is based upon demographic or regional information collected or generated by transmitting system 102 or by media object creators 108. *Id.* Thus, media objects may be targeted to users based upon the user profiles. *Id.* For example, media objects may be transmitted as multiplexed data packets in the same programming signal to receiving system 104, which accesses a geographic region indicator to determine which of the received data packets the demultiplexer should select. *Id.* ¶ 36.

In another example, system 100 provides specific media object-based targeted content. *Id.* ¶ 37. In this example, system 100 is configured to utilize user provided information (such as answers to a survey or questionnaire), and based upon the user provided information, user profiling system 106 collects the data, filters the data, sorts the data, and manipulates the data to generate user profiles. *Id.* The user profile information, in turn, is utilized by media object creators 108 and broadcasters to provide targeted advertising and programming to users by originating and transmitting media objects targeted to specific users and/or classifications of users. *Id.*

System 100 also supports non-interrupting advertising and programming by providing program content in which media objects in the program itself are selected and presented to the user based upon a user profile. *Id.* ¶ 38. These media objects may then be selected, deleted and saved by the user while being presented with the underlying program, and such actions by the user (e.g., deleting a first media object while selecting a second media object) may be suitably utilized by the system to determine a user profile. *Id.* Such profile information is stored by receiving system 104

(or by the transmitting system and media object creators) such that subsequent media objects may then be inserted by the program creators or the transmitting system into the programming signal sent to the profiled user. *Id.* In this manner, the program content presented to a user may be uniquely tailored to the user such that targeted content is provided without interruptions of the advertising and/or programming. *Id.*

Figure 4 of Cristofalo, reproduced below, illustrates a process for pushing targeted advertising and programming to users via media objects selected based on a user profile. *Id.* ¶ 14.

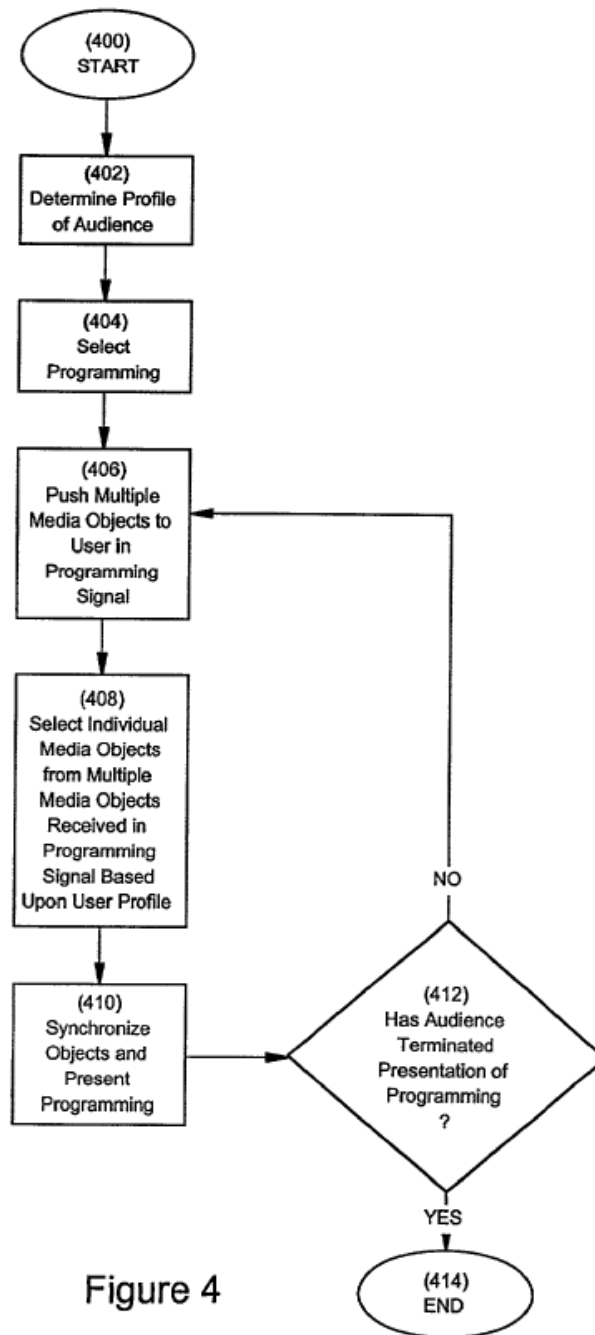


Figure 4

Figure 4 illustrates a process for pushing targeted advertising and programming to users via media objects selected based on a user profile.
Id. ¶ 14.

