IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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TIKTOK INC.,

Petitioner,

v.

NTECH PROPERTIES, INC.,

Patent Owner.

_____

Case No. IPR2024-01340

U.S. Patent No. 8,145,704

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PETITIONER'S REPLY

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EXHIBIT LIST

Ex.	Description
EX1001	U.S. Patent No. 8,145,704 ("'704 patent")
EX1002	Declaration of Kevin Almeroth, Ph.D.
EX1003	U.S. Pat. No. 8,555,318 ("Whitehead")
EX1004	U.S. Pat. Pub. No. 2002/0152117 ("Cristofalo")
EX1005	U.S. Pat. Pub. No. 2006/0015904 ("Marcus904")
EX1006	U.S. Patent No. 6,177,931
EX1007	Int'l Publ. No. WO 00/40021
EX1008	U.S. Pat. No. 6,032,156 ("Marcus '156")
EX1009	Provisional Application for U.S. Pat. No. 8,145,704 (U.S. Prov. Appl. No. 60/934,456)
EX1010	D. Wilkerson, "ACTV hopes to steal print's thunder" (Dec. 8, 2000)
EX1011	Amended Complaint in *NTECH Properties, Inc. v. ByteDance Ltd. et al.*, No. 2:24-cv-00130 (E.D. Tex.)
EX1012	B. Hammerseley, "Audible revolution" (Feb. 11, 2004)
EX1013	U.S. Pat. No. 6,388,714
EX1014	U.S. Pat. No. 7,467,398
EX1015	Verizon, "Verizon Unlocks Full Potential of Fiber-Based FiOS Internet and Video Services With Advanced 100-Mbps Broadband Home Router" (June 28, 2006)
EX1016	Prosecution History for U.S. Pat. No. 8,145,704
EX1017	Prosecution History for U.S. Pat. No. 8,886,753

EX1018	Prosecution History for U.S. Pat. No. 9,215,261
EX1019	Prosecution History for U.S. Pat. No. 9,923,947
EX1020	List of Recent Expert Witness Engagements of Dr. Kevin Almeroth
EX1021	Curriculum Vitae of Dr. Kevin Almeroth
EX1022	Americans' Use of Mobile Technology and Home Broadband, *Pew Research Center*, January 31, 2024
EX1023	Supplemental Declaration of Kevin Almeroth, Ph.D.
EX1024	NTECH Properties, Inc.'s Infringement Claim Chart for U.S. Patent No. 8,145,704
EX1025	IETF RFC 791: Internet Protocol (https://datatracker.ietf.org/doc/html/rfc791)
EX1026	IETF RFC 793: Transmission Control Protocol (https://datatracker.ietf.org/doc/html/rfc793)
EX1027	https://www.zdnet.com/article/movie-screen-advertising-reached-438-mln-in-2004/
EX1028	Transcript of Deposition of Dr. Goodrich on September 11, 2025
EX1029	U.S. Pat. Pub. No. 2005/0050027A1
EX1030	"Geolocation: Don't Fence Web In", WIRED (2004) https://www.wired.com/2004/07/geolocation-dont-fence-web-in/

I. INTRODUCTION

PO's arguments are based on improper, narrowing constructions or misconstrue the record. As such they should be rejected.

II. CLAIM CONSTRUCTION[1]

A. "media stream"

The Board rejected PO's prior construction of "media stream." ID, 7-9, 13. PO now presents the same construction again, just worded differently. EX1028, 31:7-32:15. PO's focus is on adding a requirement that "the media stream must … include a plurality of media elements at the time selected from 'a plurality of media stream.'" POR, 4-5. Nothing in the record requires a media stream to at all times contain specific media elements[2] or that it otherwise stops being a "media stream." EX1023, ¶3-4.

PO's proposed construction is not supported by the claim language. Claim 19 requires "presenting a plurality of media streams," receiving "a selection of one of the media streams," and then "assembl[ing] the selected media stream and other

[1] The parties also agree that the "media programming" in claims 19 and 23 is provided by the "publisher" (EX1028, 40:25-41:6) and that "'assemble' in Claim 19 … requir[es] concatenating" (EX1028, 25:3-9).

[2] PO is using the term "media data" in its construction interchangeably with the term "media element." POR, 6; EX1028, 42:3-6.

media elements." Claims 1 and 23 include similar requirements. Nothing in the claim language requires that the "media stream" must consist of already-chosen, specific media elements at the time of "selection." Indeed, claim 17 recites "media streams compris[ing] media elements." Thus, applicant knew how to specifically claim media elements, including a stream containing the same (though claim 17 remains agnostic as to when specific media elements are added to streams), yet chose not to do so for the independent claims. EX1023, ¶5.

