UNITED STATES PATENT AND TRADEMARK OFFICE

_____

BEFORE THE PATENT TRIAL AND APPEAL BOARD

_____

TIKTOK INC.,
Petitioner,

v.

NTECH PROPERTIES, INC.,
Patent Owner.

_____

Case IPR2024-01340
U.S. Patent No. 8,145,704

PATENT OWNER'S PRELIMINARY RESPONSE

TABLE OF CONTENTS

I. INTRODUCTION 1

II. BACKGROUND AND FACTS 3

A. NTECH 3

B. The '704 Patent 4

III. LEVEL OF ORDINARY SKILL IN THE ART 6

IV. THE RELEVANT ASSERTED REFERENCES 6

A. Whitehead (Grounds 1 and 2) 6

B. Cristofalo (Ground 3) 7

V. CLAIM CONSTRUCTION 8

A. "Media Stream" (All Challenged Claims) 8

VI. PETITIONER FAILS TO ESTABLISH A REASONABLE LIKELIHOOD THAT ANY CLAIM IS UNPATENTABLE 10

A. Grounds 1 and 2: The Challenged Claims are Patentable Over Whitehead and Marcus '904 11

1. Whitehead Does Not Disclose Accessing a Plurality of Media Streams or Providing Media Programming Including Elements of the Plurality of Media Streams (Claim 1) 11

2. Whitehead Does Not Disclose an Aggregator Receiving a Selection of a Media Stream and a Publisher Assembling That Media Stream into Media Programming (Independent Claims 19 and 23) 17

a) Mapping 1: Custom Media Channels are Not Selected and Incorporated Into Media Programming 18

b) Mapping 2: The User Does Not Select Media Streams from Content Sources 19

3. Whitehead Does Not Disclose Nor Render Obvious "Providing an Output Signal Including Data Indicative of the Selection and of User Data" Element 19[a][iv] (Independent Claim 19) 22

a) Output Signal Mapping 1: Petitioner's Proposed Modifications of Whitehead are Based on Improper Hindsight.....23

b) Output Signal Mapping 2 and "Combining": Petitioner's Arguments are Inconsistent with the Plain Language of the Claims.....32

B. Ground 3: The Challenged Claims are Patentable Over Cristofalo in View of Marcus '904 34

1. Ground 3 Lacks the Necessary Specificity.....34

2. Petitioner Fails to Demonstrate That Cristofalo in View of Marcus '904 Renders Obvious Independent Claim 1 36

3. Petitioner Fails to Demonstrate That Cristofalo in View of Marcus '904 Renders Obvious Independent Claims 19 and 23.....38

4. Cristofalo Does Not Disclose Nor Render Obvious "Providing an Output Signal Including Data Indicative of the Selection and of User Data" Element 19[a][iv] (Independent Claim 19) 43

VII. CONCLUSION.....46

TABLE OF AUTHORITIES

Page(s)

Cases

Arendi S.A.R.L. v. Apple Inc.,
832 F.3d 1355 (Fed. Cir. 2016) 25, 26, 27, 28

Axonics, Inc. v. Medtronic, Inc.,
75 F.4th 1374 (Fed. Cir. 2023) 10

Becton, Dickinson & Co. v. Tyco Healthcare Grp., LP,
616 F.3d 1249 (Fed. Cir. 2010) 22

Belden Inc. v. Berk-Tek LLC,
805 F.3d 1064 (Fed. Cir. 2015) 10, 28

BlephEx, LLC v. Myco Indus., Inc.,
24 F.4th 1391 (Fed. Cir. 2022) 30

Gaus v. Conair Corp.,
363 F.3d 1284 (Fed. Cir. 2004) 22

KSR Int'l Co. v. Teleflex Inc.,
550 U.S. 398 (2007).....26, 36

Medtronic, Inc. v. Teleflex Life Sci. Ltd.,
No. 2022-01605, -1606, 2024 WL 1208642 (Fed. Cir. Mar. 21, 2024) 16

Metalcraft of Mayville, Inc. v. The Toro Co.,
848 F.3d 1358 (Fed. Cir. 2017) 35

Mformation Techs., Inc. v. Rsch. in Motion Ltd.,
764 F.3d 1392 (Fed. Cir. 2014) 15

In re Omeprazole Pat. Litig.,
536 F.3d 1361 (Fed. Cir. 2008) 28

Otsuka Pharm. Co. v. Sandoz, Inc.,
678 F.3d 1280 (Fed. Cir. 2012) 26

Plantronics, Inc. v. Aliph, Inc.,
724 F.3d 1343 (Fed. Cir. 2013) 43

In re Schweickert,
676 F. App'x 988 (Fed. Cir. 2017) 41

Wi-Lan, Inc. v. Apple Inc.,
811 F.3d 455 (Fed. Cir. 2016) 16

Xerox Corp. v. Bytemark, Inc.,
No. IPR2022-00624, Paper 9 (P.T.A.B. Aug. 24, 2022).....31

Other Authorities

37 C.F.R. § 42.104(b)(4).....16, 34

37 C.F.R. § 42.5 10

PATENT OWNER'S EXHIBIT LIST

Exhibit	Description
Ex. 2001	Declaration of Dr. Michael T. Goodrich, Ph.D. in Support of Patent Owner's Preliminary Response
Ex. 2002	Business Wire, "stimTV Network Wins Emmy Award from the National Television Academy; Technology & Engineering Emmy Award for Best Use of 'On Demand' Technology" (Jan. 10, 2007)
Ex. 2003	National Television Academy, "National Television Academy Announces Emmy Winning Achievements: Honors Bestowed at 58th Annual Technology & Engineering Emmy Awards" (Jan. 8, 2007)
Ex. 2004	M.J. Freedman, et al., "Geographic Locality of IP Prefixes," Internet Measurement Conference, 153-158 (2005)
Ex. 2005	I. Poese, et al., "IP Geolocation Databases: Unreliable?" ACM SIGCOMM Computer Communication Review, Vol. 41, No. 2 (April 2011)
Ex. 2006	Information Security Office Webpage – Separation of System Resources Guideline, available at https://security.berkeley.edu/separation-system-resources-guideline, dated Nov. 18, 2024
Ex. 2007	J. William, "6 Reasons Why You Should Start Using A Multi Server Environment," available at https://www.temok.com/blog/multi-server-environment/, dated Nov. 7, 2019
Ex. 2008	Petition for *Inter Partes* Review of U.S. Patent No. 9,923,947, *TikTok, Inc. v. NTECH Properties, Inc.*, No. IPR2024-01343, Paper 2 (P.T.A.B. Aug. 23, 2024)

Exhibit	Description
Ex. 2009	B. Gleeson, et al., "RFC 2764: A Framework for IP Based Virtual Private Networks," available at https://www.rfc-editor.org/rfc/rfc2764, dated Feb. 2000

I. INTRODUCTION

The Board should deny the Petition because the prior art of record does not disclose an aggregator that receives a plurality of media streams and provides media programming of concatenated elements from those streams (Claim 1) or a publisher receives a user's selection of a media stream and provides media programming of that media stream and other media elements in a temporal sequence (Claims 19 and 23).

Whitehead (Ex. 1003) discloses presenting a number of custom media channels to a user, but elements of those custom media channels are never concatenated into media programming, as recited in Claim 1. And even taken together with Marcus '904 (Ex. 1005), the combination violates Claim 1's timing requirement, which requires an aggregator to receive data relating to a plurality of media streams ***before*** accessing the media streams themselves. With respect to Claims 19 and 23, the user's selection of Whitehead's custom media channel does not cause that an existing media stream to be combined with other media elements. Whitehead's custom media channels are either pre-assembled or assembled in real-time. In the embodiment where the channel is pre-assembled, the user's selection causes the system to ***play*** the pre-assembled channel, but it does not cause a publisher to assemble that channel together with other media elements. In the embodiment where the channel is assembled in real-time, there is no existing "media stream" to

be combined with other media elements because the custom channel is not yet assembled.

Whitehead also fails to disclose a publisher that receives "an output signal including data indicative of the selection and of user data" from an aggregator because Whitehead's alleged "publisher" receives these two different types of data from two different locations over two different signals. In view of Whitehead's failure to disclose the "output signal," Petitioner presents two different "mappings" of Whitehead's disclosure onto this limitation, but both are meritless. In Mapping 1, Petitioner (correctly) acknowledges that the challenged claims require that the output signal must be received from an aggregator and presents several post-hoc rationalizations for modifying Whitehead that merely retrace the inventor's steps and find no support in the prior art. In Mapping 2, Petitioner rewrites the claims to remove the requirements that (1) the output signal include both types of data *and* (2) the publisher must receive the output signal from the aggregator.

Petitioner's Ground 3, based on Cristofalo (Ex. 1004) and Marcus '904 fares no better. Like the combination of Whitehead and Marcus '904, the combination of Cristofalo and Marcus '904 does not satisfy the timing requirements of Claim 1, which require an aggregator to receive "data relating to a plurality of media streams" before using that data to determine a temporal sequence of media programming and before accessing the media streams. In the combined system envisioned in the

Petition, the alleged "data relating to a plurality of media streams" (*i.e.* Marcus '904's "tags") are received at the same time as the alleged plurality of media streams. Finally, while Claims 19 and 23 recite a ***publisher*** that assembles media programming for the user, Cristofalo and Marcus '904 both disclose generating media programming at the alleged ***aggregator***.