The illustrated process for providing media object based targeted advertising and programming begins with determining profiles for the user

audience (block 402). *Id.* ¶ 45. After user profiles are determined, the process continues with the user selecting the desired programming (block 404) to be received and presented. *Id.* ¶ 46. The user's choice of programming is communicated to the media object creators 108 and transmitting system 102 by receiving system 104. *Id.* After the programming choice has been made by the user, the process continues with pushing multi-object programming data to the user (block 406). *Id.* ¶ 48. The pushed objects are based upon profiles established on the transmitting side based upon the user viewing habits and programming choices. *Id.*

Additionally, for any given program, media object creators may desire to create media objects for a given number of profiles (for example, Coca-Cola drinkers may be a first profile, while Pepsi drinkers a second profile), and instead of creating a unique media object for each user's profile, the process may push media objects to specific users based upon user identifiers. *Id.* ¶ 48. Such identifiers are periodically loaded into receiving system 104 such that when receiving system 104 receives the multi-object programming data, receiving system 104 is programmed to select a specific media object based upon the user identifier. *Id.* The identification of users who are to receive specific media objects may also be determined and accomplished by other data routing and distribution techniques, such as assigning unique nodes on a network to each user. *Id.*

Upon receiving the multi-object programming signal, receiving system 104 selects specific media objects for decompression, composition and presentation based upon the user's profile (block 408). *Id.* ¶ 49. The process continues with synchronizing the various objects and presenting the programming (block 410). *Id.* ¶ 50. Because each program may contain

hundreds of media objects, the process determines whether the selected program has been terminated (for example, by switching to another channel) (block 412). *Id.* If the programming has not been switched, the process ends and restarts with the selection of the new programming signal as a user's profile may vary depending upon the chosen programming. *Id.*

2. Independent Claim 1

The discussion of claim 1 in the Petition is short and conclusory. *See* Pet. 71–72. Patent Owner disputes the showing in the Petition as to claim 1 and Ground 3 (Cristofalo and Marcus '904). PO Resp. 53–56. For the reasons discussed below, we determine that Petitioner has failed to establish that the cited art teaches or suggests all the limitations of claim 1.

Petitioner argues that Cristofalo discloses limitation 1[a] (“*receiving by an aggregator data relating to a plurality of media streams*”). Pet. 71–72. The Petition states:

Cristofalo discloses a **receiving system 104**, which is an “**aggregator**.” Section VII.C.2.b.

. . . .

Cristofalo further discloses that its **receiving system 104** receives “user identifiers” (“**data**”) relating to received media objects, which (when combined with Marcus '904) are “**media streams**.” EX1004 ¶48; Section VII.C.2.c, g. Marcus '904 similarly describes that receiving tags (“data”) related to media streams (EX1005 ¶34), confirming that the combination of implementing Marcus '904's selecting, ordering, and assembling at receiving system 104 meets this limitation. EX1002 ¶¶201-202

Id. Petitioner does not explain, and we do not discern, how or why “user identifiers” are the recited “*media streams*.” Petitioner does not explain, and we do not discern, how or why Cristofalo's receiving system 104 (mapped to

the recited “*aggregator*”) receives “*data relating to a plurality of media streams*” as recited.

Patent Owner argues:

Cristofalo’s “user identifiers” represent data about *users* that Cristofalo’s system uses to “select a specific media object” (advertisements) from received “multi-object programming data.” Cristofalo at ¶ [0048]. For example, a user identifier may indicate that a given user is a Coca-Cola drinker, and when the receiving system receives the multi-object programming data it can select a particular media object out of several possible media objects (e.g., a Pepsi advertisement) to push to the user. *Id.* This user data exists independently of, and does not relate to, any particular media stream or streams. *See* Goodrich PO Resp. Decl. at ¶ 135.

