

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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NETFLIX, INC.,  
Petitioner,

v.

AVAGO TECHNOLOGIES INTERNATIONAL SALES PTE. LIMITED,  
Patent Owner.

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IPR2021-00303  
Patent 8,270,992 B2

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Before MELISSA A. HAAPALA, *Vice Chief Administrative Patent Judge*,  
KRISTEN L. DROESCH, and NATHAN A. ENGELS,  
*Administrative Patent Judges*.

ENGELS, *Administrative Patent Judge*.

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

## I. INTRODUCTION

Petitioner Netflix, Inc. filed a Petition (Paper 2, “Pet.”) requesting *inter partes* review of claims 1–14 and 16–19 of U.S. Patent No. 8,270,992 B2 (Ex. 1001, “the ’992 patent”). Patent Owner Avago Technologies International Sale Pte. Limited filed a Preliminary Response. Paper 6 (“Prelim. Resp.”). Pursuant to 35 U.S.C. § 314, we issued a Decision instituting this *inter partes* review as to all of the challenged claims and all grounds raised in the Petition. Paper 7 (“Dec.”).

Following institution, Patent Owner filed a Response (Paper 12, “PO Resp.”), Petitioner filed a Reply (Paper 16, “Reply”), and Patent Owner filed a Sur-reply (Paper 21, “Sur-reply”).

Each party presented oral arguments at a hearing on March 22, 2022. A transcript of the hearing has been entered into the record. Paper 25.

### A. *Related Matters*

The parties state that the ’992 patent has been asserted in *Broadcom Corp. et al. v. Netflix, Inc.*, Case No. 3:20-cv-04677 (N.D. Cal. 2020), which was originally filed as *Broadcom Corp. et al. v. Netflix, Inc.*, Case No. 8:20-cv-00529 (C.D. Cal.). Pet. 67; Prelim. Resp. 2.

### B. *Real Parties in Interest*

Petitioner identifies Netflix, Inc. and Netflix Streaming Services, Inc. as its real parties-in-interest. Pet. 67. Patent Owner identifies Avago Technologies International Sales Pte. Limited as its real party-in-interest. Paper 5, 1.

### C. *The ’992 Patent*

Titled “Automatic Quality of Service Based Resource Allocation,” the ’992 patent describes systems and methods for allocating and using

network resources in a dynamic communication network based on quality of service. Ex. 1001, codes (54), (57). As one example of the invention described in the '992 patent, the Specification describes a scenario in which a user receives audio or video content from a first system, such as a personal digital assistant ("PDA"), while another system in the same network environment, such as a desktop computer, is capable of providing the same content. Ex. 1001, 3:15–4:60. The Specification describes steps for determining whether the second system could provide the content at a higher level of quality and switching from the first system to the second system when it will provide a higher level of quality. Ex. 1001, 6:40–49, 11:55–12:5, Figs. 1, 2, 5.

*D. Illustrative Claim*

Claims 1, 6, 11, and 16 are independent claims. Claim 1, reproduced below with labels added in brackets, is illustrative of the subject matter of the challenged claims.

1[a]. In a portable system, a method for providing a digital media service to a user, the method comprising:

[1b] delivering digital media content having a current quality level to a user;

[1c] determining that a network connection with a second system is available and is characterized by a communication bandwidth that is high enough to provide the digital media content to the user at a quality level higher than the current quality level;

[1d] using the network connection to obtain the digital media content at the higher quality level from the second system;  
and

delivering the digital media content at the higher quality level to the user instead of the digital media content at the current quality level.

*E. Alleged Ground of Unpatentability*

Petitioner asserts that claims 1–14 and 16–19 would have been unpatentable on the following ground:

| Claims Challenged | 35 U.S.C. § <sup>1</sup> | References/Basis                       |
|-------------------|--------------------------|----------------------------------------|
| 1–14, 16–19       | 103                      | Barnes, <sup>2</sup> Shaw <sup>3</sup> |

II. ANALYSIS

*A. Legal Standards*

The Supreme Court set out a framework for assessing obviousness under § 103 that requires consideration of four factors: (1) the “level of ordinary skill in the pertinent art,” (2) the “scope and content of the prior art,” (3) the “differences between the prior art and the claims at issue,” and (4) “secondary considerations” of non-obviousness such as “commercial success, long felt but unsolved needs, failure of others, etc.” *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).<sup>4</sup> When evaluating obviousness based on a combination of prior art, we also “determine whether there was an apparent reason to combine the known elements in the fashion claimed by the patent at issue.” *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 418 (2007).