II. BACKGROUND AND FACTS

A. NTECH

Marcus founded NTECH Properties, Inc., ("NTECH") in 2001 with the goal of fundamentally changing how media is created and presented to users. For this and other related work, Marcus has won a multitude of film, music, and advertising awards, including awards from the Cannes Film Festival, the American Advertising Awards, the Clio Awards, the New York Film and Television Festival, and the Madrid International Film Festival.

The '704 Patent came from Marcus' goal to fundamentally change how media is created and presented to users. Marcus developed stimTV, which broke ground as the first platform to offer videos personalized to the user. Ex. 2002 at 1-2. Launched in 2005, stimTV provided the world's first truly interactive and personally tailored media presentation network, where multiple personalized video streams could be concatenated and presented to the user without requiring the user to manually select individual media assets. *Id.* This work was widely recognized in

the industry, and in 2007, stimTV was awarded a Technology and Engineering Emmy Award for "Outstanding Innovation and Achievement in Advanced Media Technology for the best use of 'On Demand' Technology over the public (open) Internet," beating out large conglomerates like ABC.com, AOL Music, and Turner Broadcasting for this honor. *Id.* at 1; Ex. 2003 at 3.

B. The '704 Patent

The '704 Patent discloses a system for generating user-specific media streams. In one embodiment, an aggregator receives a plurality of media streams, accesses user information, determines a temporal sequence for elements of those media streams, and provides media programming in the form of concatenated elements of the media streams. '704 Patent, Claim 1. The '704 Patent also incorporates by reference U.S. Pat. No. 6,032,156 ("Marcus156") (Ex. 1008). '704 Patent at 1:18-21.

A publisher generates user-specific media streams responsive to a user's selection of a particular media stream and information about the user. '704 Patent at Claims 1, 19, 23. For example, an aggregator (*e.g.* a web server or electronic program guide) presents a list of media streams to a user (step 705), the aggregator receives a feed selection (step 710), the publisher receives the user feed selection and user information from the aggregator (step 715), and the publisher provides a user-specific feed with media elements selected and ordered based on the user's

selection and user information (step 720). '704 Patent at 2:54-3:1, 13:13-27, Figs. 1, 7, Claims 1, 19, 23.

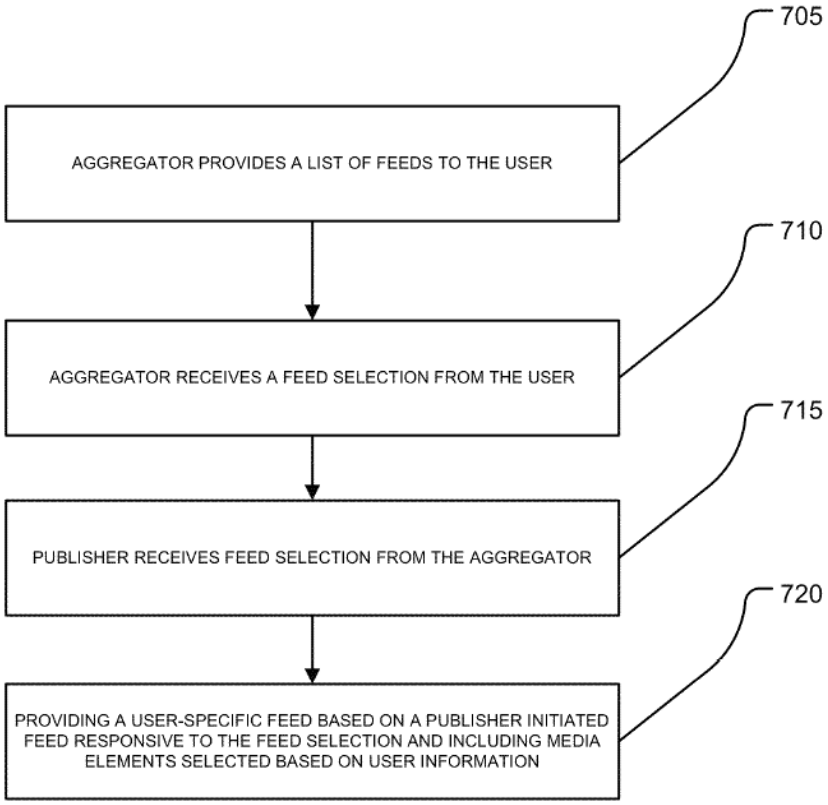


Fig. 7

Id. at Fig. 7.

The provisioning of customized media programming is further exemplified in Figure 1, which depicts the publisher providing customized media programming to different users. *Id.* at 2:63-64; Fig. 1 (depicting the aggregator providing a presentation element having a list of feeds to user 1 and user 2, and the publisher providing user-specific feeds to each user upon publisher receiving feed selection

and user information from aggregator); *see also id.* at 2:44-3-5 (disclosing that the publisher selects and concatenates media elements based on user information), 5:21-47 (disclosing that the publisher server's processor executes software to provide customized feeds). This results in a more unique and tailored experience for the user.

III. LEVEL OF ORDINARY SKILL IN THE ART

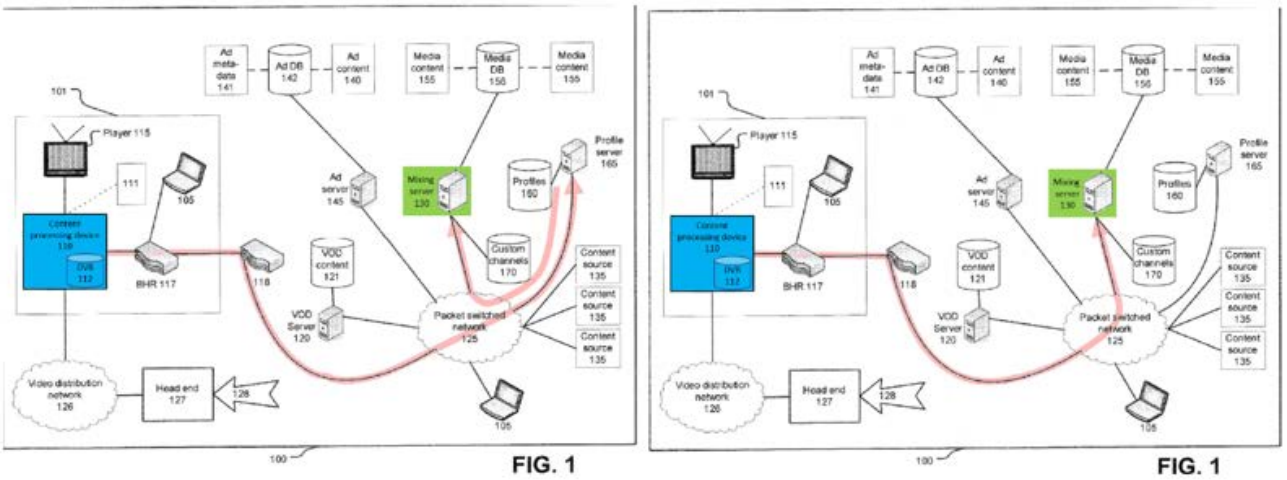
A person of ordinary skill in the art ("POSITA") at the relevant time period between 2006 and 2007 would be one having a bachelor's degree in computer science, computer engineering, or an equivalent, or two years of professional experience in the field of distributed computing. More education can supplement for less professional experience, and vice versa. Ex. 2001 (Goodrich Decl.) at ¶ 17.

IV. THE RELEVANT ASSERTED REFERENCES

A. Whitehead (Grounds 1 and 2)

Whitehead discloses a system delivering customized media to a customer premise 101 from various backend servers, such as mixing server 130. Whitehead at Fig. 1, 2:1-30. Whitehead is different from the claimed invention for numerous reasons. However, of particular relevance here is what Petitioner identifies as the publisher (mixing server 130), the aggregator (content processing device 110), and user data (profile 160 stored in profile server 165). As Petitioner's annotation of figure 1 of Whitehead (reproduced below) shows, Whitehead's mixing server 130

receives a user selection of a custom media channel 170 from content processing device 110 and separately receives profiles 160 from profile server 165.



Pet. at 16, 21 (Whitehead at Fig. 1 (annotated)) (depicting profile server 165 providing profiles 160 to mixing server 130 via a communication (left), separate from content processing device 110 providing a custom media request to mixing server 130 (right)).

B. Cristofalo (Ground 3)

Cristofalo discloses a system with a transmitting system 102 that transmits media objects (advertisements) and sends them to a receiving system 104. Cristofalo at ¶¶ [0049]-[0050], Fig. 4 (at block 408). Receiving system 104 selects the media objects (advertisements) based on user profiles and compiles them for a final presentation by presentation system 112. *See id*. at Fig. 2, Cristofalo at ¶¶ [0049]-[0050], [0054]-[0055], Figs. 4 (at block 408 and 410), 5 (at block 508 and 510).