Petitioner seems to recognize this when tersely referring to “user identifiers” as “data,” not “data relating *to a plurality of streams*.” Pet. at 71. Accordingly, Cristofalo’s “user identifiers” are not the claimed “data related to the plurality of media streams.” Goodrich PO Resp. Decl. at ¶ 136.

PO Resp. 53–54. Patent Owner’s argument has merit.

Both parties cite paragraph 48 of Cristofalo. Pet. 48; PO Resp. 53.

Paragraph 48 of Cristofalo provides:

[M]edia object creators generally desire to create media objects for a given number of profiles (for example, Coca-Cola drinkers might be a first profile, while Pepsi drinkers are a second profile). Instead of creating a unique media object for each user’s profile, the process preferably pushes media objects to specific users based upon **user identifiers**. Such identifiers are periodically loaded into the receiving system 104 and/or data storage device 114 such that when the receiving system 104 receives the multi-object programming data, the receiving system 104 is programmed to select a specific media object based upon the **user identifier**.

Ex. 1004 ¶ 48 (emphasis added). Thus, as disclosed in Cristofalo, “user identifiers” are information about a user from the user’s profile and are used to select a media object. There is no disclosure in paragraph 48 of Cristofalo that “user identifiers” are “*data relating to a plurality of media streams.*” See Ex. 1004 ¶ 48.

Petitioner does not provide any reasoning for modifying the “user identifiers” disclosed in Cristofalo based on Marcus ’904’s teachings relating to tagged media streams. In describing the motivation to combine the relevant teachings of Cristofalo and Marcus ’904, Petitioner argues that “[a] POSITA would have modified . . . Cristofalo’s receiving system 104 (for claims 1-18) to incorporate Marcus ’904’s algorithm (running on Marcus ’904’s receiver) for receiving, selecting, ordering, and assembling different media streams (both for content and advertising).” Pet. 56. However, Petitioner provides no argument as why a skilled artisan would have been motivated to modify the “user identifiers” in Cristofalo’s system so that the receiving system 104 (mapped to the recited “*aggregator*”) receives “*data relating to a plurality of media streams.*” See *id.* at 56–58.

Petitioner has failed to establish that limitation 1[a] is taught or suggested by the cited art.

For the remaining four limitations of claim 1 (limitations 1[b]–1[e]), Petitioner presents a short, combined showing. Pet. 72. These limitations recite:

- 1[b] accessing by the aggregator user information;
- 1[c] based on the user information and the data related to the plurality of media streams, determining by the aggregator a temporal sequence of media programming comprising the media streams;

- 1[d] accessing by the aggregator over a network the plurality of media streams; and
- 1[e] providing by the aggregator to the client media programming in the determined temporal sequence, the media programming comprising concatenated elements of the plurality of media streams.

Ex. 1001, 14:46–56. The entire presentation in the Petition as to these four limitations provides:

Cristofalo discloses that its **receiving system 104** access user profile information and, based on that user information and user identifiers, generates custom media programming that is provided to presentation system 112 (“*client*”). EX1004 ¶¶24, 36, 38-41, 47-49. When **receiving system 104** is further combined with Marcus ’904’s selection, ordering, and assembly algorithm, the combination renders obvious the “*accessing*,” “*determining*,” and “*providing*” limitations. Section VII.C.2.g; EX1005 ¶¶87, 237, 287 (addressing concatenating); EX1008 at 14:13-17 (same); EX1002 ¶203.

In addition, **receiving system 104** receives (“*accessing*”) media objects (which when modified by Marcus ’904 are the claimed “*the plurality of media streams*”) over the Internet (“*network*”). EX1004 ¶¶21-22. Marcus ’904 similarly discloses “*accessing*” those media streams over the Internet (“*a network*”). EX1005 ¶17; EX1002 ¶204.

Pet. 72. The Petition is very inadequate as to these limitations.²¹ There is no showing that the cited art teaches or suggests “*data related to the plurality of*

²¹ Petitioner cites paragraphs 203 and 204 of the Declaration of Kevin Almeroth, Ph.D. (Ex. 1002). Pet. 72. We have considered the cited paragraphs. After quoting limitations 1[b]–1[e] in its heading, paragraph 203 asserts, “[i]n my opinion, Cristofalo discloses these elements.” Ex. 1002 ¶ 203. This assertion is followed by a practically verbatim copy of the two paragraphs related to these limitations on page 72 of the Petition. Compare Ex. 1002 ¶¶ 203–204 with Pet. 72 (Ex. 1002 does contain more of the claim language). The assertion in the Almeroth Declaration that

media streams” as recited in the context of limitation 1[c]. There is no showing that the cited art teaches or suggests “*determining by the aggregator a temporal sequence of media programming*” as recited in the context of limitation 1[c] or “*the determined temporal sequence*” as recited in the context of limitation 1[e].