In addition, even assuming the "media stream" must contain "media elements" at the time it is assembled with "other media elements," that does not require that it ***always*** contain specific media elements. PO's antecedent basis argument (POR, 5) is irrelevant. Nothing in the claims prohibits the "media stream" from being selected first and then populated with specific media elements prior to being concatenated with "other media elements." It is still the same "media stream." EX1023, ¶6.

The specification also supports the plain meaning. The specification uses the term "stream" synonymously with "feed." *Compare* EX1001, FIG. 7 (showing "user-specific **feed**") *with* 13:17-20 (describing same as "user-specific **stream**"). The specification describes these streams/feeds as corresponding to "sources of media content," such as an "XML feed." EX1001, 6:4-15. A POSITA would

understand that such streams/feeds are thus **containers** for media but do not necessarily include specific media at all times. EX1023, ¶7.

Moreover, the '704 patent explicitly discloses that a feed or stream can be **first** "select[ed]" by a user and only **then** "generat[ed] based on existing channels and/or additional stored media elements." EX1001, 5:7-17; EX1023, ¶8.

Finally, PO even argue that a "channel" is not a stream or feed under its construction. POR, 17. But PO's position is not consistent with the '704 patent, which frequently describes media streams or feeds as channels. EX1001, 5:16-17, 7:8-10, 9:52-57, 11:34-35. Indeed, PO's construction results in the absurd outcome that selection of a channel at night (if there is no scheduled programming) does not qualify as a selection of a "media stream," but selection of that **same** channel during the day (when there is scheduled programming) does. ; EX1028, 28:18-22, 53:9-25; EX1023, ¶6.

PO's only argument with respect to the specification is Marcus156's "exemplary method" (POR, 6) for **how** a media stream can be populated with media elements, which even if limiting (it is not) does not specify **when** specific media elements are added to the "media streams."

PO's dictionaries do not warrant a different outcome. Exhibit 2020 addresses how a "media stream" is received (as "[a] continuous sequence of audio or audio-and-video through a network") but does not negate that a "media stream" can be

selected **before** it is received in this manner. Exhibit 2015 describes "streaming media" not a "media stream." EX1023, ¶10.

B. "output signal"

PO argues that this term requires a "single signal" (POR, 8) that contains both pieces of data. The plain meaning does not support PO's position.

First, 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.'" EX1023, ¶11-12. *Convolve, Inc. v. Compaq Computer Corp.*, 812 F.3d 1313, 1321 (Fed. Cir. 2016). Thus, in *Convolve*, the Court held that claim 9 reciting "'a processor' that executes certain process steps" was met by multiple processors collectively performing those steps. *Id.* PO cites *Salazar*, which distinguished *Convolve* on the grounds that *Convolve*'s claim 9 just referenced "a" processor" and then listed a series of steps, whereas *Salazar's* claims separately attributed each step to "the" processor. *Salazar v. AT&T Mobility LLC*, 64 F.4th 1311, 1316-18 (Fed. Cir. 2023). Claim 19 of the '704 patent is comparable to *Convolve*'s claim 9, not *Salazar*, because it just recites "an output signal" before listing "data indicative of the selection and of user data" without separately attributing each piece of "data" to "**the**" output signal.

Second, even if the claims required a "single signal," PO reads this construction to further require receiving that "single signal" over a single path and

at a single time. POR, 8. There is no such requirement in the claim language. EX1023, ¶13. Indeed, the specification discloses that the aggregator communicates with the publisher using "TCP/IP." EX1001, 14:15-19. A POSITA would understand that an "output signal" sent using TCP/IP can be divided into multiple packets, where each packet takes a different route over the Internet and is received at the destination at different times. EX1023, ¶14; EX1001, 3:6-10; EX1025, EX1026. Thus, the claimed "output signal" similarly encompasses multiple pieces of data that traverse different paths and are received at different times.

C. "accessing"

PO argues that this term requires that the aggregator "use" the media streams. POR, 10. This is another argument the PTAB previously rejected. ID, 26.

As an initial matter, PO goes beyond arguing that "accessing" requires "use" and further interprets that "use" as specifically requiring using the "media stream" to generate "media programming." POR, 10, 11. Thus, PO further limits "use" to exclude other interactions with the stream, including obtaining or retrieving the stream. EX1023, ¶15-16.

PO is wrong that the term "accessing" requires more than obtaining or retrieving the media stream. The claim language recites "accessing … ***over a network***," which indicates that the media stream is merely ***retrieved*** over the network, not also somehow used over that same network. This is also confirmed by

claim 18, which interposes a "caching" step between "accessing" streams and then using them to generate media programming. PO's interpretation is also contradicted by the specification distinguishing "access[ing]" stored information from "employ[ing]" the same to "generat[e] a feed." EX1001, 9:1-4; EX1023, ¶17-18.