Cristofalo's presentation system 112 is any system that can present the media object (advertisement), such as a set top box, tv, or audio system. *Id.* at ¶ [0024]. Cristofalo is very different from the claimed invention for many reasons. Of particular relevance here, is what Petitioner identifies as the publisher (transmitting system 102) and the aggregator (receiving system 104). Cristofalo's transmitting system 102 does not generate a programming feed. Instead, Cristofalo's receiver system 104 "support[s] the reception, selection, and composition of media object based content into audio, video, and audio-video presentations." *Id.* at ¶ [0027]. In addition, transmitting system 102 is not involved in communicating to the client. As discussed in Cristofalo, the receiving system communicates the final form of the media objects (advertisement) to the presentation system 112. *Id.* at ¶ [0046].

V. CLAIM CONSTRUCTION

A. "Media Stream" (All Challenged Claims)

In the context of the '704 Patent, the term "media stream" refers to *a concatenated set of media elements*.

The '704 Patent introduces the term "media stream" in conjunction with one of the inventor's earlier Patents. '704 Patent at 5:44-47. Marcus156 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."), 7:3-8 ("For example, the entity controlling a publisher may be provided with the ability to

provide multiple media offerings, such as by using a method or system for creating media programming from a library of media elements, such as in my prior patent incorporated by reference above."). 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." Ex. 1008 at 14:14-18. These "assets," or "media elements" (e.g., video clips or audio elements), are stored in a library and are concatenated 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.

This construction is also consistent with the Challenged Claims, which confirm that each of "the plurality of media streams" includes "elements." *See* '704 Patent, Claim 1 (reciting "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**") (emphasis added); *see also, e.g., id*. at Claim 22; Goodrich Decl. at ¶¶ 29-33. Media programming "comprising concatenated elements of the plurality of media streams" (Claim 1) and "a first media stream having content from concatenated elements of at least second and third media streams" (Claim 22) would not be possible if the plurality of media streams were not, themselves, concatenated sets of media elements.

The specification also distinguishes between and describes the relationship between "media elements" and "media streams." '704 Patent at 7:22-26 ("The publisher may include a server running software capable of selecting media elements, different media streams, or other types of content, in response to received user selection or information.").

For at least the foregoing reasons, the term "media stream" should be construed to *a concatenated set of media elements*. To the extent the Board does not adopt this construction or does not understand it to require denial of institution, Patent Owner respectfully requests a pre-institution *Markman* hearing. 37 C.F.R. § 42.5 (authorizing the Board to determine the proper course of conduct of proceedings). A *Markman* hearing would allow the parties and the Board to clarify the dispute regarding the construction, and, if necessary, give the parties proper notice of the Board's rationale in order to respond to it. *Axonics, Inc. v. Medtronic, Inc.*, 75 F.4th 1374, 1381-82 (Fed. Cir. 2023) (Board required to give reasonable notice when "adopting a different claim construction in the final written decision than that adopted in the institution decision") (citation omitted); *see also Belden Inc. v. Berk-Tek LLC*, 805 F.3d 1064, 1080 (Fed. Cir. 2015).

VI. PETITIONER FAILS TO ESTABLISH A REASONABLE LIKELIHOOD THAT ANY CLAIM IS UNPATENTABLE

The Petition advances a total of three grounds, each challenging the independent claims. *See* Pet. at 3-4. For at least the reasons discussed as follows,

Petitioner fails to show a reasonable likelihood that any ground would prevail with respect to any claim.

A. Grounds 1 and 2: The Challenged Claims are Patentable Over Whitehead and Marcus '904

1. Whitehead Does Not Disclose Accessing a Plurality of Media Streams or Providing Media Programming Including Elements of the Plurality of Media Streams (Claim 1)

Petitioner has not demonstrated a reasonable likelihood that Claim 1 of the '704 Patent is unpatentable over Whitehead because Whitehead does not disclose "accessing by the aggregator over a network the plurality of media streams" or "providing . . . media programming comprising concatenated elements of the plurality of media streams." Rather than access a plurality of ***media streams***, Whitehead accesses a plurality of ***media elements*** stored in a database. And rather than provide media programming comprising elements from the plurality of ***media streams***, Whitehead discloses generating a custom media channel including ***media elements*** stored in the database.

In the context of the '704 Patent, the term "media streams" refers to a concatenated set of media elements. §V.A, *supra*. For example, Marcus156 disclosed a system and method for automatically generating media. That system stored media elements, such as audiovisual clips, in a library. In response to a request for media programming, the system would select a plurality of media

elements and arrange them in a temporal organization. Marcus156 at 14:13-17 ("The system is also 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.").

Whitehead discloses the same type of system: it discloses storing ***media elements***, such as video clips, in a database and generating a custom media channel from those media elements. Whitehead at 5:24-55, 8:56-59. Accordingly, Whitehead does not disclose accessing a plurality of media streams or providing "media programming comprising concatenated elements of the plurality of media streams." '704 Patent at Claim 1.

Petitioner appears recognize Whitehead's deficiency on this issue. Unlike its arguments for Claims 19 and 23, which (unsuccessfully) attempt to map Whitehead's ***custom media channels*** to the claimed "plurality of media streams" (*see* Pet. at 12), it points to "***media content 155 from content sources 135***" for Claim 1. *Compare id.* at 12 *with id*. at 38. Petitioner was forced to modify its interpretation because Whitehead does not disclose receiving a plurality of custom media channels and then providing media programming comprising elements from those custom media channels, it only discloses generating custom media channels from media elements. However, even if Whitehead were to be read as Petitioner suggests (or modified based on Marcus '904 as Petitioner suggests in Ground 2), it still would

not disclose "providing . . . media programming comprising concatenated elements of the plurality of media streams."

In Whitehead's system (like in Marcus156), content sources 135 provide content to a media database, which stores and tags individual "media elements" (e.g., video clips). Whitehead at 5:9-13, 8:42-51. Accordingly, regardless of whether Whitehead's content sources 135 provide media in the form of media streams, broadcast TV, video clips, audio clips—or any other type of media—that media is still stored in the form of individual media elements within Whitehead's Media DB 156, and custom media channels are still built from those individual media elements. *Id*. Thus, even content sources 135 were "broadcast television channels" (Pet. at 33) or the "media stream" of Marcus '904,[1] Petitioner's argument still fails because Whitehead's alleged "aggregator"—mixing server 130—does not access content sources 135; it receives media elements from Media DB 156.

Petitioner also appears to recognize *this* deficiency in Whitehead and concocts another patch to plug its leaky argument. *See* Pet. at 38-39 (acknowledging that the

[1] NTECH does not concede that "broadcast television channels" are "media streams" or that it would have been obvious to modify Whitehead with Marcus '904. However, the Board need not reach these issues to determine that Claim 1 is patentable.

claims would require the mixing server to access media streams from content sources 135, not media elements from Media DB 156). Based only on its interpretation of Fig. 2, Petitioner argues that the mixing server accesses media streams from content sources 135 because it is located between those sources and Media DB 135:

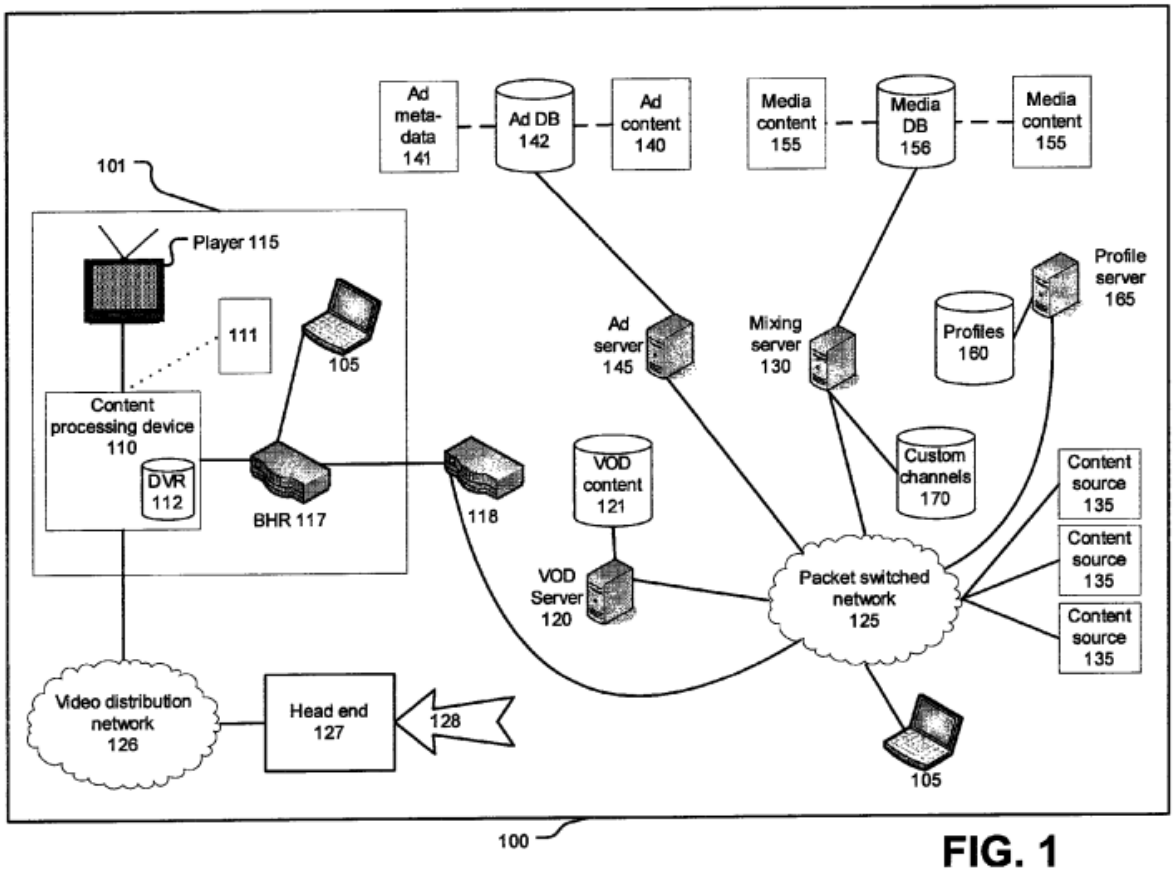


FIG. 1

Whitehead at Fig. 1. But while Whitehead's specification discloses several instances of content sources 135 communicating directly with Media DB 156, it does not mention any communications between content sources 135 and mixing server 130.