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<sup>1</sup> The Leahy-Smith America Invents Act (“AIA”) included revisions to 35 U.S.C. § 103 that became effective on March 16, 2013. Because the ’992 patent has a priority date before March 16, 2013, we apply the pre-AIA version of the statutory basis for unpatentability. See Ex. 1001, code (22).

<sup>2</sup> U.S. App. No. 2003/0065805 A1, published Apr. 3, 2003. Ex. 1004.

<sup>3</sup> U.S. Pat. No. 7,299,291 B1, filed May 17, 2001, issued Nov. 20, 2007. Ex. 1005.

<sup>4</sup> The record does not include any evidence of secondary considerations.

*B. Level of Ordinary Skill in the Art*

In determining the level of skill in the art, we consider the type of problems encountered in the art, the prior art solutions to those problems, the rapidity with which innovations are made, the sophistication of the technology, and the educational level of active workers in the field. *Custom Accessories, Inc. v. Jeffrey-Allan Indus., Inc.*, 807 F.2d 955, 962 (Fed. Cir. 1986); *Orthopedic Equip. Co. v. U.S.*, 702 F.2d 1005, 1011 (Fed. Cir. 1983).

Patent Owner does not address the level of ordinary skill. Petitioner contends a person of ordinary skill in the art at the time of the invention would have been a person with a “bachelor’s degree in computer science, computer engineering, electrical engineering, or a similar field with at least two years of experience in multimedia communications and systems, or a person with a master’s degree in computer science, computer engineering, electrical engineering or a similar field with a specialization in multimedia communications and systems.” Pet. 19 (citing Ex. 1003 ¶¶ 31–32).

Petitioner further states that a person of ordinary skill in 2003 would have had

the knowledge and skills necessary to: (i) design/implement video streaming systems and applications using wired or wireless networks; (ii) understand how to perform client-based network selection and switching in a wireless communication system supporting multimedia streaming; (iii) understand how to perform client-based server selection and switching in a multimedia delivery network; (iv) understand dynamic techniques for overcoming bandwidth limitations in mobile video streaming; (v) understand how to implement mobile video bit rate adaption; and (vi) understand mobile video compression and techniques for improving the quality of streaming media in bandwidth limited connections.

Pet. 19 (citing Ex. 1003 ¶ 33).

We apply the level of skill advocated by Petitioner, which is supported by the testimony in the Declaration of Harley R. Myler, Ph.D. (Ex. 1003) and is consistent with the prior art of record.

C. *Claim Construction*

Under 37 C.F.R. § 42.100(b), we construe claims “using the same claim construction standard that would be used to construe the claim in a civil action under 35 U.S.C. 282(b).” Specifically, we apply the principles set forth in *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312–17 (Fed. Cir. 2005) (en banc) and related cases. Under that standard, “[w]e generally give words of a claim their ordinary meaning in the context of the claim and the whole patent document; the specification particularly, but also the prosecution history, informs the determination of claim meaning in context, including by resolving ambiguities; and even if the meaning is plain on the face of the claim language, the patentee can, by acting with sufficient clarity, disclaim such a plain meaning or prescribe a special definition.” *Univ. of Mass., Carmel Labs., LLC v. L’Oreal S.A.*, \_\_\_ F.4th \_\_\_ (Fed. Cir. 2022) (quoting *World Class Tech. Corp. v. Ormco Corp.*, 769 F.3d 1120, 1123 (Fed. Cir. 2014)). Further, “[t]he prosecution history, in particular, ‘may be critical in interpreting disputed claims,’” and “even where ‘prosecution history statements do not rise to the level of unmistakable disavowal, they do inform the claim construction.’” *Id.* (quoting *Personalized Media Comms., LLC v. Apple Inc.*, 952 F.3d 1336, 1340 (Fed. Cir. 2020)).

1. *“A Portable System”*

Petitioner identifies “a portable system” in the preambles of claims 1 and 6 as an essential structure necessary to give life and meaning to the claims. Pet. 20. Patent Owner states that Petitioner’s construction is not

material to the arguments before the Board. PO Resp. 38. We determine it is not necessary to decide whether “portable system” is limiting. See *Realtime Data, LLC v. Iancu*, 912 F.3d 1368, 1375 (Fed. Cir. 2019) (“The Board is required to construe ‘only those terms . . . that are in controversy, and only to the extent necessary to resolve the controversy.’”) (quoting *Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999)).