Finally, PO's dictionaries all contain definitions of "access" that contradict PO's position. EX2022 ("ability to **obtain** … something"); EX2027 ("**open[ing]** a computer file"); EX2028 ("**retriev[ing]** data"); EX1023, ¶19..

III. GROUND 1: WHITEHEAD

A. "Selection of One of the Media Streams" (Claims 19 and 23)

PO's argument for both Media Stream Mapping 1 and 2 rely on its overly narrow construction of "media stream." POR, 16-20. If a "media stream" need not contain specific "media elements" at the time of the user selection, there is no dispute Whitehead meets this limitation. As PO's expert admits "for a user to be able to select a custom media channel from a menu, then some form of custom media channel *must* exist *prior* to the content information device 110 receiving the menu." EX2014, ¶87. Indeed, Whitehead's user selection of a custom media channel matches embodiments in the '704 patent specification. *See, e.g.*, EX1001, 6:17-22 (describing claimed selection as a "channel selection"); EX1023, ¶20-21.

PO's only argument potentially applicable to the plain meaning is that, instead of selection of the channel, the user selects a "characteristic" of the channel. POR,

13, 20. Yet Whitehead is clear that the user sends a "request to access ***the*** channel 170" and that custom media channels 170 have specific "names or identifiers." EX1003, 11:43-45, 16:5-9. Thus, it is not simply a "characteristic" that is selected, but a specific custom media channel. EX1023, ¶22. Indeed, the '704 patent's exemplary streams/feeds (e.g., "Classic Rock") are equally if not more so just "characteristic[s]." EX1001, Fig. 5.

Moreover, Whitehead discloses this limitation even under PO's improperly narrow construction:

1. Media Stream Mapping 1

Whitehead discloses two separate embodiments for custom media channels: real-time channels and pre-generated channels. POR, 18-20. With respect to pre-generated channels, Whitehead discloses that upon "receipt of [a] message," such as the user selecting and updating a profile corresponding to a particular custom media channel, the mixing server "invoke[s] a process for creating **or modifying**" that channel "based on a profile 160 provided in the message." EX1003, 11:43-49, 11:59-63, 12:14-17; Section III.B.3 (Output Signal Mapping 2). In fact, even PO acknowledges that Whitehead discloses "updated pre-generated custom media channels" where "mixing server 130 … queries media content to determine whether new media content 155 can be included in the custom media channel." POR, 23-24. Thus, even under PO's incorrect construction of "media stream," Whitehead

discloses selection of a pre-generated custom media channel (***media stream***) and **then** concatenating that channel with new media content (***other media elements***). EX1023, ¶23.

2. Media Stream Mapping 2

Regarding Media Stream Mapping 2, PO does not dispute that Whitehead's content sources 135 are "media streams." POR, 18. Instead, PO argues that Whitehead's user selects a custom media channel rather than a particular content source. *Id*. That is not true. PO's own expert agrees that Whitehead discloses "a scenario where there is a custom media channel that has a one-to-one mapping with a profile of 160, and that profile 160 identifies one content source 135 providing media content." EX1028, 20:5-10; EX1003, 6:10-12, 7:5-18 (profile identifies "**one** or more content sources" in addition to other user data such as "a username"), EX1003, 10:51-54 (profile for custom media channel "may indicate an interest in receiving content broadcast from a particular content source 135" in addition to other "interest[s]"). Therefore, by selecting the custom media channel, a user also selects the corresponding content source 135 ("***media stream***"). EX1023, ¶24.

B. "Output Signal Including Data Indicative of the Selection and of User Data" (Claim 19)

PO's argument limitation relies on its narrow construction of "output signal." Under the correct construction, there is no dispute Whitehead discloses this limitation. Specifically, just like the '704 specification, Whitehead discloses that the

user profile can be "stored in memory at … [a] server" before subsequent receipt of a user selection of a media stream. EX1001, 3:59-61; EX1023, ¶25-26.

Moreover, Whitehead discloses or renders obvious this limitation even under PO's improperly narrow construction:

1. Output Signal Mappings 1 and 2

PO's arguments allegedly applicable to both mappings have no merit.

First, PO argues Whitehead cannot receive profiles after the selection of a media stream because "the profiles are used to generate the channels." POR, 22. This is a strawman. Petitioner never mapped creating profile 160 and corresponding custom media channel in the first instance to the claimed "user data." Petitioner's theory is based on selecting a previously-created custom media channel and then providing either updates or portions of the profile 160 (e.g., updated profile information, a username, or the user's location) or a locally-stored copy of profile 160 to the mixing server. In each instance, the custom media channel was previously generated, and the user is merely accessing the same. And to the extent PO is arguing a selectable custom media channel does not qualify as a "media stream" until a profile is used to select media content for that custom media channel, that argument is addressed in Section III.A. EX1023, ¶28.