See generally, *id.* at 5:9-13, 8:22-27, 8:42-51. But even granting Petitioner's interpretation of Whitehead, several deficiencies remain.

First, the order of the steps recited in Claim 1 is not met under Petitioner's interpretation of Whitehead because the mixing server would "access"[2] the media streams ***before*** it receives the "data" relating to the media streams. Pet. at 38-39 (arguing that media from content sources 135 passes through mixing server 130 on its way to being stored Media DB 156). As a matter of logic and grammar, the method steps of Independent Claim 1 require that the aggregator access the media streams ***after*** receiving data relating to the media streams. *Mformation Techs., Inc. v. Rsch. in Motion Ltd.*, 764 F.3d 1392, 1397-98 (Fed. Cir. 2014).

It would not be logical to read Claim 1 to encompass an aggregator that accesses a plurality of media streams before it receives "data" about the media streams. The aggregator uses this "data" about the media streams in order to "determin[e] . . . a temporal sequence of media programming comprising the media streams." '704 Patent at Claim 1. The aggregator then accesses "***the*** plurality of media streams" in order to concatenate elements of ***those*** media streams into media programming. *Id.* In the context of the claim, it would not make sense for the

[2] NTECH does not concede that the mixing server *accesses* a media stream by virtue of the stream passing through the server on the way to edia DB 135.

aggregator to access media streams until it knows which media streams it will incorporate in the media programming that it will provide to the client. *Id.*

The grammar of the claim language supports this conclusion. *Medtronic, Inc. v. Teleflex Life Sci. Ltd.*, No. 2022-01605, -1606, 2024 WL 1208642, at *3 (Fed. Cir. Mar. 21, 2024) ("Although not an ironclad rule, when the current step of a method claim refers to a previous step using the definite article 'the,' the claim language indicates that the previous step occurs sequentially before the current step." (citing *Wi-Lan, Inc. v. Apple Inc.*, 811 F.3d 455, 462 (Fed. Cir. 2016))). Here, the antecedent basis for the "plurality of media streams" ***accessed*** by the aggregator is the "plurality of media streams" that the aggregator ***received*** "data" about.

Second, Petitioner has not met its burden to demonstrate that an aggregator "access[es]" media streams just by virtue of receiving them and passing them on. 37 C.F.R. § 42.104(b)(4) (it is Petitioner's burden to explain where each limitation of the challenged claims, as properly construed, are found in the prior art). In fact, in order for the aggregator to provide "media programming comprising concatenated elements of the plurality of media streams," "accessing" those media streams must require that the aggregator do more than merely act as a conduit between the Content Source and the Media DB.

Accordingly, even if Petitioner is correct to read Whitehead to disclose that (1) content sources 135 provide media streams in the form of broadcast TV or

Marcus '904's media streams ***and*** (2) those media streams pass through mixing server on their way to Media DB 156, Claim 1 is still patentable because Media DB 156 stores and provides content in the form of media elements, not media streams, and because the combined system does not satisfy its timing requirements. Whitehead at 5:9-13, 8:22-27, 8:42-51. Accordingly, Whitehead does not teach or suggest "accessing . . . the plurality of media streams" and "providing . . . the media programming comprising concatenated elements of the plurality of media streams."

2. Whitehead Does Not Disclose an Aggregator Receiving a Selection of a Media Stream and a Publisher Assembling That Media Stream into Media Programming (Independent Claims 19 and 23)

Whitehead fails to disclose an aggregator that receives a user's selection of a media stream and a "publisher . . . adapted to . . . assemble the selected media stream and [] other media elements in [a] temporal sequence." In each of Petitioner's "mappings" of Whitehead onto these limitations, Petitioner asserts that Whitehead's "custom media channels" are the claimed "plurality of media streams." Pet. at 12-15. However, even granting the notion that an existing custom media channel is a "media stream," Claims 19 and 23 are patentable because Whitehead does not disclose combining an existing channel with "other media elements," as claimed.

In Whitehead, the user's selection of a menu item associated with a "custom media channel" causes the system to either (1) play a pre-generated (existing) custom media channel or (2) generate the custom media channel in real-time. Both

of these embodiments share the same deficiency: there is no existing "media stream" selected at an aggregator that is incorporated with other media elements into media programming at a publisher.

a) Mapping 1: Custom Media Channels are Not Selected and Incorporated Into Media Programming

In "Mapping 1" Petitioner alleges that "custom media channels 170 are themselves the claimed 'plurality of media streams.'" Pet. at 12, 28. In this mapping, Independent Claims 19 and 23 are patentable because the user's selection of a custom media channel does not cause a publisher to "assemble the selected media stream and . . . other media elements in [a] temporal sequence," as claimed.

In one of Whitehead's embodiments, the user's selection of a custom media channel causes the mixing server to generate the custom media channel in real-time. Whitehead at 11:43-49 ("That is, a playlist 205 may be generated and a custom media channel 170 may be created in real-time or near real-time when a user 'tunes' to the channel 170 or otherwise selects the channel 170 for viewing through playback device 115."). However, if a custom media channel does not exist at the time the user selects its corresponding menu item, the menu item does not represent a media feed that "comprises a plurality of media elements," as claimed.

This is why, when custom media channels are generated in real-time, the menu items presented to the user are generic and reflect, for example, the "names or identifier selected by a user when creating channel profiles 160," or "according to

attributes" like "baseball" or "weather," or organized into other groups or structures. Whitehead at 16:5-14. On the other hand, where the custom media channel is pre-generated, the user is presented with the option to select the channel itself or even the individual media elements that make up the channel. *Id*. at 16:14-21.

In the pre-generation embodiment, the user's selection of a menu item associated with a custom media channel does not cause the system to "initiat[e] . . . individual customized media programming comprising media elements selected from one or more libraries in communication with said publisher" because the pre-generated channel ***is*** the "customized media programming." Whitehead at 11:58-7 ("Embodiments are also possible in which a custom media channel 170 is created and stored prior to a user's request to access the channel 170."). Rather than the user's selection initiating the generation of custom programming, the user's selection merely ***plays*** the already-generated channel. *See id.* at 16:66-17:17 (disclosing either playing stored files according to a playlist or determining in real-time which media content is necessary and retrieving that content from a library).

For at least the foregoing reasons, Mapping 1 does not reach the Challenged Claims.

b) Mapping 2: The User Does Not Select Media Streams from Content Sources

In "Mapping 2" Petitioner alleges that "each custom media channel 170 generated by mixing server 10 corresponds to a "media stream" from a different

content source." Pet. at 13. This "mapping" suffers from the same deficiency as Mapping 1 as well as a number of additional factual and legal errors.

As a preliminary matter, and as discussed in detail with respect to Independent Claim 1, Whitehead's content sources 135 do not provide media streams to the mixing server, they provide content to Media DB 156. § VI.A.1, *supra*. Accordingly, even if content sources 135 provide "media streams," those "media streams" are not presented to a user via an aggregator. Indeed, there are at least two levels of separation between the client and content sources 135. First, rather than presenting media from content sources 135 directly, that media is stored in the form of discrete media elements in Whitehead's Media DB 135. Whitehead at 5:9-13, 8:22-27, 8:42-51. Second, rather than presenting media in Whitehead's Media DB 135 directly to the user, the user is presented with a choice of several custom media channels that either already include content (where the channel is pre-generated) or will be built in real-time without a user "selecting" any existing media stream.

Petitioner's Mapping 2 ultimately shares the same deficiency as Mapping 1 because it still relies on the user's "selection" of a custom media channel from a menu of available media channels. Pet. at 13. As discussed above, the user's selection of a custom media channel does not cause a publisher to combine that custom media channel with other media elements. *See* § VI.A.2.a, *supra*. Thus, even if content sources 135 provide "media streams" to the mixing server, there is

no sense in which the user's selection of a custom media channel selects a content source's "media stream." Rather, the user still selects the custom media channel, which causes the system to either generate the channel in real-time (in which case, the user's selection does not correspond to a "media stream" that comprises a "concatenated set of media elements") (*see* § V.A, *supra*) or play the pre-generated channel (in which case, the system does not initiate the assembly of the media stream with media elements based on user data). *See* '704 Patent Claims 19, 23.