## 2. “Quality Level”

Patent Owner argues the elements “current quality level” and “higher quality level” in the challenged claims refer to the quality of the digital media content itself, independent of any affects a network connection may have on the quality of a digital media service. PO Resp. 40–45, 49–52; Sur-Reply 4–7 (citing Ex. 2002 ¶ 82); see also PO Resp. 15–18 (addressing the ’992 patent’s prosecution history). Supporting that position, Patent Owner contends that during prosecution, the Applicant amended the claims to recite digital media *content* instead of digital media *service* in order to overcome prior art that disclosed improving a digital media service by improving the quality of the service’s communication link. PO Resp. 15–17 (citing Ex. 1002 at 43, 50); Sur-Reply 5–7.

As one example of the Applicant’s amendments, the amendments to then-pending claim 38, which issued as claim 1, are shown below.

38. (Currently Amended) In a portable system, a method for providing a digital media service to a user, the method comprising:

~~providing a~~ delivering digital media content having a current quality level service  
to a user ~~at a current quality level;~~

determining that a network connection with a second system is available and is characterized by a communication bandwidth that is high enough to provide the digital media ~~service-content~~ to the user at a quality level higher than the current quality level;  
and

~~in response to at least said determining, utilizing the network connection to provide the digital media service to the user at a quality level higher than the current quality level.~~

using the network connection to obtain the digital media content at the higher quality level from the second system; and

delivering the digital media content at the higher quality level to the user instead of the digital media content at the current quality level.

Ex. 1002, 43. Among other changes, the amendments changed the language “providing digital media service to a user at a current quality level” to recite “delivering digital media content having a current quality level to a user.”

Ex. 1002, 43.

In remarks made with those amendments, the Applicant stated that while the prior art discloses “switching between communication links based on link quality, the source of the **content** transmitted across the communication links (*i.e.*, the voice data) remains the same.” Ex. 1002, 50. The Applicant also stated that the prior art “fails to disclose or suggest obtaining voice data from another source, let alone obtaining digital media

content at a higher quality level from the second system, as recited in claim 38.” Ex. 1002, 50. Similarly, the Applicant stated that the prior art “relates to selection of a communication medium, and fails to disclose, teach, or suggest obtaining digital media content at a higher quality level from the second system, as recited in claim 38.” Ex. 1002, 50. Following those amendments, the Examiner issued a Notice of Allowance stating that the claims “are allowed for the reasons set forth in [A]pplicant’s response.” Ex. 1002, 21. According to Patent Owner, because those arguments resulted in allowance of the challenged claims, the amendments establish that “the terms ‘a current quality level’ and ‘a quality level higher’ refer specifically to the digital media content.” PO Resp. 16.

Petitioner does not directly address the prosecution history, but Petitioner argues that Patent Owner’s interpretation of quality level is incorrect for a number of reasons. Reply 8–9. First, Petitioner argues that nothing in the ’922 patent’s specification limits the claimed quality level as argued by Patent Owner. Reply 9 (arguing that column 6, lines 11–18 of the specification is a non-limiting example and that Figure 5 does not represent the challenged claims). Second, Petitioner argues that “while [Patent Owner] makes the point that the claims recite the ‘current quality level’ of the ‘digital media content’ before reciting a network connection, this is a non sequitur because the earlier limitation recites quality level in connection with delivering digital media content.” Reply 9 (citing PO Resp. 43). Further, Petitioner argues that it is well-known that network delivery considerations impact the quality of streaming media and that “the proper interpretation of ‘quality level’ cannot exclude considerations of network delivery.” Reply 9.

Although the intrinsic evidence informs our interpretation of the challenged claims, we do not agree with Patent Owner that the claimed quality levels are limited to the quality of the digital media content independent of any network considerations. To the contrary, the claim language itself describes the digital media content's quality level in terms of its delivery.

First, the plain language of limitation [1b] refers to *delivering* digital media content having a *current* quality level to a user. Although any digital media content may be described as having a quality level *prior to*, and *independent of its delivery*, the claim language expressly refers to the digital media content's *current* quality level *during delivery*.

Limitations [1c] and [1d] similarly refer to the quality level of digital media content in the context of its delivery to a user. Limitation [1c] recites prospectively determining that a second system will be able to provide the digital media content at a quality level higher than the current quality level. More particularly, limitation [1c] requires determining that the second system is *characterized by a communication bandwidth* high enough to provide a higher quality level. In other words, limitation [1c] specifically ties the delivery of a higher quality to the *communication bandwidth* of the network connection. The limitation does not require determining that the digital media content on the second system itself be at a higher quality level. And limitation [1d] again expressly ties the quality level to the delivery of the digital media content, reciting *delivering* the digital media content at the higher quality level instead of the current quality level.