Second, PO argues that Whitehead updates the profiles before a user selects that channel, citing to the flow chart in FIG. 5. POR, 23-24. This argument is

irrelevant to Output Signal Mapping 1, which does not rely on manually updating a profile 160. For Output Signal Mapping 2, this argument ignores that both steps 515 and 520 include a user selection of a custom media channel from a menu (directly or via corresponding profile 160) followed by receiving and playing that channel at step 530. EX1003, 10:33-39, 16:38-43; EX1023, ¶29.

Third, PO argues that Whitehead discloses generating a custom media channel "using only profile 160" and that "the only message received by mixing server … ***is*** the profile message from profile server 165." POR, 24-26. For Output Signal Mapping 1, this argument ignores Whitehead's embodiment where "content processing device 110 sends a request for a custom media channel 170 to mixing server 130." EX1003, 9:32-37. For Output Signal Mapping 2, this argument ignores that the "profile message" is triggered by a corresponding message from content processing device 110. EX1023, ¶30; Section III.B.3.

Fourth, contrary to PO's unsupported assertion (POR, 25), neither Output Signal Mapping 1 nor Output Signal Mapping 2 conflates the claimed "data indicative of the selection" and the claimed "user data." *See* Sections III.B.2-3.

2. Output Signal Mapping 1

The Petition explained how Whitehead renders obvious including both the "***selection***" and "***user data***" in the "request for a custom media channel 170"

("***output signal***") sent by content processing device 110 to mixing server 130. Pet., 16-20, 22-24; EX1003, 9:32-37; EX1023, ¶31.

First, PO argues that Whitehead's "profile 160 is provided to mixing server 130 before the custom media channels are created." This is false. Whitehead discloses that "[i]n step 405, mixing server 130 … a user request to access the channel 170." EX1003, 11:40-45. This user "request" can be sent by the content processing device 110 to mixing server 130. EX1003, 9:30-37. This request necessarily or at least obviously includes the claimed "***data indicative of a selection***." Pet., 16-20. Whitehead further discloses that the mixing server also receives the profile **in the very same step**. EX1003, 12:18-20 ("analyz[ing] the custom channel profile 160 **received in step 405**"); EX1003, 12:14-17 ("creating or modifying one or more custom media channels 170 **based on a profile 160 provided in the message**"). Thus, Whitehead expressly discloses including profile 160 ("***user data***") in the same request ("***output signal***").[3] Nothing more is required.

[3] Moreover, Whitehead's profile 160 itself includes both a "name[] or identifier[]" of the selected custom media channel ("***data indicative of a selection***") and a username and data regarding the user's "interest[s]" ("***user data***"). EX1003, 6:10-12, 7:5-18, 10:49-67, 16:5-9.

Realtime Data, LLC v. Iancu, 912 F.3d 1368, 1373 (Fed. Cir. 2019) ("disclosure that anticipates under § 102 also renders the claim invalid under § 103");EX1023, ¶32.

Moreover, a POSITA would naturally and logically implement Whitehead's express disclosure by having content processing device 110 store a copy of profile 160 for inclusion in its "request for a custom media channel 170" sent to mixing server 130. EX1023, 33; Pet., 19. Indeed, there is no apparent way Whitehead's express disclosure can be implemented ***without*** doing so. EX1023, ¶33. Alternatively, if Whitehead's step 405 includes an undisclosed retrieval of a profile 160 from profile server 165 after receiving the "request" (no such retrieval is described in step 405), then Whitehead still renders obvious this limitation for the reasons below. EX1023, ¶34.

Second, PO asserts that Petitioner is "misus[ing] common sense to supply a missing limitation." POR, 27. Not so. Whitehead itself discloses each of the claimed "***data indicative of a selection***" and "***user data***." Pet., 16-17, 21-22. Whitehead also discloses that the request that triggers generation of custom media channel 170 contains the corresponding profile 160. EX1003, 11:40-45, 12:14-20. Finally, Whitehead expressly discloses that a user may "submit user information" to mixing server 130 instead of profile server 165. EX1003, 2:25-30. Thus, Whitehead discloses all parts of the claim language. EX1023, ¶35.