Mapping 2 also fails because the content chosen for any custom media channel is unrelated to the user's ***selection*** of a media stream. *Cf.* Pet. at 28-29. That is, the user's selection of a custom media channel is not a selection of any particular "content source 135" (the alleged "media feed") that may later become associated with the channel. Rather, as Petitioner acknowledges, "each custom media channel 170 is created based on a different profile 160." Pet. at 13; *see also* Whitehead at 12:22-55 (querying metadata associated with content and advertisements based on information stored in profile 160). Petitioner then suggests that the information ***stored in profile 160*** includes a "user-indicated content source" corresponding to a "selected media stream." Pet. at 28.

Independent Claims 19 and 23 expressly differentiate the user's "selection" of a media stream presented by an aggregator from "user data," and data stored in profile 160 is (at best) user data. *See* Pet. at 19 (equating data stored in profile 160

with the claimed "user data"). "Where a claim lists elements separately, 'the clear implication of the claim language' is that those elements are 'distinct component[s]' of the patented invention." *Becton, Dickinson & Co. v. Tyco Healthcare Grp., LP*, 616 F.3d 1249, 1254 (Fed. Cir. 2010) (alteration in original) (quoting *Gaus v. Conair Corp.*, 363 F.3d 1284, 1288 (Fed. Cir. 2004)). The '704 Patent plainly distinguishes between a user's ***selection*** of a media stream from a plurality of ***presented*** media streams and "user data," so Petitioner's argument that a user "selects" a media stream based on information stored in the user's profile does not facially satisfy the requirements of Independent Claims 19 and 23.

* * *

For at least the foregoing reasons, Whitehead does not disclose an aggregator receiving a selection of a media stream and a publisher assembling that media stream into media programming.

3. Whitehead Does Not Disclose Nor Render Obvious "Providing an Output Signal Including Data Indicative of the Selection and of User Data" Element 19[a][iv] (Independent Claim 19)

Claim 19 is also patentable because Whitehead does not disclose a publisher receiving "an output signal including data indicative of the selection and of user data" from an aggregator. Instead, Whitehead discloses a mixing server that receives user selections for content from one device (content processing device 110) and user data from another (profile server 165). In view of Whitehead's deficiencies,

Petitioner again presents two different "mappings" of Whitehead's disclosure onto this limitation, but neither has merit.

Mapping 1 acknowledges that this limitation requires a single output signal that includes data indicating a user's selection and user data. However, as Petitioner appreciates, Whitehead does not disclose such an output signal. Accordingly, Petitioner makes a number of arguments attempting to explain why a POSITA would have modified Whitehead in one way or another. Each proposed modification, however, is based entirely on impermissible hindsight gleaned from the inventor's disclosure, not record evidence. Goodrich Decl. at ¶¶ 34-44. In Mapping 2, Petitioner rewrites the claims to remove the requirements that (1) the output signal include both types of data *and* (2) the publisher must receive the output signal from the aggregator. The Board should reject Petitioner's interpretation and the argument it is meant to support.

a) Output Signal Mapping 1: Petitioner's Proposed Modifications of Whitehead are Based on Improper Hindsight

Although Petitioner's "Output Signal Mapping 1" is based on a correct interpretation[3] of the claim, Whitehead neither discloses nor renders obvious a

[3] It is unclear what Petitioner means when it says "the claimed '***output signal***' does not require transmitting both '***data indicative of the selection***' and '***data indicative***

custom channel request including "data indicative of the selection and of user data." *See* Pet. at 17-18.

Petitioner concedes that Whitehead does not disclose including user data in a user's request for a custom channel. *Id.* at 17-18, 21 ("Whitehead's profile server 165 [] transmits a message to mixing server 130 containing that profile 160." (citing Whitehead at 11:40-12:17)), 27 (alleging that profiles 160 are "user data"), 21 (acknowledging that mixing server 130 receives profiles 160 from profile server 165). Indeed, Petitioner's annotations of Fig. 1 illustrate profiles 160 provided from ***profile server 165*** to mixing server 130.

---

of … user data' in a single request." Pet at 17-18. The claims recite an "output signal," not a "request." NTECH presumes that was a typographical error and that Petitioner meant to address the requirement that the aggregator's ***output signal*** must include "data indicative of the selection and of user data."

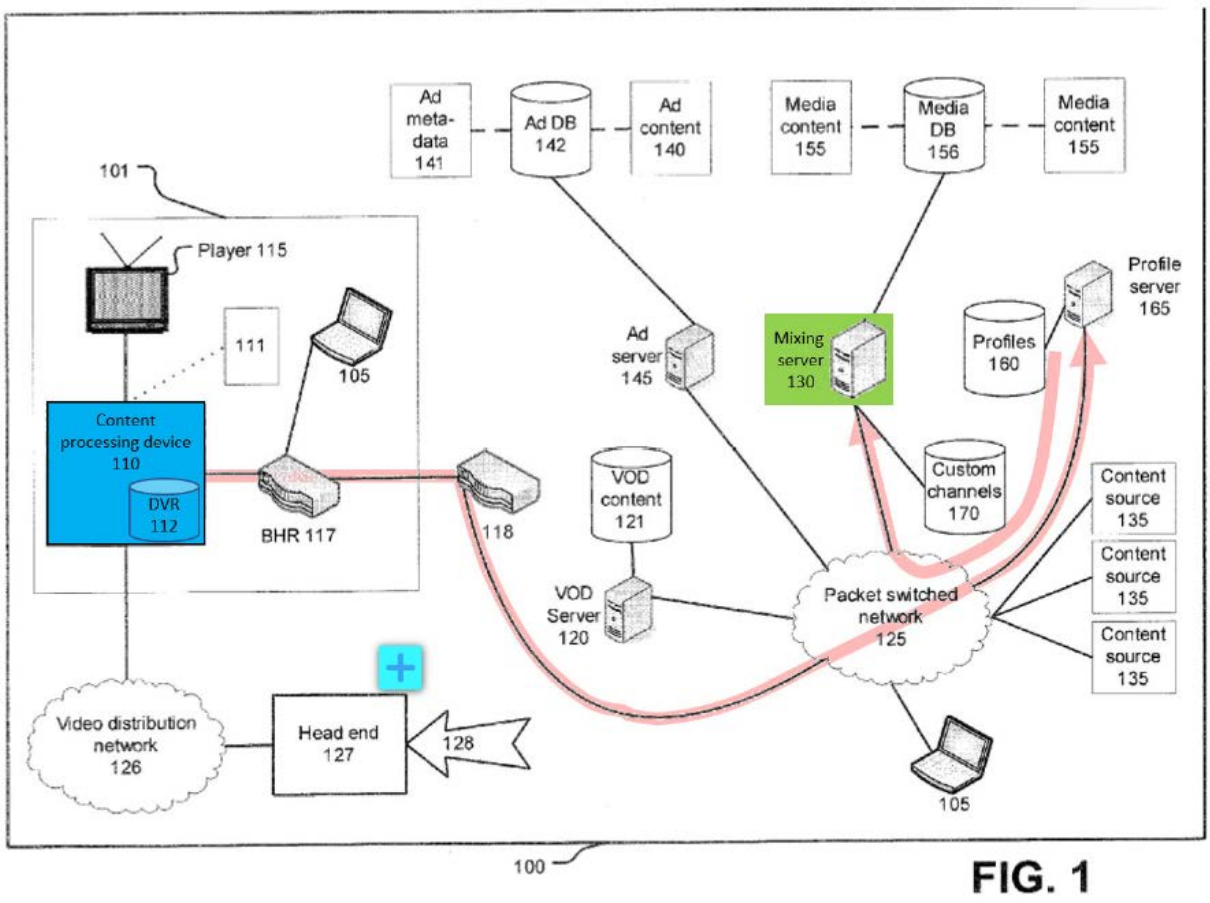


FIG. 1

Pet. at 21. But profile server 165 is not (and is not alleged to be) an aggregator.

Given that Whitehead does not disclose this limitation, Petitioner alleges that it would have been ***obvious*** to include user data in a custom channel request provided from the content processing device 110 to the mixing server. Pet. at 17-18. Petitioner's arguments are meritless for several independent reasons.

First, Petitioner's proposed modifications misuse common sense to supply a missing limitation without meeting the relatively strict standard for single-reference obviousness grounds. In *Arendi S.A.R.L. v. Apple Inc.*, 832 F.3d 1355 (Fed. Cir.

2016), the Federal Circuit considered whether and under what circumstances common sense (as opposed to record evidence and motivation to combine) could be used to supply a missing claim limitation. *Id.* at 1361-62. The court explained that invoking common sense to supply a missing limitation may be proper when "the limitation in question [is] unusually simple and the technology particularly straightforward." *Id*. at 1362. Petitioner has not attempted to make that showing.