The relevant prosecution history also informs our understanding of the challenged claims. The Applicant's amendments and related arguments,

including Applicant's change from "digital media service" to "digital media content," were made to overcome the prior art, but neither the amendment nor the related arguments exclude network-related effects on the quality levels of delivered digital media content. Notably, the Applicant's remarks explain that the cited prior art included only a single source of content, as opposed to "*obtaining digital media content at a higher quality level from [a] second source.*" Ex. 1002, 50. Consistent with the claim language discussed above, the Applicant's remarks merely recite the claim language as a reason for allowance (i.e., refer to the quality level as it is being obtained) and do not explicitly state that the media content itself needs to be at a higher quality level, prior to or independent of the delivery of the content. We find nothing in the prosecution history that limits the claims to quality levels of the delivered content independent of network considerations.

The analysis below reflects this understanding of the challenged claims, but we determine it is unnecessary to expressly interpret "quality level" or other language of claim 1. *Realtime Data, LLC*, 912 F.3d at 1375. We address the parties' dispute regarding the claims and the prior art further below.

*D. Summary of Prior Art References*

*1. Barnes*

Barnes describes systems and methods that include mobile phones and personal digital assistants (PDAs) having web browsers and audio/video players, among other functions. Ex. 1004 ¶¶ 34, 39–40. Barnes describes that its device is compatible with a variety of known communications

networks (Ex. 1004 ¶¶ 44, 47) and that its audio/video player is compatible with multiple file formats and standards (Ex. 1004 ¶ 40).

Barnes also describes programming for switching communications networks when certain conditions arise. Ex. 1004 ¶¶ 70–74. Barnes states that “network switching conditions” include a first network slowing down or a second network having more bandwidth, among other things. Ex. 1004 ¶ 74.

## 2. *Shaw*

Shaw describes a client-side method for identifying an optimum server for delivering streaming media to a user’s media player. Ex. 1005, 1:17–36, 3:48–67, codes (54), (57). Among other things, Shaw describes streaming media clients or players that typically exist as plug-ins to web browsers. Ex. 1005, 2:2–4. Shaw describes known standards and formats used for streaming media. Ex. 1005, 2:4–26.

Shaw states it was known in the art to deliver streaming media using a geographically distributed content delivery network having different nodes. Ex. 1005, 2:37–43. Shaw states that a request for content from an end user is usually directed to the “best” source of the content, which usually means that the item can be served to the client quickly compared to the time it would take to fetch the item from another server. Ex. 1005, 2:44–48. Shaw also explains that a “best” content server may not remain optimal and, “in many cases, the ‘best’ server for a given client player receiving a given stream is likely to change before the stream is finished.” Ex. 1005, 3:25–39. Shaw states that its invention provides a method for enabling a client player to identify a best server dynamically and to selectively switch to that server to receive the stream or portions of a stream. Ex. 1005, 6:57–61. Shaw also

states that streaming media quality varies widely according to the type of media being delivered, the speed of a user's Internet connection, network conditions, bit rate at which the content is encoded, and the format used.

Ex. 1005, 1:37–40.

*E. Independent Claims 1 and 6*

Petitioner and Patent Owner address independent claims 1 and 6 collectively. *See* Pet. 24–42; PO Resp. 49–56. Because claims 1 and 6 are substantially the same and the parties address the claims collectively, we address the claims collectively in our analysis below.

*1. Preambles/Preliminary Elements*

1[a]. In a portable system, a method for providing a digital media service to a user, the method comprising:

6[a]. A portable system for providing a digital media service to a user, the portable system comprising: at least one component operable to, at least:

As noted above, Petitioner contends the preamble's "portable system" is limiting. Pet. 20. Petitioner cites Barnes as teaching a portable device having a processor, memory, and a communications module that is used to provide digital media service to a user. Pet. 25 (citing Ex. 1003 ¶ 47). Petitioner cites Barnes as teaching that its device is preferably handheld with a variety of known wireless connections for receiving and playing a variety of audio and video content. Pet. 26–27.

Patent Owner does not specifically address or rebut Petitioner's showing for the preambles and preliminary elements, and we determine Petitioner has established that Barnes teaches the preamble and preliminary elements.