As quoted above, the Petition states “**receiving system 104** receives (“**accessing**”) media objects (which when modified by Marcus ’904 are the claimed “*the plurality of media streams*”) over the Internet (“**network**”).” Pet. 72 (citing Ex. 1004 ¶¶ 21–22). The cited paragraphs in Cristofalo do not support this statement. Paragraphs 21 and 22 of Cristofalo relate to the structure and functioning of Cristofalo’s transmitting system 102 (not the receiving system 104 that Petitioner maps to the recited “aggregator” in claim 1 (*see* Pet. 71)). *See* Ex. 1004 ¶¶ 21–22. The related limitation 1[d] is (emphasis added): “*accessing by the **aggregator** over a network the plurality of media streams.*” The Petition contains no showing that this limitation is taught or suggested by the cited art.

In summary, with regard to claim 1, Petitioner fails to establish that all the limitations are taught or suggested by the cited art.²²

“Cristofalo discloses these elements” is not explained or supported. As related to limitations 1b–1e, we accord the Almeroth Declaration little or no weight. *See* 37 C.F.R. § 42.65 (a) (“Expert testimony that does not disclose the underlying facts or data on which the opinion is based is entitled to little or no weight.”).

²² 37 C.F.R. § 42.104(b)(4) states that “[t]he petition must specify where each element of the claim is found in the prior art patents or printed publications relied upon.”

3. *Independent Claim 19*

With regard to claim 19, the Petition also treats multiple elements in a very summary fashion and fails to identify teachings in the cited combination of Cristofalo and Marcus '904 for all the elements of claim 19.

Claim 19 recites, “*an aggregator having a memory and a processor.*” Ex. 1001, 15:51. Petitioner maps “*aggregator*” to Cristofalo’s receiving system 104. Pet. 58 (“Cristofalo discloses **receiving system 104**, which is an “*aggregator.*”). The only discussion of the other elements of this limitation (“*a memory and a processor*”) in the Petition is the following:

Cristofalo further states that **receiving system 104** “may be provided in hardware and/or software formats.” EX1004 ¶27. Implementing receiving system 104 in software necessarily requires “*memory*” for storing an executable of that software and a “*processor*” for executing the same. EX1002 ¶180.

Id. at 60. There is no identification of any teaching of “*an aggregator having a memory and a processor*” in Cristofalo (or Marcus '904). There is no explanation or reasoning as to why the statement that receiving system 104 (the alleged “*aggregator*”) “may be provided in . . . software formats” necessarily requires that the “*aggregator hav[e] a memory and a processor.*”²³ Software does not normally, much less necessarily, “*hav[e] a*

²³ Petitioner cites paragraph 180 of the Declaration of Kevin Almeroth, Ph.D. (Ex. 1002). Pet. 60. The cited paragraph consists of a verbatim copy of what appears in the Petition with the addition of “[i]n my opinion.” Compare Ex. 1002 ¶ 180 with Pet. 60. As related to limitation 19[a][i], we accord the Almeroth Declaration little or no weight. See 37 C.F.R. § 42.65 (a) (“Expert testimony that does not disclose the underlying facts or data on which the opinion is based is entitled to little or no weight.”). We determine that the Almeroth Declaration will not support a finding that Cristofalo teaches or suggests “*an aggregator having a memory and a processor.*”

memory and a processor.” Cristofalo contradicts Petitioner’s argument.

Figure 1 of Cristofalo is reproduced below.