Instead, Petitioner presents a *post-hoc* rationalization for its proposed modification, arguing that Whitehead, as modified, would provide more efficient processing or "simplify processing and communications." Pet. at 18-19; *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 421 (2007) (stating that a "factfinder . . . must be cautious of arguments reliant upon *ex post* reasoning"). However, after-the-fact identification of the benefits flowing from a particular invention does not prove that it would have been obvious to make the modification at the time of the invention. *Otsuka Pharm. Co. v. Sandoz, Inc.*, 678 F.3d 1280, 1296 (Fed. Cir. 2012) ("The inventor's own path itself never leads to a conclusion of obviousness; that is hindsight. What matters is the path that the person of ordinary skill in the art would have followed, as evidenced by the pertinent prior art.") (citations omitted). Instead, when using common sense arguments like these to fill in gaps of a single reference obviousness argument, it is incumbent on the petitioner to "explain the 'common knowledge and common sense' on which it relied," and Petitioner's arguments—

addressed in detail directly below—do not (and are not alleged) to meet this standard. *Arendi*, 832 F.3d at 1362 (citations omitted).

Petitioner's first argument—that it would improve "processing efficiency" to include "at least some '***user data***'… in the request… because mixing server 130 would be able to start creating custom media channel even before receiving the remainder of profile 160—is flawed for several independent reasons. Pet. at 18.

For one, Petitioner's argument assumes the conclusion because it has not established that including user data in a request ***would*** improve processing efficiency in Whitehead's system, let alone that such a benefit was "common knowledge." *Arendi*, 832 F.3d at 1362. In fact, Petitioner's argument neglects to consider the impact of mixing server 103 receiving user data in dribs and drabs, as this argument contemplates. Pet. at 18 (arguing that it would be beneficial to receive some user data with the request and the rest of the user data later). But the alleged reason for doing so—"because mixing server 130 would be able to start creating custom media channel 170 even before receiving the remainder of profile 160"—could easily backfire (*e.g.*, if data in the "remainder of profile 160" requires mixing server 130 to scrap the in-progress construction of the media channel). Pet. at 18.

Further, Whitehead's design already permits the "real time or near-real time" assembly of a custom media channel goal with its current system architecture, where profile server 165 sends profiles 160 to mixing server 130. Whitehead at 4:40-44,

8:45-51, 11:45-49. Because Whitehead's system already transmits the necessary data via a profile message, it would be superfluous to include the same information again in the custom channel request. *In re Omeprazole Pat. Litig.*, 536 F.3d 1361, 1380 (Fed. Cir. 2008) (affirming nonobviousness holding where the challenger failed to provide evidence of a need for proposed modification and the district court therefore concluded a POSITA would have no reason to make it).

Petitioner's second argument, that a "user's geographical location (e.g., 'by looking up the geolocation of an IP address')" "could automatically" be included in the custom channel request, is also meritless because it concerns what a POSITA *could have* done, not what it *would have done*. Pet. at 18-19; Ex. 1002 ¶ 89 (repeating verbatim the petition language); *Belden Inc.*, 805 F.3d at 1073 ("[O]bviousness concerns whether a skilled artisan not only *could have made* but *would have been motivated to make* the combinations or modifications of prior art to arrive at the claimed invention.") (citation omitted). Again, Petitioner does not provide any evidence demonstrating that including the user's geolocation along with a request for a custom media channel was known to have the benefits it claims, let alone that those benefits were "common knowledge." *Arendi*, 832 F.3d at 1362.

Furthermore, Petitioner's argument again assumes the conclusion, *i.e.*, that the "geographic location [sic] of interest to the user" is subject to change depending on where the user travels. Pet. at 18. But there is no support for this conclusion.

Whitehead already allows a user to specify "geographic locations of interest to the user." Whitehead at 1:3-18. If the user indicates that she is interested in Washington DC and New York City, one cannot also presume that she is interested in the various rural and suburban areas of New Jersey, Delaware, and Maryland just because she passes through those locations as she travels between those two cities. If the user travels to a new location ***and*** is actually interested in generating a custom channel associated with that location, Whitehead provides all of the necessary tools for the user to create a custom profile associated with the new location.

Furthermore, a POSITA would not have had reason to include a user's IP geolocation because (1) Whitehead provides no suggestion to do so and (2) Petitioner has not established that IP geolocation was a reliable tool for improving convenience and accuracy. Goodrich Decl. at ¶¶ 43-44. To the contrary, at the time of the invention, a POSITA would have understood that IP addresses were poor proxies for geographic locations, as the location accuracy was inadequate and the databases were difficult to manage. *Id.* at ¶ 44 ("[A] study from 2008 that has been cited over 150 times found that IP address prefixes had a diversity of approximately 500 miles at the 50% confidence level and over 1,000 miles at the 90% confidence level.") (citing Ex. 2004 at 5, Fig. 2), ("[A] study from 2011 that has been cited approximately 500 times concludes that even in that timeframe existing IP-address-to-geographic-location databases were difficult to manage and

that their accuracy was "more than questionable.") (citing Ex. 2005 at 1). In light of these difficulties and inaccuracies, geolocation of IP addresses would not have been an improvement of "convenience and accuracy," as Petitioner suggests. Pet. at 19.

Petitioner's third argument—that it would have been obvious to "implement profile server 165 as part of content processing device 110"—is also the product of hindsight. *Id.* Initially, Petitioner argues that Whitehead "recognizes that various functionalities in Figure 1 can be combined or shifted between system components." *Id.* However, Whitehead does not disclose that the ***profile server*** can be shifted to the ***content processing device***. Whitehead at 2:52-59 (disclosing that the "media player" may be a TV or software), 4:10-26 (disclosing that mixing server and VOD server could be integrated into a single server), 6:35-46 (custom channel profiles may be created by a user of computer 105 or at content processing device 110), 15:16-22 (a playback application may be located at client 105, content processing device 110, or mixing server 130), 19:44-63 (same). Moreover, even if Whitehead included a "generic" statement about the moving functionality from one location to another—it does not—such statements would not suffice to demonstrate that a POSITA would "'envisage' the specific combination [Petitioner] urges." *BlephEx, LLC v. Myco Indus., Inc.*, 24 F.4th 1391, 1401 (Fed. Cir. 2022).

Petitioner further argues that "[m]aintaining profiles 160 on content processing device 110 would simplify processing and communications," but it only the conclusory testimony of its expert in support of its conclusion. Pet. at 19 (citing Ex. 1002 at ¶ 90). However, a declaration that "merely repeats, *verbatim*, the conclusory assertion for which it is offered to support" is "entitled to little or no weight." *Xerox Corp. v. Bytemark, Inc.*, No. IPR2022-00624, Paper 9 at 15 (P.T.A.B. Aug. 24, 2022) (precedential).

In fact, for security reasons alone, profile server 165 would be maintained separate from content processing device 110. Specifically, to reduce the risk of compromising profiles 160, containing users' personnel information, a POSITA would have kept profile functionality on profile server separate from content processing device 110. *See*, *e.g.*, Ex. 2006 at 2 (stating that "[c]ritical services storing, processing and transmitting covered data should be hosted on separate physical or logical servers to reduce the risk of a compromised service"); Ex. 2007 at 2; Goodrich Decl. at ¶ 41.

In view of the different functionality and security precautions, a POSITA would not have been motivated to implement profile server 165 as part of mixing context server 130.

b) Output Signal Mapping 2 and "Combining": Petitioner's Arguments are Inconsistent with the Plain Language of the Claims

Petitioner's "Output Signal Mapping 2" and "Combining" arguments should be rejected because each relies on rewriting the claim so that the "output signal" need not be received at the publisher from the aggregator, and that a single signal need not include the user data and user selection. Pet. at 15 (profiles 160 are sent "from profile server 165 to mixing server 130"), 21-24; *see also id.* at 21 (annotating Whitehead's figure 1 to show that profile server 165 provides profiles to mixing server 130).

Specifically, each argument relies on Whitehead's profile server 165 providing profiles 160 to the alleged publisher via a message. *Id*. at 21 (alleging that "Whitehead's profile server 165 then ***transmits a message*** to mixing server 130 containing the profile 160 ('user data')" (Output Signal Mapping 2), 24 (same) ("Combining" argument). Petitioner's annotated Whitehead figure 1 (below) depicts profile server 165 providing profiles 160 to mixing server 130 via a message (pink arrow):

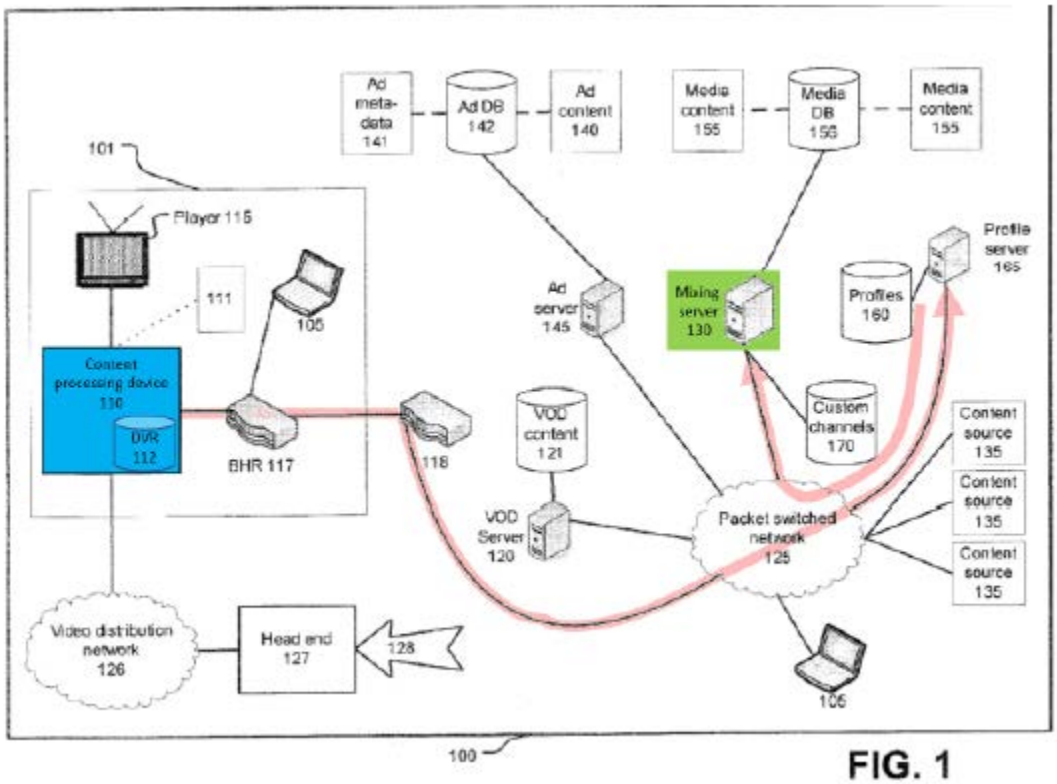


FIG. 1

Pet. at 21.