Third, PO's argues that receiving "***user data***" alongside the "***selection***" would not improve efficiency. POR, 28-29. But PO's challenge is only to hypothetically "receiving user data in dribs and drabs" (POR., 29), as opposed to addressing the specific modifications identified in the Petition. For example, PO does not dispute that it would improve efficiency to include at least a username in the request, or that such a username qualifies as the claimed "user data." Not only would that accelerate the process for retrieving the corresponding profile 160, it is not even clear Whitehead can be implemented "in real time or near real time" without including such information. EX1023, ¶36. Moreover, even if Whitehead were able to generate a custom media channel at least in "near real-time" without receiving a username, improving efficiency by simply including the username in the request would allow fewer resources to be committed to the mixing server, thereby reducing costs. EX1023, ¶36; EX1003, 11:40-58; EX1023, ¶36.

As for Petitioner's modification to store a specific user's profile(s) 160 in his or her content processing device 110 and then send the profile as part of a request for a custom media channel, PO's only argument is based on an alleged security "risk of compromising profiles 160." POR, 31-32. To be clear, Petitioner did not suggest that content processing device 110 contain user profiles for ***every*** user of the system but rather only the profiles of the users of that device. If anything, security may be improved as such information is no longer stored in a central location that is

a tempting target for hackers. EX1023, ¶37; EX1003, 2:27-30. Indeed, since all users have access to the central profile server 165, storing every user's profile on that server makes that server publicly-accessible and imposes potential security risks . EX1023, ¶37. In addition, a central profile server also acts as a single point of failure—when the server is hacked or down, information for all users may be compromised. EX1023, ¶37. Thus, in the instance where the request is sent from content processing device 110 to mixing server 130, rather than requiring a separate step to retrieve the profile, processing is accelerated by including the profile in the request itself – just as Whitehead teaches at 11:40-45, 12:14-20. EX1023, ¶37.

Fourth, PO also disputes that it would be obvious to include location information to improve targeting where a user is using a mobile device. POR, 29-30. The motivation for this proposed modification flows from two distinct teachings in Whitehead: (1) using a "geographic location of interest to the user" for targeting content (EX1003, 7:8-18), and (2) using the "user's geographic location" for targeting advertisements that may have "geographic association[s]" (EX1003, 4:64-5:3, 12:50-55). PO argues that Whitehead "already allows a user to specify 'geographic locations of interest to the user'" and that those may not "change depending on where the user travels" (POR, 30) but those arguments do not address Whitehead's separate disclosure of using a "user's location" to target advertisements. EX1003, 12:505-55. Moreover, PO's argument on "pass[ing]

through … locations [while] travel[ing]s between … two cities" (POR, 30) ignores the benefit of targeting advertising based on the "user's location" at both the origin and destination city. EX1023, ¶38.

PO next argues that a POSITA would not identify a user's location based on the IP address of computer 105 running media player 115 used to communicate with content processing device 110 (EX1003, 2:22-25, 2:54-59, 3:15-16) because "Petitioner has not established that IP geolocation was a reliable tool." POR, 30-31. This argument does not negate that it would be desirable to include the user's location in the request using other means. EX1023, ¶43.

Moreover, PO's argument regarding reliability of IP geolocation does not negate that it was widely available and used as a tool for targeting advertisements at the relevant time, as shown by PO's own evidence. As explained in Exhibit 2005, "IP geolocation techniques" are "a key enabler for many" "Internet services requiring location information," including for "targeted advertising." *Id*. As PO's expert conceded, "many" of the IP geolocation services cited in Exhibit 2005, including "free or commercial tools," "c[a]me before the priority date." EX1028, 59:1-19. And the "study from 2008" and "study from 2011" cited by PO's expert to argue IP geolocation was unreliable both have "publication date[s]" after the priority date of the '704 patent. EX1028, 54:12-23, 56:7-15. Indeed, even as late as 2011, "[f]ew works focused on geolocation databases and their accuracy." EX2005. Thus,

PO's non-obviousness arguments are not reflective of what a POSITA as of the priority date of the '704 patent would have found obvious. At the relevant time, a POSITA would be aware that IP geolocation was widely used for targeting advertisements, Ex1023, ¶39-41; EX1029, ¶¶ 39, 50; Ex1030, and would not be compelled by isolated studies, especially ones published later, to avoid this much-used approach to targeting advertisements.

Finally, even if a POSITA at the relevant time knew that IP geolocation had ***some*** unreliability issues, that would not change the fact that a POSITA would incorporate this technology to ascertain a "user's location" for targeted advertising, as it beats having **no** mechanism for dynamically adjusting the user's location as the user travels with a mobile device or relying on users to voluntarily update their profiles every time they travel. *See Intel Corp. v. PACT XPP Schweiz AG*, 61 F.4th 1373, 1381 (Fed. Cir. 2023); *Intel Corp. v. Qualcomm Corp.*, 21 F.4th 784, 800 (Fed. Cir. 2021); EX1023, ¶42.