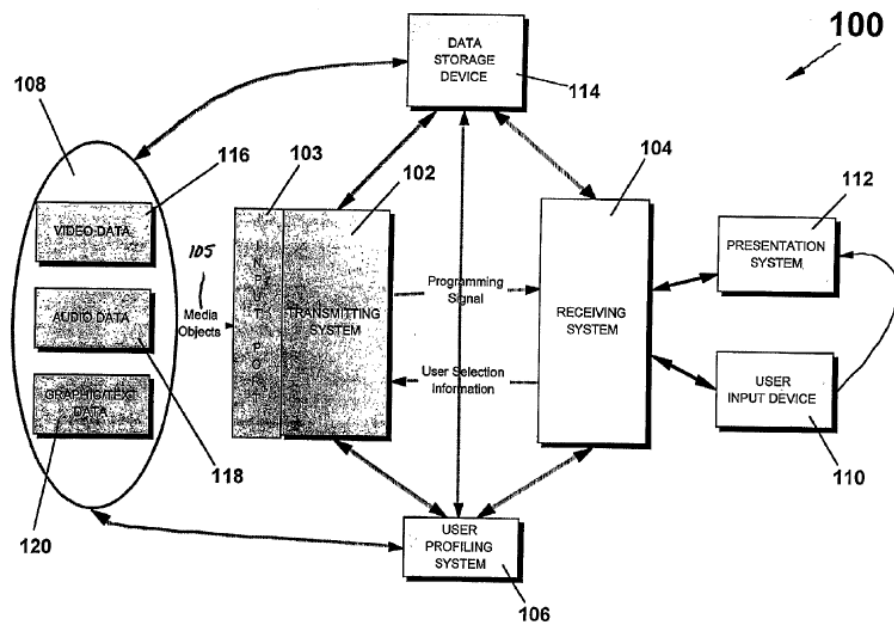


Figure 1 depicts a preferred embodiment of Cristofalo’s system (Ex. 1004 ¶ 11) including, at the top of this figure, data storage device 114. Cristofalo discloses that “data storage devices 114 are preferably utilized in the system 100 for the temporary or permanent storage of . . . **operating routines**, and any other information utilized by the system 100.” *Id.* at ¶ 26 (emphasis added). The detailed description of the data storage devices 114 in Cristofalo provides:

The data storage devices 114 may be provided in conjunction with the receiving system 104, may be a stand-alone device co-located with the receiving system 104, may be remotely accessed (for example, via an Internet connection), may be provided in the transmitting system 102, in the user profiling system 106, with the media object creators 108, or at any other location in the system 100. In the preferred embodiment, the data storage devices are provided with the receiving system 104. The data storage devices 114 may also utilize a combination of local and remote storage devices in order to provide the desired features and functions of the system 100.

Those skilled in the art appreciate that various data storage devices, algorithms, programs, and systems may be utilized in conjunction with the system 100. Examples of such data storage devices include, but are not limited to, hard drives, floppy discs, CD ROMS, DVDs, tape drives, memory sticks, remote databases, and local databases.

Id. Thus, Cristofalo explicitly states “The data storage devices 114 may also utilize a combination of local and remote storage devices in order to provide the desired features and functions of the system 100.” *Id.* We reject Petitioner’s contention that because Cristofalo states that the receiving system 104 may be provided in software that this necessarily requires that the receiving system 104 (the alleged “*aggregator*”) has “*memory*.”

We also reject the Petitioner’s contention that because Cristofalo states that the receiving system 104 may be provided in software that this necessarily requires that the receiving system 104 (the alleged “*aggregator*”) has “*a processor*.” Petitioner does not support this contention with any reasoning or explanation. *See* Pet. 60. An “*aggregator*” in a software format does not necessarily have “*a processor*.” As discussed above with regard to “*memory*,” as described in Cristofalo, software could be stored on “data storage devices includ[ing], but are not limited to, hard drives, floppy discs, CD ROMS, DVDs, tape drives, memory sticks, remote databases, and local databases.” Ex. 1004 ¶ 26.

In addition, the recited “*processor*” in limitations 19[a][i]–19[a][iv] is required to be “*adapted for*” performing a number of functions (*presenting, receiving, providing*). Ex. 1001, 15:51–16:3. Claim 19 recites:

*an aggregator having a memory and a processor, the **processor adapted for** presenting a plurality of media streams to a user, receiving a signal having data indicative of a selection*

of one of the media streams and providing an output signal including data indicative of the selection and of user data.