## 2. *Delivering Limitations*

|                                                                                  |
|----------------------------------------------------------------------------------|
| [1b], [6b]. deliver[ing] media content having a current quality level to a user; |
|----------------------------------------------------------------------------------|

Petitioner contends Shaw teaches using a client player to provide a digital media service to a user with the client player identifying an optimum server for obtaining a stream. Pet. 29–30 (citing Ex. 1003 ¶¶ 28–30, 56–57, 60; Ex. 1005, 3:49–58, 7:26–49, 7:63–8:5, 10:4–13, Figs. 3, 4). Among other things, Petitioner cites Shaw as teaching that its client player performs tests to determine which server is the best server for obtaining a stream and then using that server to retrieve the stream. Pet. 30–31 (citing Ex. 1005, 3:58–62, 8:6–25, 10:13–15; Ex. 1003 ¶ 61). Petitioner additionally cites Shaw as teaching factors that may affect the quality of streaming media, including the type of media being delivered, the speed of the user’s Internet connection, network conditions, and bit rate, among other factors. Pet. 32–33 (citing Ex. 1005, 1:37–40).

Patent Owner does not directly address or rebut Petitioner’s showing for the Delivering Limitations, and we determine Petitioner has established that Barnes teaches these limitations.

## 3. *Determining Limitations*

|                                                                                                                                                                                                                                                                        |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| [1c], [6c]. determin[ing] that a network connection with a second system is available and is characterized by a communication bandwidth that is high enough to provide the digital media content to the user at a quality level higher than the current quality level; |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Petitioner contends “[t]he combination of Barnes and Shaw renders the ‘Determining Limitations’ obvious based on Shaw’s teachings.” Pet. 34 (citing Ex. 1003 ¶ 66). According to Petitioner, Shaw teaches selecting a server for streaming media and periodically determining whether there is a

better source for the stream. Pet. 34 (citing Ex. 1005, 3:62–66, 10:16–27, code (57)). Among other things, Petitioner cites Shaw’s teaching that the client streaming media player sends queries periodically “to determine whether there is a better source for the stream. If so, the player is controlled to switch to the better stream source ‘on the fly’ if appropriate to maintain and/or enhance the quality of the service.” Pet. 34 (quoting Ex. 1005, 3:62–66). Further, Petitioner contends Shaw teaches that when one server is “thinning” a stream by dropping information from the stream, quality will be improved by obtaining the stream from a server that is not thinning the stream. Pet. 36–37 (citing Ex. 1005, 9:19–27; Ex. 1003 ¶ 72); see Reply 4 (arguing that “when a stream is thinned, the quality of the digital media content being delivered, provided, or obtained is reduced before the digital media content is placed on a network for delivery”).

Relying on the claim interpretation addressed above, Patent Owner argues that “[w]ith respect to Shaw, the Petitioner confuses the overall quality level of the digital media **service** with the quality level of the digital media **content** itself.” PO Resp. 49 (citing Ex. 2002 ¶ 94); Sur-Reply 3–7. Based on its implicit claim interpretation, Patent Owner contends the challenged claims refer to the quality level of the media content itself, independent of delivery considerations such as network quality. Sur-Reply 4 (citing Ex. 2002 ¶ 82).

As explained above, we disagree with Patent Owner’s arguments that the claims should be construed to exclude network-related effects on quality level of digital media content as delivered. Shaw describes switching from a first stream source to a “better” second stream source when a client is not receiving an acceptable stream from the first source. Ex. 1005, 3:62–66,

9:14–29; 10:30–35, code (57). As part of its process for determining whether a second source could provide a better stream, Shaw teaches “determining whether the stream being received is ‘acceptable,’ e.g., a stream that is not currently being thinned by the server.” Ex. 1005, 9:19–27. The evidence supports Petitioner’s position that when a stream is being thinned, the quality level of the digital media content being delivered is reduced. See Reply 4.

Both Dr. Myler and Dr. Alregib discuss Shaw’s teachings of thinning as a process in which a server drops frames of information from a stream. Ex. 1003 ¶¶ 67–69, 72, 80; Ex. 2002 ¶¶ 68 (quoting Ex. 1005, 9:24–27), 69, 90–91, 97 (“Dr. Myler and I agree that Shaw’s concept of thinning, on which Petitioner relies heavily, applies to the access component of quality of digital media service, not the quality of the digital media content itself” (citing Pet. 36–37; Ex. 1003 ¶¶ 90–91)). As Dr. Myler explains, a person of ordinary skill would have understood Shaw’s teachings to reflect that a thinned stream has a reduced quality level and to suggest choosing a different stream source when the current server is thinning the stream, thereby delivering content from a second server having a higher quality level. Ex. 1003 ¶¶ 72, 80. Dr. Alregib’s disagreement with Dr. Myler’s statements regarding Shaw’s teachings turn on Patent Owner’s and Dr. Alregib’s interpretation of quality level as an aspect of the digital media content itself, independent of any network considerations (see Ex. 2002 ¶¶ 68, 69, 90, 91, 97), and we disagree with that interpretation for the reasons explained above.