3. Output Signal Mapping 2

Under Output Signal Mapping 2, the user selects and updates a profile 160 corresponding to a particular custom media channel, and updated profile information is then sent to mixing server is the "output signal." Pet., 22-23; EX1003, 10:33-39, 16:38-43. A POSITA would find it necessarily or obvious to send an identifier of the selected channel ("***data indicative of a selection***") alongside any new user profile

information to profile server 165 ("***user data***"); otherwise, the profile server would not know which profile 160 to update. Pet., 22-23; EX1023, ¶45. Moreover, updating a profile 160 on profile server 165 causes mixing server 130 to "receive a message from profile server 165 that a custom channel profile 160 has been created or revised" and "to invoke a process for creating or modifying one or more custom media channels 170 based on profile 160 provided in the message." EX1003, 11:40-43, 11:59-63, 12:14-17. And when mixing server 130 receives profile 160, that profile includes both a "name[] or identifier[]" of the selected custom media channel ("***data indicative of a selection***") and a username and data regarding the user's "interest[s]" ("***user data***"). Pet., 22-23; EX1003, 6:10-12, 7:5-18, 10:49-67, 16:5-9. Thus, under Output Signal Mapping 2, the content processing device 110 sends an "***output***" signal with both claimed pieces of data to mixing server 130, albeit via profile server 165. EX1023, ¶44-45.

In response, PO asserts that Petitioner did not argue that the mixing server receives a signal containing both the selection data and user data. POR, 33-34. This is false. Petitioner argued that Whitehead discloses that the content processing device would send to the mixing server (via the profile server) new or updated user profile information (e.g., as part of updating a profile 160), and that it would be obvious to include an "identifier" indicative of the channel in the message from

content processing device 110 to profile server 165 and the profile 160 then forwarded to mixing server 130. Pet., 21-23; EX1023, ¶46.

To the extent PO is instead arguing that Output Signal Mapping 2 does not meet the claim language because the "output signal" traverses profile server 165, the claim is agnostic as to what path the "output signal" takes between being provided by the "aggregator" and received by the "publisher."

C. "Accessing … Media Streams" (Claim 1)

PO's argument against this limitation relies on its narrow constructions of "access" and "media streams." POR, 35. Once PO's constructions are rejected, there is no dispute Whitehead anticipates claim 1. EX1023, ¶47-48.

But even under PO's constructions, Whitehead discloses this limitation:

First, according to PO, "a single clip" can constitute "a media stream." EX1028, 42:7-11. Thus, PO's distinction between "individual media elements" and "media streams" (POR, 35) is illusory and using a clip stored in database 156 to generate a custom media channel (EX1003, 5:24-36) qualifies as "accessing" a "media stream" under PO's interpretations. EX1023, ¶49.

Second, Whitehead's disclosure of populating its content database with media content from content sources 155 tracks claim 18 of the '704 patent. In claim 1, the media stream is "accessed," and claim 18 further specifies that this media stream is then "cach[ed]" (i.e., stored) and later used to generate media programming by

"switching" between streams. Whitehead does the same: mixing server accesses the broadcast channels from content sources 135, temporarily stores media content 155 to database 156, and then later uses that media content to generate a custom media channel. Pet., at 51; EX1023, ¶50; *see also* Section III.E.

D. Claim 13

First, as to anticipation, PO argues that that, "[r]ather than furnish two different media programming at different time periods, Whitehead provides only a single custom media channel." POR, 37-38. However, PO's argument is betrayed by its position that "a single clip" can be "a media stream." EX1028, 42:7-11.[4] Thus, under PO's interpretation, Whitehead discloses streaming and playing (i.e., "***providing***") first advertising content 140 ("***first media programming***") at a first point in time (e.g., blue box in the custom media channel of Fig. 2 shown below) followed by second media content 155 ("***second media programming***") at a second point in time (e.g., green box in the custom media channel of Fig. 2 shown below):

[4] PO took this position only **after** the Petition was filed.

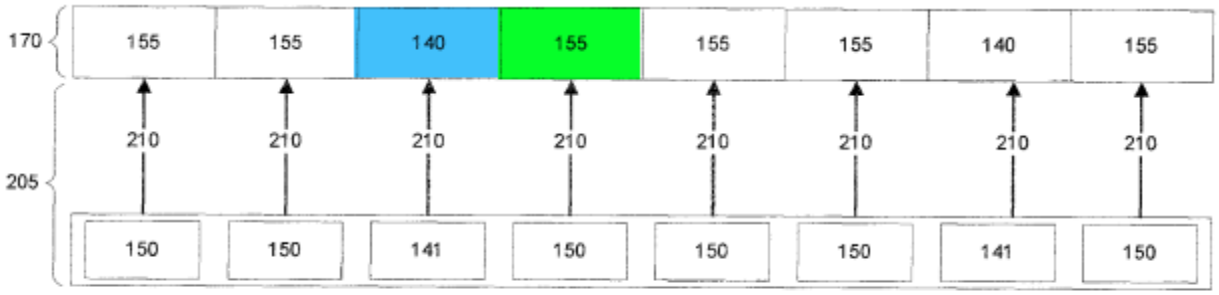

FIG. 2

EX1023, ¶51.