Id. (limitations 19[a][i]–19[a][iv]) (emphasis added). With regard to these additional elements of claim 19, the Petition fails to identify any teachings or suggestions in Cristofalo or Marcus '904 of “*a processor adapted for*” performing these functions or otherwise address how or why the cited art discloses “*a processor adapted for*” performing these functions. See Pet. 58–63 (addressing limitations 19[a][i]–19[a][iv]). We find that Petitioner has not established that the cited art teaches or suggests limitations 19[a][i]–19[a][iv] as recited in claim 19.

Claim 19 recites: “*a publisher having a memory and a processor.*” Ex. 1001, 16:4. Petitioner maps “*publisher*” to Cristofalo’s transmitting system 102. Pet. 63 (“Cristofalo’s **transmitting system 102** is a “***publisher.***”). With regard to the other elements of this limitation, the Petition provides:

Transmitting system 102 “may include any “medium, system, or device capable of communicating media object oriented content to a user,” such as over “the Internet.” EX1004 ¶21. Communication over the Internet is done by computers, and computers necessarily have “*memory*” storing software instructions to be executed and a “*processor*” for executing the same. At a minimum, implementing **transmitting system 102** as a computer with “*memory*” and a “*processor*” would be the most natural and efficient (and thus obvious) implementation solution. EX1002 ¶188

Id. at 64–65. There is no identification of any teaching of “*a publisher having a memory and a processor*” in Cristofalo (or Marcus '904). There is an inadequate explanation as to why or how Cristofalo teaches or suggests

*“a publisher having a memory and a processor.”*²⁴ We determine that the disclosure, in Cristofalo that “[t]ransmitting system 102 ‘may include any medium, system, or device capable of communicating media object oriented content to a user,’ such as over ‘the Internet’” does not teach or suggest *“a publisher having a memory and a processor.”* Cited paragraph 21 of Cristofalo states:

Referring again to FIG. 1 and as mentioned previously, one of the major elements utilized in the preferred system 100 is the transmitting system 102. **The transmitting system 102 may include any medium, system, or device capable of communicating media object oriented content to a user including, but not limited to:** wireless transmission systems (for example, analog and digital television broadcasts, analog and digital radio broadcasts, analog and digital wireless communications networks, microwave systems, millimeter wave systems, infrared systems, and satellite broadcast systems); wire based transmission systems (for example, analog and digital cable systems, coaxial connections, fiber optic links, telephone systems, closed circuit systems, Very high speed Digital Subscriber Lines (VDSL), VGD, and any other wired connection); stand-alone systems for providing pre-recorded programs (for example, programs provided on compact discs, digital versatile discs, video tape, PlayStation cartridges, memory sticks, magnetic storage mediums, optical storage mediums, data storage devices, Flash memory, random access memory (RAM), and read only memory (ROM)); and network

²⁴ Petitioner cites paragraph 188 of the Declaration of Kevin Almeroth, Ph.D. (Ex. 1002). Pet. 65. The cited paragraph consists of a nearly verbatim copy of what appears in the Petition. *Compare* Ex. 1002 ¶ 188 *with* Pet. 65. As related to limitation 19[b][i], we accord the Almeroth Declaration little or no weight. *See* 37 C.F.R. § 42.65 (a) (“Expert testimony that does not disclose the underlying facts or data on which the opinion is based is entitled to little or no weight.”). We determine that the Almeroth Declaration will not support a finding that Cristofalo teaches or suggests *“a publisher processor having a memory and a processor.”*

connections (for example, **the Internet**, private network, public network, wireless network, wired network, ATM networks wide area network, local area network, and intranet). Such media objects are communicated to the transmitting system by the media object creators 108 over an interface 105 between the media object creators and the input port 103. The interface 105 may be any which facilitates the transfer of media objects to the transmitting system. Similarly, the input port 103 may include any additional processor necessary to format a media object received in a given format into a format compatible with the transmitting system.