We agree with Petitioner that “when a server is thinning a stream, the quality of the digital media content being delivered, provided, or obtained is

**reduced** before the digital media content is placed on the network.”

Reply 11 (citing Ex. 1011 ¶¶ 5, 7). Accordingly, based on the entire record, we determine Petitioner has established that Shaw teaches or suggests these limitations.

4. *Using and Second Delivering Limitations*

|                                                                                                                                                                                                                                                                                                        |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>[1d], [6d]. us[ing] the network connection to obtain the digital media content at the higher quality level from the second system; and</p> <p>deliver[ing] the digital media content at the higher quality level to the user instead of the digital media content at the current quality level.</p> |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Petitioner contends that Shaw teaches these limitations with its teachings that a client can dynamically change servers when appropriate. Pet. 39–40 (citing Ex. 1005, 3:33–44, 9:14–19, 9:24–27, 9:37–40; Ex. 1003 ¶ 79). Petitioner also contends Barnes teaches obtaining the digital media content at the higher quality level from the second system because Barnes teaches switching from a first network to a second network if the second network has higher bandwidth. Pet. 41–42 (citing Ex. 1004 ¶ 74; Ex. 1003 ¶ 83).

Patent Owner relies on the same arguments addressed above regarding claim interpretation and the Determining Limitations to argue that neither Barnes nor Shaw teach identifying and then delivering the digital media content at the higher quality level. PO Resp. 52–56. Citing testimony from Dr. AlRegib and Dr. Myler, Patent Owner contends that the Using Limitation is distinct from the Second Delivering Limitation but that Petitioner conflates the Using Limitation and Second Delivering Limitation. PO Resp. 56.

Although we agree with Patent Owner that the Using Limitations are distinct from the Second Delivering Limitation, for the same reasons explained above, Shaw teaches or reasonably suggests using the network connection from the Determining Limitation to obtain and deliver digital media content at the higher quality level by obtaining and delivering the content from a server that is not thinning the stream. We do not agree with Patent Owner that Petitioner conflates these limitations, and based on the entire record, we agree with Petitioner that the combination of Shaw and Barnes satisfies these limitations.

5. *Reasons to Combine*

Petitioner addresses the reasons to combine Barnes and Shaw for claims 1–14 and 16–19 collectively. Pet. 21–23. Petitioner contends Barnes and Shaw would have been combined to include Barnes’s portable device and media player with Shaw’s teachings for identifying an optimum server source of streaming content. Pet. 21. Petitioner contends both Barnes and Shaw teach using a media player to deliver streaming media content to a user and, according to Petitioner, a person of ordinary skill in the art would have been motivated to make the combination to improve Barnes’s media player according to Shaw’s teachings of a client-side method for identifying an optimum server for obtaining streaming content. Pet. 21–23.

Patent Owner contends that “Barnes and Shaw cannot be combined to invalidate the challenged claims.” PO Resp. 58–63. Patent Owner does not specifically address Petitioner’s rationale for combining the references. Rather, Patent Owner attacks portions of Dr. Myler’s deposition testimony that a person of ordinary skill would have used the teachings of Shaw relating to a media player to allow the mobile device of Barnes to seek out

and find better sources from multiple sources. PO Resp. 58–59 (citing Ex. 2003, 117:16–118:2). According to Patent Owner, Dr. Myler’s testimony does not reflect the prosecution history and the ’992 patent relating to the claimed quality levels of the digital media content. PO Resp. 62–63 (citing Ex. 2002 ¶¶ 112–113).

In essence, Patent Owner’s arguments again turn on its interpretation of the claimed quality levels addressed above, and Patent Owner does not specifically rebut Petitioner’s showings regarding the reasons to combine Barnes and Shaw. Based on the complete record, we determine Petitioner has adequately supported its arguments that a person of skill would have had reason to combine Barnes and Shaw in the proposed manner and understood the combination to involve use of known techniques to improve similar devices (Pet. 22) with a reasonable expectation of success (Pet. 23).

6. *Conclusion Regarding Claims 1 and 6*

Based on the entire record, we determine Petitioner has established by a preponderance of the evidence that claims 1 and 6 are unpatentable in view of Barnes and Shaw.

F. *Independent Claims 11 and 16*

Petitioner and Patent Owner address independent claims 11 and 16 collectively. See Pet. 42–56; PO Resp. 56–57. Because claims 11 and 16 are substantially the same and the parties address the claims collectively, we address the claims collectively in our analysis below.