Moreover, Whitehead discloses that the advertising content 140 need not be targeted based on user profile information (i.e., it may be "***predetermined***"), whereas the media content 155 is selected based on profile 160 (*i.e.*, it is "***responsive to the user information***"). Pet., 46-47. That is all claim 13 requires under PO's interpretations. Importantly, PO provides no explanation why a single custom media channel cannot contain both a first and second media programming, such as advertising content 140 and media content 155, respectively. EX1023, ¶52.

Second, as to obviousness, PO challenges Petitioner's motivation to combine. Here, PO does not dispute that Whitehead discloses that some advertisements are not targeted based on user profile information ("***predetermined media programming***") and the claimed "***media programming responsive to the user***

information." Pet., 46-47.[5] PO instead only challenges Petitioner's motivation to modify Whitehead to play the predetermined advertisement before the custom media programming. POR, 38. But there is a "short interval" between a user selection of a custom media channel and playback of the resultant media programming. Pet., 46-47. Having the user just wait during any noticeable amount of delay is undesirable, and a POSITA would be motivated to fill any such delay with advertising to generate revenue. Moreover, a POSITA would be aware of the practice of playing advertisements before media programming, including movie theaters playing advertisements before a movie. EX1023, ¶53; EX1027.

Indeed, PO's only particularized challenge to Petitioner's obviousness analysis is the allegation that Petitioner did not estimate the length of such delay and whether a predetermined advertisement could fill that time. POR, 39. But even if the delay is slightly shorter than a full advertisement, a POSITA would be motivated to use the existing delay to generate advertising revenue, even if that means further delaying playback. Moreover, where an eight clip custom media channel (EX1003, Fig. 2) is "instantiated as a single multimedia file" (EX1003, 8:53-59), encoding and

[5] Accordingly, Petitioner does not rely on "common sense" to supply any "missing limitations." POR, 39.

transmitting that file may require up to 240 seconds – ample time to transmit and play a 15 or 30-second advertisement. EX1023, ¶54.

E. Claim 18

PO argues that Whitehead does not disclose this limitation because it uses "individual media elements" rather than "media streams." POR, 40-41. **First**, this difference is illusory because, according to PO, "a single clip" can be "a media stream." EX1028, 42:7-11. **Second**, PO does not dispute that content sources 135 provide "media streams," and PO identifies no basis for contending that the content from a content source 135 stops being a "media stream" on account that it is being stored in media database 156. In fact, there is no distinction between the '704 patent's storing ("caching") of media streams and the storing in Whitehead. EX1023, ¶55-57.

F. Claim 24

PO argues that Whitehead does not disclose switching media streams because all media content in Whitehead is "provided [in] the same playlist." POR, 41-42. PO provides no justification for why different "media stream[s]" cannot be part of the same "playlist." PO's argument is also betrayed by its position that "a single clip" can be "a media stream"(EX1028, 42:7-11) and allegation that claim 24 does not require anything beyond what is recited in claim 23 (EX1024, 135 (sole basis for arguing infringement of claim 24 is "See claim 23")). But even if more is required,

claim 24 is disclosed at least under Petitioner's Media Stream Mapping 1, where "media server 130 … concatenat[es] elements from multiple different content sources 135," and rendered obvious under Media Stream Mapping 2, neither of which PO disputes. *See* Pet., 32-33, 35-36 (cross-citing claim 22); EX1023, ¶58-60.

IV. GROUND 2: WHITEHEAD AND MARCUS904

A. Claim 1[6]

To the extent PO now contends that claim 1's "accessing" requires using "media streams" to generate "media programming" without, e.g., first storing their content in a database, Marcus904 renders this requirement obvious for the same reasons that Marcus904 renders obvious switching between different "media streams" to generate "media programming," thereby "accessing" and "using" those "media streams" under PO's construction. Pet., 54-55; EX1005, ¶251 (generating "programming by … switching between streams of … un-cached programming"); EX1023, ¶61-62.