Because Whitehead's alleged aggregator itself does not provide the profiles to the alleged publisher via a signal, Petitioner's "Output Signal Mapping 2" and "Combining" argument do not even facially meet the plain reading of "providing an output signal."

* * *

For at least the foregoing reasons, Whitehead does not disclose nor render obvious "providing an output signal including data indicative of the selection and of user data" under either of Petitioner's mappings or its combination thereof.

Therefore, Petitioner fails to demonstrate that Whitehead discloses or renders obvious Independent Claim 19 and its dependents.

B. Ground 3: The Challenged Claims are Patentable Over Cristofalo in View of Marcus '904

Petitioner has not raised a reasonable likelihood that any Challenged Claim is unpatentable over Cristofalo in view of Marcus '904. Procedurally, Petitioner has only provided a bare-bones outline of an argument that fails to "specify where each element of the claim is found in the prior art patents or printed publications relied upon." 37 C.F.R. § 42.104(b)(4). Petitioner's proposed combination of Cristofalo and Marcus '904 is similarly underdeveloped and conclusory.

If the Board reaches the merits of this Ground, it should determine that it does not raise a reasonable likelihood that any Challenged Claim is unpatentable. With respect to Independent Claim 1, Cristofalo and Marcus '904 do not disclose an aggregator that receives a plurality of streams or perform other steps of the method in the requisite order. With respect to Independent Claims 19 and 23, the Combination does not disclose a publisher that compiles the media programming feed. In Cristofalo's system, that task is performed by the aggregator.

1. Ground 3 Lacks the Necessary Specificity

Ground 3 is procedurally deficient under 37 C.F.R. § 42.104(b)(4) because Petitioner fails to (1) identify where specific elements are found in the combination and provide detailed explanation on the evidence for Independent Claim 1's

"accessing," "determining," and "providing" limitations or (2) provide any specificity for how or why a POSITA would have implemented Marcus '904's algorithm at Cristofalo's transmitting system to arrive at Independent Claims 19 and 23. *See* Pet. at 72 (lumping together the "accessing," "determining," and "providing" limitations without addressing specific claim language), 56-57, 66-67 (Marcus '904's algorithm is performed at the receiving system).

For example, with respect to the "determining" limitation of Independent Claim 1, Petitioner fails to address key elements within the limitation, including "a temporal sequence of media programming comprising the media streams." *Id*. at 72. Other than reciting "generates custom media programming," Petitioner fails to specify what the "custom media programming" is nor how it is generated in Cristofalo-Marcus '904, let alone how the combination "determin[es] . . . . a temporal sequence of media programming comprising the media streams." Pet. at 72. And as discussed below, Petitioner's conclusory assertion that Marcus '904's "selection, ordering, and assembly algorithm" (Pet. at 72) satisfies Elements 1[b]-1[e] fails at least because the '704 Patent requires a different ordering of steps.

Petitioner also does not explain how or why a POSITA would have implemented Marcus '904's algorithm at Cristofalo's ***transmitting system*** with respect to Independent Claims 19 and 23. *Metalcraft of Mayville, Inc. v. The Toro Co*., 848 F.3d 1358, 1367 (Fed. Cir. 2017) ("Without any explanation as to how or

why the references would be combined to arrive at the claimed invention, we are left with only hindsight bias that *KSR* warns against"). In fact, as discussed below, all evidence Petitioner identifies is in regards to implementation at the receiving system where Marcus '904's performs such functionality. *See* Pet. at 66-67.

2. Petitioner Fails to Demonstrate That Cristofalo in View of Marcus '904 Renders Obvious Independent Claim 1

As discussed in detail above, the limitations of Independent Claim 1 must be performed in order. *See* § VI.A, *supra*. As relevant to Petitioner's challenge based on Cristofalo and Marcus '904, the aggregator must receive the data about the plurality of streams ***before*** it determines a temporal sequence of media programming and ***before*** it accesses the plurality of media streams and assembles them. *Id*.

Preliminarily, Cristofalo alone does not teach this limitation because "user identifiers" are not "data relating to a plurality of streams." *Cf.* Pet. at 71. These "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.* at ¶ [0048]. This user data exists independently of, and does not relate to, any particular media stream or streams.

This approach also does not satisfy the timing requirement of the claims because Cristofalo's "media objects" are accessed (received) before the system determines "a temporal sequence of media programming comprising the media streams," as claimed. That is, rather than receiving data about a plurality of streams, determining a temporal sequence of media programming, and then accessing the plurality of media streams, Cristofalo's receiving system receives data about a user, receives media objects, selects a subset of those media objects, and then generates video programming for the user.

Marcus '904 does not cure Cristofalo's deficiencies because the "tags" that Petitioner identifies as "data relating to a plurality of media streams" are received at the same time as the "media stream" they relate to. Marcus '904 at ¶ [0034] ("At block 200, media is tagged at a plurality of media sources. At block 210, a plurality of tagged media Streams are Sent to a receiver."). Consequently, these "tags" are also not used to determine "a temporal sequence programming comprising the media streams" ***before*** those media streams are accessed. Indeed, Petitioner repeatedly refers to Marcus '904's "receiving, selecting, ordering, and assembling" process, which is not in the same order as Claim 1's order: selecting (based on received data about the streams), ordering, receiving, and assembling.

For at least the foregoing reasons, NTECH respectfully submits that Petitioner has not established a reasonable likelihood that the combination of Cristofalo and Marcus '904 reaches Claim 1 of the '704 Patent.

3. Petitioner Fails to Demonstrate That Cristofalo in View of Marcus '904 Renders Obvious Independent Claims 19 and 23

Petitioner fails to show that Cristofalo taken alone or in view of Marcus '904 renders obvious the Challenged Claims because Cristofalo's alleged ***aggregator*** (receiving system 104) generates and provides media programming to the user by assembling the selected programming with advertisements, not its alleged ***publisher*** (transmitting system 102), as required by the Claims. *See* '704 Patent at Claims 19, 23.[4] Claim 19 recites the "publisher" elements of assembling and providing media programming to the user including:

---

[4] Although Claim 23 does not expressly recite what device performs the "responsive to" steps to generate and provide the media programming to the user, it is the publisher that does so. '704 Patent at Claim 23. During prosecution of a familial patent application reciting similar claim limitations, the Applicant expressed that it is the publisher, not the aggregator, that generates and provides the media programming, just as in Claim 19 here. Ex. 1019 at 121. Because the publisher, not the aggregator, performs Claim 19's and Claim 23's generating and providing media

> ***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.

'704 Patent at Claim 19 (emphasis added). Accordingly, the publisher assembles the "selected media stream" and the "media elements" and "provide[s] media programming to the user."

Cristofalo's final media programming provided to the user is generated by the receiving system. There, advertisements are received where, based on the user profile, they are selected, synchronized, and composed for presentation with the selected programming. *See* Cristofalo at ¶ [0049] ("Upon receiving the multi-object programming [advertisements] signal, the receiving system 104 then selects specific

---

programming steps, NTECH's analysis for Claim 19 herein applies equally to Claim 23.

media objects for decompensation, composition, and presented based upon the user's profile (Block 408)"); *see also* ¶ [0045]-[0048]; § IV.B, *supra*. Accordingly, Cristofalo's transmitting system 102 does not "assemble" the selected programming and advertisements to generate "media programming" that is then provided to the user.

Petitioner's assertion that Cristofalo's transmitting system 102 generates media programming relies entirely on Cristofalo's reference to a "programming signal," but is not the assembled final media programming. *See* Pet. at 66 (highlighting the "programming signal" in Cristofalo's figure 1). Cristofalo explains that the ***receiving system*** receives this "programming signal," extracts the media objects (advertisements), and compiles them with the selected programming to generate the final programming provided to the user. Cristofalo at ¶¶ [0045]-[0050] (explaining that media objects are pushed to a user via a programming signal for presentation during the selected programming), Fig. 4 (showing that media objects pushed in a programming signal are extracted and compiled for presentation with the selected programming by receiving system 104).