1. *Preambles/Preliminary Elements*

|                                                                                                               |
|---------------------------------------------------------------------------------------------------------------|
| [11a]. In a portable system, a method for providing a digital media service to a user, the method comprising: |
|---------------------------------------------------------------------------------------------------------------|

[16a]. A portable system for providing a digital media service to a user, the portable system comprising: at least one component operable to, at least:

Petitioner contends the combination of Barnes and Shaw teaches the preambles/preliminary elements with the references' teachings of methods and portable systems for providing digital media service to a user. Pet. 43–44. Patent Owner does not specifically contest Petitioner's showings regarding these elements, and based on the entire record, we agree with Petitioner that the combination of Shaw and Barnes teaches these claim elements.

## 2. *Delivering Limitations*

[11b], [16b]. deliver[ing] digital media content having a current quality level to a user;

Petitioner contends the combination of Barnes and Shaw teaches these limitations for the same reasons address above regarding limitations [1b] and [6b]. Pet. 44. Patent Owner does not specifically contest Petitioner's showings regarding the Delivering Limitations, and based on the entire record, we agree with Petitioner that the combination of Shaw and Barnes teaches these limitations.

## 3. *Communicating Limitations*

[11c], [16c]. communicat[ing] with a second system regarding communication bandwidth of a network connection with the second system;

Petitioner contends the combination of Barnes and Shaw teaches these limitations because Shaw teaches using a media player that implements a real time streaming protocol for communicating bandwidth information to the streaming server. Pet. 45–49 (citing Ex. 1003 ¶¶ 91–98). Patent Owner

does not specifically contest Petitioner's showings regarding the Communicating Limitations, and based on the entire record, we agree with Petitioner that the combination of Shaw and Barnes teaches these limitations.

4. *Determining Limitations*

[11d], [16d]. determin[ing], based at least in part on said communicating, that the network connection is available and characterized by at least a minimum determined communication bandwidth;

Petitioner contends the combination of Barnes and Shaw teaches the Determining Limitations for substantially the same reasons addressed above regarding the Determining Limitations of claims 1 and 6. Pet. 49–53. To address these limitations, Patent Owner relies on the same arguments advanced for claims 1 and 6. PO Resp. 57. For the same reasons explained above, based on the entire record, we agree with Petitioner that the combination of Shaw and Barnes teaches these claim elements.

5. *Utilizing and Second Delivering Limitations*

[11e], [16e]. in response to at least said determining, utilize[ing] the network connection to receive the digital media content at a quality level higher than the current quality level; and  
  
deliver[ing] the digital media content at the higher quality level to the user instead of the digital media content at the current quality level.

Petitioner contends the combination of Shaw and Barnes teaches the Utilizing Limitations for substantially the same reasons discussed above regarding the Using Limitations of claims 1 and 6. Patent Owner relies on the same arguments advanced for claims 1 and 6 to address these limitations. PO Resp. 57. For the same reasons explained above, based on the entire

record, we agree with Petitioner that the combination of Shaw and Barnes teaches these claim elements.

6. *Conclusion Regarding Claims 11 and 16*

Based on the entire record, we determine Petitioner has established by a preponderance of the evidence that claims 11 and 16 are unpatentable in view of Barnes and Shaw.

G. *Dependent Claims 2–5, 7–10, 12–14, and 17–19*

1. *Dependent Claims 2, 3, 7, 8, 12, 13, 17, and 18*

Dependent claims 2, 7, 12, and 17 depend from claims 1, 6, 11, and 16, respectively, and additionally recite “where the digital media content is video media.” Dependent claims 3, 8, 13, and 18 depend from claims 1, 6, 11, and 16, respectively, and additionally recite “where the digital media content is audio media.” Petitioner contends both Barnes and Shaw teach audio and video media. Pet. 57–61 (citing Ex. 1004 ¶¶ 39–40, 45, 66; Ex. 1005, 1:44–47, 2:7–11, 6:57–65, 7:4–25; Ex. 1003 ¶¶ 38–42, 113–121).

Patent Owner does not substantively contest Petitioner’s showings regarding claims 2, 3, 7, 8, 12, 13, 17, and 18 beyond the arguments addressed above regarding claims 1, 6, 11, and 16. PO Resp. 57. Based on the entire record, we agree with Petitioner that the combination of Shaw and Barnes satisfies these limitations.