B. Claims 18 and 24

Petitioner's Ground 2 challenged claims 18 and 24 as obvious over Whitehead and Marcus904. Pet., 54-55. PO does not dispute that Marcus904 discloses caching and switching of channels (*see, e.g.*, EX1005, ¶251, ¶641) or that it would be obvious

[6] Both are positions PO took only **after** the Petition was filed.

to combine those teachings with Whitehead. EX1028, 44:6-12, 45:1-9; EX1023, ¶63-64.

V. GROUND 3: CRISTOFALO AND MARCUS904

A. "Publisher" (Claims 19 and 23)

Cristofalo's "transmitting system" provides "programming" consisting of content and advertisements to a "receiving system." The transmitting system also selects and sends "media objects," and the receiving system then picks one of those media objects to customize the advertisement. EX1004 cl. 16, ¶¶ 20, 35-36, 40; POR, 45. In response, PO argues that Cristofalo's transmitting system cannot be the recited "publisher" because Cristofalo's receiving system "finalizes its final media programming provided to the user." POR, 44-46, 49. PO's argument improperly imports a requirement that a "publisher" must generate the "final" media programming that is then displayed without further customization. EX1023, ¶65.

PO's argument that Cristofalo's "transmitting system does not select, order, and concatenate these advertisements ***with the selected programming***" (POR, 45) attacks Cristofalo in isolation. Those limitations are supplied by Marcus904.

PO also argues there is insufficient rationale to combine Cristofalo's "transmitting system" and Marcus904's "receiver." Cristofalo customizes advertisements for users by modifying only portions of an advertisement via "media objects." A POSITA would thus seek to expand Cristofalo's customization

capabilities and turn to Marcus904's algorithm, which describes in detail how to select, order, and concatenate custom content, including advertisements. EX1005 ¶¶37-40, 48, FIG. 4-5. And because Cristofalo's transmitting system is capable of some customization (EX1004, ¶¶40, 47, 49, 54), a POSITA would be motivated to implement Marcus904's algorithm there. The proposed combination allows Cristofalo's transmitting system to target advertisements, as taught by Marcus904, and allows Cristofalo's receiving system to further customize those advertisements using media objects, as taught by Cristofalo. EX1023, ¶68.

B. "Output Signal" (Claim 19)

PO argues Cristofalo lacks the claimed "output signal" under PO's construction. POR, 50-53. As discussed above, this construction should be rejected. But even under PO's construction, it would be obvious to deliver two claimed pieces of data in a single signal. Most of PO's arguments to the contrary repeat its position from Ground 1, and those are addressed above in Section III.B.1. For example, a POSITA would be motivated to include a username with the selection as it would allow the transmitting system to determine which user profile to access, or at least to do so more efficiently. EX1023, ¶68-69; EX1004 ¶¶28, 37, 40, 45-46, 53.

C. Claim 1

PO contends Cristofalo's "user identifiers" are not "data relating to a plurality of streams" but does not dispute that Marcus904 also discloses receiving tags ("***data***") related to media streams. Pet., 71, (citing EX1005 ¶34).

Next, PO states that "Cristofalo's media objects are individual media elements," rather than "media streams," and that Marcus904 does not cure this deficiency because it also uses individual media elements. POR, 54-56. Yet as PO's own quotations (POR, 55) make clear, Marcus904's content and advertising is received via "media stream[s]." EX1005, ¶48; *see also* EX1005, ¶251, ¶641. Thus, Marcus904 cures any deficiency of Cristofalo in relation to this limitation. Pet., 56-58; EX1023, ¶71.

PO's arguments on lack of motivation challenge implementing Marcus904's algorithm at Cristofalo's transmitting system and are thus inapplicable to claim 1 where that algorithm is implemented in Cristofalo's receiving system. Pet., 56-58.

D. Claim 13

PO's argument is premised on claim 13 allegedly requiring "providing two streams of media programming to the client." POR, 57. No such requirement is found in claim 13. EX1023, ¶73

E. Claim 18

PO does not dispute that Marcus904 discloses "caching" and "switching" streams. When combined with Cristofalo this renders claim 18 obvious. PO's

arguments attack Cristofalo in isolation and repeat arguments for independent claims. EX1023, ¶74.

Date: September 19, 2025

Respectfully submitted,

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CERTIFICATE OF COMPLIANCE WITH TYPE-VOLUME LIMITATION, TYPEFACE REQUIREMENTS, AND TYPE STYLE REQUIREMENTS

1. This Petition complies with the type-volume limitation of 5,600 words, comprising 5,597 words, as counted using the Microsoft Word software that was used to prepare this paper, excluding the parts exempted by 37 C.F.R. § 42.24(a).

2. This Petition complies with the general format requirements of 37 C.F.R. § 42.6(a) and has been prepared using Microsoft® Word 2016 in 14-point Times New Roman.

Date: September 19, 2025

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CERTIFICATE OF SERVICE

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