Accordingly, this is not the final programming compiled at the receiving end, where advertisements are assembled with the selected programming based on the user profile. *Id.* at ¶¶ [0045]-[0050]. Indeed, Petitioner acknowledges this fact in a related proceeding, acknowledging that receiving system 104 "receive[s] multiple,

multiplexed media objects and select[s] the ***appropriate media object for inclusion in the programming.***" Ex. 2008 (1343 Petition) at 9 (emphasis added). By Petitioner's own admission, Cristofalo's transmitting system does not "assemble" the "selected media stream and the other media elements in the temporal sequence" and "provide media programming to the user," as claimed.

In view of Cristofalo's deficiencies, Petitioner argues that Marcus '904's algorithm would be implemented in transmitting system 102. *See* Pet. at 66-67 (admitting that Cristofalo lacks any detail regarding targeting at the transmitting system), 56 (alleging that "[a] POSITA would have modified Cristofalo's transmitting system 102 (for claims 19-24) to incorporate Marcus '904's algorithm . . . for receiving, selecting, ordering, and assembling different media streams"). While Petitioner argues that a POSITA would have implemented Marcus '904's algorithm at Cristofalo's transmitting system, such implementation would have been "unnecessary" given that Cristofalo's receiving system "already" assembles the programming with advertisements, as detailed directly above. *See In re Schweickert*, 676 F. App'x 988, 995 (Fed. Cir. 2017) (determining that the proposed modification is "unnecessary" because the reference "already" performs the function). Accordingly, a POSITA would not have implemented Marcus '904's algorithm into Cristofalo's system, let alone at transmitting side 102 as Petitioner argues. *See* Pet. at 56.

In fact, as Petitioner repeatedly acknowledges, Marcus' algorithm is executed on a "receiver," not a transmitter:

> 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. at 56 (emphasis added).

> [Marcus '904] describe[es] ***a receiver 100*** that "collects media" from different "media source[s]" and "assembles a program from the collected media."

Id. at 66-67 (emphasis added) (citing Marcus '904 at ¶ [0030]).

> Marcus '904's ***receiver*** "selects media elements from the media streams for inclusion in the programming based upon the user data," "arranges the selected data elements into an order based upon the user data," and concatenates the result, all based on user data.

Id. at 67 (emphasis added) (citing Marcus '904 at ¶ [0040]). Thus, Petitioner's own evidence shows that a POSITA would have, at most, used Marcus '904's algorithm at Cristofalo's receiving system, as taught in Marcus '904.

Petitioner's theory, therefore, does not present reasoning with evidentiary support for implementing Marcus '904's algorithm at Cristofalo's transmitter. Where the necessary reasoning is absent, it cannot be assumed that "an ordinary artisan would be awakened to modify [Cristofalo's transmitting system] in such

away" as proposed by Petitioner. *Plantronics, Inc. v. Aliph, Inc.*, 724 F.3d 1343, 1354 (Fed. Cir. 2013) ("Where, as here, the necessary reasoning is absent, we cannot simply assume that 'an ordinary artisan would be awakened to modify prior art in such a way as to lead to an obviousness rejection,'" and in such circumstances "it is especially important to guard against the dangers of hindsight bias.") (citation omitted).

Thus, Petitioner fails to demonstrate that Cristofalo in view of Marcus '904 renders obvious Independent Claim 19 and 23 and their dependents.

4. Cristofalo Does Not Disclose Nor Render Obvious "Providing an Output Signal Including Data Indicative of the Selection and of User Data" Element 19[a][iv] (Independent Claim 19)

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.

Petitioner's annotation of Cristofalo demonstrates Cristofalo's lack of disclosure. Specifically, Petitioner annotates user profile system 106 as providing user profile information and receiving system 104 provides user selection information. *See* Pet. at 61-66 (annotating Cristofalo's figure 1). The fact that profiling system 106 might be "co-located" (Pet. at 62) with transmitting system 112 does not mean that sending user profile information from ***receiving system 104*** to ***user profiling system 106*** is tantamount to sending profile information from a

receiving server 104 to ***transmitting system 102***. Cristofalo at ¶ [0037]. Two separate servers remain separate servers even when they are on the same network and/or in physical proximity. Therefore, Cristofalo does not disclose an aggregator providing to the publisher an "output signal" including data indicative of the selection and of user data.

Petitioner's alternative obviousness argument does not rectify Cristofalo's deficiency. *See* Pet. at 63 (alleging that a "message ***could*** contain both" user profile information (the user's geographical information, for example) and user selection) (emphasis added). Petitioner once again advances a legally deficient "*could* contain" obviousness argument that fails for the same reasons it failed in Ground 1. § VI.A.3.a, *supra* (showing that Petitioner's "could" be argument is legally deficient and that IP addresses are poor proxies for determining geographic locations such that a POSITA would not have used a user's IP geolocation for customizing programming).

Furthermore, there are no processing delays associated with retrieving user profile information to generate final media programming. *See* Pet. at 63 (relying on eliminating "processing and delay[s]" as a reason to include user profile information with the user selection). First, as discussed above, the receiving end generates the final media programming based on user profile information such that no processing

delays exist in the transmitting system having to retrieve the information for compilation. *See* § V1.B.3, *supra*.

Second, Cristofalo transmits user profile information before user selection, and therefore would not transmit profile information with user selection. In particular, Cristofalo explains that user profile information is determined and passed between the two systems such that the receiving system receives advertisements and therefore continues with the user selection. *See* Cristofalo at ¶ [0045] (explaining that at block 402, ***the user profile information is determined*** and that ***advertisements are then pushed to the receiving system***), ¶ [0046] (explaining that ***"[a]fter the user profiles are determined***, the process continues with ***the user selecting the desired programming*** (Block 404)") (emphases added), Fig. 4.

For at least these reasons, there is no possibility of processing delay in waiting for user profile information because (1) the transmitting system does not generate the final media programming; and (2) the information is provided before user selection. A POSITA, therefore, would not have included user profile information in that selection, as Petitioner supposes.

In view of the foregoing, Cristofalo does not disclose nor render obvious a publisher receiving "an output signal including data indicative of the selection and of user data," as claimed.

VII. CONCLUSION

For at least the foregoing reasons, the Board should deny institution.

Respectfully submitted,

Dated: December 13, 2024

/James Hannah/
James Hannah (Reg. No. 56,369)
Kristopher Kastens (Reg. No. 57,517
Kramer Levin Naftalis & Frankel LLP
333 Twin Dolphin Drive, Suite 700
Redwood Shores, CA 94065
Telephone: (650) 752-1700
Facsimile: (650) 752-1800
jhannah@kramerlevin.com
kkastens@kramerlevin.com
jfuller@kramerlevin.com

Jeffrey H. Price (Reg. No. 69,141)
Jenna Fuller (Reg. No. 74,212)
Kramer Levin Naftalis & Frankel LLP
1177 Avenue of the Americas
New York, NY 10036
Telephone: (212) 715-7502
Facsimile: (212) 715-8302
jprice@kramerlevin.com

Attorneys for Patent Owner
NTECH Properties, Inc.

CERTIFICATE OF COMPLIANCE

The undersigned hereby certifies that the portions of the foregoing PATENT OWNER'S PRELIMINARY RESPONSE specified in 37 C.F.R. § 42.24 has 9,301 words in compliance with the 14,000 word limit set forth in 37 C.F.R. § 42.24(b)(1). This word count was prepared using the Microsoft Word word-processing system used to prepare this paper.

Dated: December 13, 2024

/James Hannah/

James Hannah (Reg. No. 56,369)
Kristopher Kastens (Reg. No. 57,517
Jenna Fuller (Reg. No. 74,212)
Kramer Levin Naftalis & Frankel LLP
333 Twin Dolphin Drive, Suite 700
Redwood Shores, CA 94065
Telephone: (650) 752-1700
Facsimile: (650) 752-1800
jhannah@kramerlevin.com
kkastens@kramerlevin.com
jfuller@kramerlevin.com

Jeffrey H. Price (Reg. No. 69,141)
Kramer Levin Naftalis & Frankel LLP
1177 Avenue of the Americas
New York, NY 10036
Telephone: (212) 715-7502
Facsimile: (212) 715-8302
jprice@kramerlevin.com

Attorneys for Patent Owner
NTECH Properties, Inc.

CERTIFICATE OF SERVICE

The undersigned certifies, in accordance with 37 C.F.R. § 42.6(e), and pursuant to agreement by the parties that filing with the Board through the Patent Trial and Appeal Case Tracking System (P-TACTS) and e-mailing an electronic copy to counsel of record for Petitioner constitutes electronic service, service was made on Petitioner as detailed below.

Date of service	December 13, 2024
Manner of service	Electronic Filing and Electronic Mail (jimglass@quinnemanuel.com; ogizivojnovic@quinnemanuel.com; qe-bytedance-ntech-iprs@quinnemanuel.com)
Documents served	PATENT OWNER'S PRELIMINARY RESPONSE
Persons Served	Quinn Emanuel Urquhart & Sullivan LLP, James M. Glass Ognjen Zivojnovic

/James Hannah/
James Hannah
Registration No. 56,369
Lead Counsel for Patent Owner