2. *Dependent Claims 4 and 9*

Claims 4 and 9 depend from claims 1 and 6, respectively, and additionally recite that the Determining Limitation of claims 1 and 6 requires communicating “information of the communication bandwidth with the second system.” Petitioner contends a person of ordinary skill would have found these limitations obvious based on Shaw’s teachings that its media

player communicates bandwidth information in the header of a request sent to a second server. Pet. 61–63 (citing Ex. 1005, 2:14–19, 3:48–54, 7:39–41, 8:13–31; Ex. 1003 ¶¶ 122–126; Ex. 1006 pp. 44, 46 (describing header information); Ex. 1008 ¶¶ 2–3; Ex. 1009).

Patent Owner does not substantively contest Petitioner’s showings regarding claims 4 and 9 beyond the arguments address above regarding claims 1 and 6. PO Resp. 57. Based on the entire record, we agree with Petitioner that the combination of Shaw and Barnes satisfies these limitations.

### *3. Claims 5 and 10*

Claims 5 and 10 depend from claims 1 and 6, respectively, and recite “where the portable system automatically performs, without user interaction, said determining, said using, and said delivering the digital media content at the higher quality level to the user.” Petitioner contends Shaw teaches the additional limitations of claims 5 and 10 with its disclosures of periodically looking for a better source of streaming content. Pet. 65–66 (citing Ex. 1005, 3:33–36, 3:40–44, 3:62–66, 9:14–19; Ex. 1003 ¶¶ 130–133).

Patent Owner does not substantively contest Petitioner’s showings regarding claims 5 and 10 beyond the arguments address above regarding claims 1 and 6. PO Resp. 57. Based on the entire record, we agree with Petitioner that the combination of Shaw and Barnes satisfies these limitations.

### *4. Claims 14 and 19*

Claims 14 and 19 depend from claims 11 and 16, respectively, and additionally require the recited component to “automatically perform, without user interaction, said communicating, said determining and said

utilizing.” Although claims 14 and 19 are listed among the challenged in the Petition (Pet. 5, 9), Petitioner makes no evidentiary showing or arguments for claims 14 and 19. Accordingly, Petitioner has not established by a preponderance of the evidence that claims 14 and 19 are unpatentable.

*H. Conclusion Regarding Dependent Claims*

We determine Petitioner has shown by a preponderance of the evidence that dependent claims 2–5, 7–10, 12, 13, 17, and 18 are unpatentable in view of Barnes and Shaw. We determine Petitioner has not shown by a preponderance of the evidence that claims 14 and 19 are unpatentable.

III. CONCLUSION<sup>5</sup>

As explained above, we determine Petitioner has established by a preponderance of the evidence that claims 1–13 and 16–18 are unpatentable. In summary:

| <b>Claims</b>              | <b>35<br/>U.S.C.<br/>§</b> | <b>References/Basis</b> | <b>Claims<br/>Shown<br/>Unpatentable</b> | <b>Claims Not<br/>Shown<br/>Unpatentable</b> |
|----------------------------|----------------------------|-------------------------|------------------------------------------|----------------------------------------------|
| 1–14, 16–<br>19            | 103                        | Barnes, Shaw            | 1–13, 16–18                              | 14, 19                                       |
| <b>Overall<br/>Outcome</b> |                            |                         | 1–13, 16–18                              | 14, 19                                       |

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<sup>5</sup> Should Patent Owner wish to pursue amendment of challenged claims in a reissue or reexamination proceeding subsequent to the issuance of this decision, we draw Patent Owner’s attention to the April 2019 *Notice Regarding Options for Amendments by Patent Owner Through Reissue or Reexamination During a Pending AIA Trial Proceeding*. See 84 Fed. Reg. 16,654 (Apr. 22, 2019). If Patent Owner chooses to file a reissue application or a request for reexamination of the challenged patent, we remind Patent Owner of its continuing obligation to notify the Board of any such related matters in updated mandatory notices. See 37 C.F.R. § 42.8(a)(3), (b)(2).

#### IV. ORDER

In consideration of the foregoing, it is hereby:

ORDERED that pursuant claims 1–13 and 16–18 of the '992 patent have been shown to be unpatentable under 35 U.S.C. § 103 as obvious in view of Shaw and Barnes;

FURTHER ORDERED that claims 14 and 19 have not been shown to be unpatentable; and

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

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For PETITIONER:

Harper Batts  
Chris Ponder  
Jeffrey Liang  
SHEPPARD, MULLIN, RICHTER & HAMPTON LLP  
hbatts@sheppardmullin.com  
cponder@sheppardmullin.com  
jliang@sheppardmullin.com

For PATENT OWNER:

Daniel Young  
Chad King  
ADSERO IP LLC d/b/a  
SWANSON & BRATSCHELL LLC  
dyoung@adseroip.com  
chad@adseroip.com