Ex. 1004 ¶ 21 (emphasis added). Paragraph 21 of Cristofalo containing the detailed description of transmitting system 102 does not disclose that transmitting system 102 includes a computer, “*a memory*,” or “*a processor*.” In view of the many alternative media, systems, and devices provided in paragraph 21 of Cristofalo, we determine that Cristofalo does not support Petitioner’s reasoning or a finding that Critsofalo teaches or suggests “*a publisher having a memory and a processor*” (limitation 19[b][i]). If a computer with “*a memory*” and “*a processor*” was the most natural, efficient, and obvious implementation of Cristofalo’s transmitting system 102 as argued by Petitioner, the detailed description in the specification would most likely include, among the many alternatives described, a computer with “*a memory*” and “*a processor*.”

In addition, therecited “*publisher processor*” in limitations 19[b][i]–19[b][vi] is required to be “*adapted to*” perform a number of functions (*receive, access, select, assemble, provide*). Ex. 1001, 16:4–16. Claim 19 recites:

*a publisher having a memory and a processor, the **publisher processor adapted to** receive the output signal from the aggregator, and, responsive to the data indicative of the*

selection and of user data, access from the memory at least one algorithm for selection and sequencing of media elements, select a temporal sequence of media programming comprising the selected media stream and other media elements based on an output of the algorithm using the selection and the user data, assemble the selected media stream and the other media elements in the temporal sequence, and provide media programming to the user including the assembled media stream and other media elements in the temporal sequence.

Id. (limitations 19[b][i]–19[b][vi]) (emphasis added). With regard to these additional elements of claim 19, the Petition fails to identify any teachings or suggestions in Cristofalo or Marcus ’904 of a “***publisher processor adapted to***” perform these functions or otherwise address how or why the cited art discloses a “***publisher processor adapted to***” perform these functions. See Pet. 63–68 (addressing limitations 19[b][i]–19[b][vi]). We find that Petitioner has not established that the cited art teaches or suggests limitations 19[b][i]–19[b][vi] as recited in claim 19.

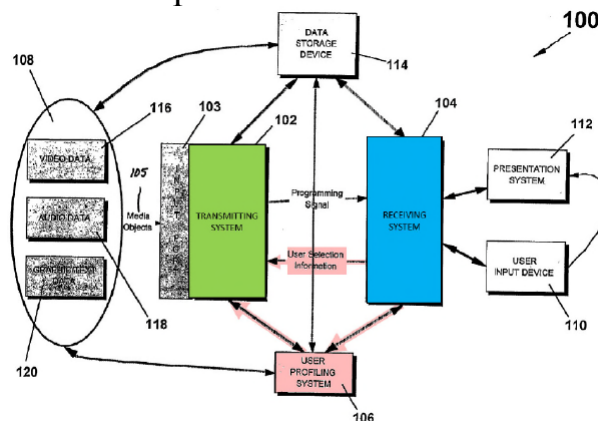
Claim 19 recites: “*an aggregator having a memory and a processor, the processor adapted for . . . providing an output signal including data indicative of the selection and of user data.*” Ex. 1001, 15:51–16:3. As discussed above (Section II.C.2.), the plain meaning of this language in limitation 19[a][iv] is that a signal includes both data indicative of the selection and of user data. Petitioner disagrees and, on this basis, argues that Cristofalo discloses this limitation. Pet. 63 (“The claimed ‘***output signal***’ . . . does not require sending both “***data indicative of the selection***” and “***data indicative . . . of user data***’ in a single message. . . . Thus, Cristofalo discloses this claim limitation.”). Petitioner fails to identify any teaching or

suggestion in Cristofalo of a signal including both data indicative of the selection and of user data. *See id.* at 61–63 (discussing limitation 19[a][iv]).

Patent Owner argues:

Claim 19 is also patentable because Cristofalo does not disclose nor render obvious a publisher receiving “an output signal including data indicative of the selection and of user data” from an aggregator. ’704 Patent at Claim 19; *see* Goodrich PO Resp. Decl. at ¶¶ 127-133.

Cristofalo’s lack of disclosure is showcased in Petitioner’s annotation reproduced below where a user profile system provides user profile information:



Pet. at 62 (highlighting in pink user profile system 106 that provides user profile information).^[25] Thus, in this annotation, receiving system 104 (the alleged “aggregator”) does not provide both the “data indicative of the selection *and* of user data,” let alone in a single “output signal” as required under the correct construction. ’704 Patent at Claim 19 (emphasis added); *see* § IV.B, *supra*.

²⁵ The same annotated figure is on page 65 of the Petition in support of Petitioner’s argument that limitation 19[b][ii] (“*the publisher processor adapted to receive the **output signal** from the aggregator*”) (emphasis added) is disclosed in Cristofalo. Thus, throughout the Petition in discussing the recited “*output signal*,” Petitioner fails to identify a teaching of this element.

PO Resp. 50–51. We agree with Patent Owner. For this additional reason, Petitioner has failed to establish that the cited art teaches or suggests all the recited limitations of claim 19.

4. *Independent Claim 23*

For its showing with regard to claim 23, Petitioner relies very heavily on its discussion of claim 19. *See* Pet. 70. With regard to claim 23, the entire argument in the Petition is:

Claim 23 recites most of the same limitations as claim 19. Cristofalo and Marcus ’904 thus also render obvious the corresponding limitations in claim 23. There are only two differences between the two claims. EX1002 ¶¶117, 196.

First, claim 23 is directed to a method, where claim 19 is directed to a system. Cristofalo, however, discloses both methods and systems. EX1004 at Abstract; EX1002 ¶197.

Second, claim 23 requires “*concatenate[ing]*,” whereas claim 19 is directed to “*assembl[ing]*.” This “*concatenate[ing]*” is disclosed by Marcus ’904. EX1005 ¶¶87, 237, 287; EX1008 at 14:13-17; EX1002 ¶198.

Id. (alterations in original). Petitioner makes this same argument with regard to claim 23 and Ground 1 (Whitehead alone). *Id.* at 35. For the reasons discussed above (Section II.C.8.), we reject the argument that there are only two differences between claims 23 and 19 and that Petitioner has established the unpatentability of claim 23 based on its showing as to claim 19.

There are multiple differences between claims 23 and claim 19 that are not acknowledged in the Petition. *Compare* Ex. 1001, 16:30–47 (claim 23) *with id.* at 15:49–16:16 (claim 19). The Petition fails to account for most of these differences and to provide any showing that recited elements of claim 23 are taught or suggested by the combination of Cristofalo and Marcus ’904. Because the Petition does not include evidence or argument

showing that limitations of claim 23 are taught or suggested by the combination of Cristofalo and Marcus '904, we determine that Petitioner has failed to establish the unpatentability of claim 23 in view of Cristofalo and Marcus '904.

5. Dependent Claims 2–18, 20–22, and 24

Petitioner's failure to establish that all the limitations of independent claims 1, 19, and 23 are taught or suggested by the combination of Cristofalo and Marcus '904 necessarily results in our finding that Petitioner has failed to establish that all the limitations of dependent claims 2–18, 20–22, and 24 are taught or suggested by the combination of Cristofalo and Marcus '904. We conclude that claims 2–18, 20–22, and 24 have not been established to be unpatentable in view of the combination of Cristofalo and Marcus '904.

III. CONCLUSION²⁶

After considering the evidence and arguments presented, we determine that Petitioner has shown by a preponderance of the evidence that claims 1–12 and 14–18 are unpatentable and has not shown by a preponderance of the evidence that claims 13 and 19–24 are unpatentable. With regard to Ground 1 (Whitehead alone) and Ground 2 (Whitehead and

²⁶ 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).

Marcus '904), we conclude that claims 1–12 and 14–18 are unpatentable. The challenge to the claims in Ground 3 (Cristofalo and Marcus '904) fails.

A summary of our conclusions is set forth in the table below.

Claims	35 U.S.C. §	Reference(s)	Claims Shown Unpatentable	Claims Not shown Unpatentable
1–24	103	Whitehead	1–12, 14–18	13, 19–24
1–24	103	Whitehead, Marcus '904	1–12, 14–18	13, 19–24
1–24	103	Cristofalo, Marcus '904		1–24
Overall Outcome			1–12, 14–18	13, 19–24

IV. ORDER

Accordingly, it is

ORDERED that claims 1–12 and 14–18 of U.S. Patent No. 8,145,704 B2 are determined to be unpatentable;

FURTHER ORDERED that Petitioner has not shown by a preponderance of the evidence that claims 13 and 19–24 of U.S. Patent No. 8,145,704 B2 are 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.

IPR2024-01340
Patent 8,145,704 B2

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