

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

NETFLIX, INC.,

Petitioner,

v.

AVAGO TECHNOLOGIES INTERNATIONAL SALES PTE. LIMITED,

Patent Owner.

Case No. IPR2021-00303

U.S. Patent No. 8,270,992

PETITIONER'S REPLY

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I. Introduction

The Petition and accompanying declaration by Dr. Myler establish that the combination of Barnes and Shaw renders the challenged claims obvious.

Avago's Patent Owner Response does not directly address the Petition's evidence by comparing Shaw's teachings and Barnes' teachings with the relevant claim limitations. Instead, Avago has adopted a confusing organization for its Patent Owner Response that obscures its interpretation of the claims and its interpretation of the prior art. For example, Avago contends that no terms require claim construction. And yet, Avago dedicates six pages of discussion to the claim language, portions of the specification, and extrinsic expert testimony to explain the meaning of the independent claims. POR 40-45. In its argument section, Avago cites back to its claim interpretation as if it were a claim construction. *See, e.g.*, POR 59. Similarly, Avago dedicates nineteen pages to (incorrectly) characterizing the teachings of Barnes and Shaw. POR 19-37. In its argument section, Avago cites back to large portions of its earlier characterizations of the prior art. *See, e.g.*, POR 49-50.

Many of Avago's arguments are premised on an incorrect interpretation of "quality." Even though the challenged claims and the prior art concern streaming digital media content, Avago (incorrectly) argues that the quality level of digital media content cannot be affected by network delivery considerations. But nothing

in the '992 patent compels such a narrow interpretation of “quality,” and it is inconsistent with the prior art’s teaching that the quality of streaming media content is affected by network delivery considerations.

Avago’s arguments that the combination of Barnes and Shaw does not teach determining limitations [1c] and [6c] lack merit. *First*, Avago argues that Shaw’s thinning teachings do not satisfy the determining limitations because thinning relates to the quality of the network connection rather than the quality of the media content itself. However, Avago ignores 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.

Second, Avago argues that the determining limitations are not satisfied because a client media player according to Shaw’s teachings switches servers only to obtain digital media content at the same quality level. This argument is premised on narrowly interpreting Shaw’s content delivery network teachings in a manner inconsistent with Shaw’s teachings, whereby a content delivery network only replicates a single version of digital media content at a single quality level. Avago further argues that Shaw’s switching process requires the client to only switch to another server to obtain the same quality content. But this argument ignores that Shaw has several switching teachings and states that any convenient switching technique may be used.

In any event, Avago failed to address the Petition's first explanation of how Shaw teaches the determining limitations. Indeed, the Petition explains (before addressing Shaw's thinning teachings) that it would have been obvious to use Shaw's process to determine the communication bandwidth between the client media player and each server identified as a source for a stream because the purpose of Shaw's test process is to determine whether there is a "better" source for a stream, and Shaw teaches that communication bandwidth affects stream quality. Petitioner's explanation stands unrebutted.

Avago's arguments that the combination of Barnes and Shaw does not teach the using and second delivery limitations [1d] and [6d] lack merit. *First*, Petitioner and Dr. Myler addressed all of the claim language and did not ignore or render superfluous any portion of the limitations. *Second*, Avago's arguments are premised on narrowly interpreting limitations [1d] and [6d] using non-limiting examples from the specification.

Finally, there is no merit to Avago's argument that a POSITA would not have been motivated to combine Barnes and Shaw as described by the Petition. Instead of rebutting the evidence put forth in the Petition, Avago observes that Dr. Myler did not use the word "quality" in a six-page excerpt of his deposition. However, Avago ignores the testimony Dr. Myler provided in his declaration and did not ask him to explain that testimony at his deposition.

II. Avago and Dr. AlRegib's positions in this proceeding are difficult to reconcile with Avago's positions in the district court.

After this IPR was instituted, the district court in the parallel proceeding dismissed Avago's claims for infringement pursuant to 35 U.S.C. § 101 because the '992 patent is directed to abstract ideas and lacks inventive concepts. Ex. 2004, 20. In opposing the motion to dismiss, Avago characterized the '992 patent as "directed to improving the functionality of a communication network used to provide digital media services like video or audio streaming." Ex. 1007, 14. Avago argued that it was improper to "'boil down' the technology to 'switching from lower- to higher-quality media when available.'" Ex. 1007, 14 (citations omitted). Rather, Avago argued:

[C]laim 1 is specifically directed to (i) a portable system; (ii) digital media; and (iii) use of bandwidth to make the quality-of-service determination. Because the claim is directed to only these narrow criteria, it does not claim the whole abstract idea of switching from lower- to higher-quality service. Instead, it is limited to a specific implementation of that principle: selecting a source of digital media content for delivery to a portable system based on bandwidth.

Ex. 1007, 14. Avago further argued that "using bandwidth in a portable system to evaluate and select a first or second system to provide a higher quality of audio or video service" was a "concrete solution to a problem[.]" Ex. 1007, 15.

Despite arguing to the district court that the “portable device” recited by the claim preamble is material to the patentability of the ’992 patent, Avago “does not concede” here that the “portable device” is a claim limitation. POR 38.

Similarly, Avago seeks to downplay the importance of selecting a source of digital media content based on bandwidth by arguing here that “[w]hile the Challenged Claims unquestionably require ‘a network connection’ in providing the ‘digital media service,’ this network connection must only have ‘a communication bandwidth that is high enough’ ... to obtain/receive the digital media content at the higher quality level.” POR 16. The reason for Avago’s changing position is clear – the Petition’s grounds demonstrate the obviousness of using bandwidth to select a source of digital media content. Avago’s expert implicitly acknowledged as much by stating that he “believe[s] that Petitioner focuses unduly on the networking aspects of the Challenged Claims.” Ex. 2002 ¶45. Dr. AlRegib’s opinion that “the networking aspect of the claims is not of paramount importance” (Ex. 2002 ¶45) is difficult to reconcile with Avago’s explanation to the district court that claim 1 is “directed *to improving the functionality of a communication network* used to provide digital media services like video or audio streaming” (Ex. 1007, 14 (emphasis added)).

III. The combination of Shaw and Barnes renders the independent claims obvious.

A. Avago incorrectly interprets “quality level.”

The claims recite, in part, “delivering digital media content having a current quality level to a user” (limitation [1b]) and “determining that a network connection 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” (limitation [1c]). The Board correctly observed that “[t]he plain language of the claims refers to the quality level of the digital media being ‘delivered,’ ‘provided,’ and ‘obtained’....” DI 12.

Avago and its expert apply a different interpretation – without seeking claim construction – where quality does not refer to the quality of the digital media content being delivered, provided, or obtained, but rather *only* refers to the quality of the digital media content “itself.” POR 42 (“[T]he ‘quality’ of the information (e.g., digital media content) refers specifically to the quality of the information itself.”); Ex. 2002 ¶81. While Avago’s interpretation appears circular, Dr. AlRegib’s further explanation (notably *absent* from the POR) makes Avago’s interpretation clear: “the quality level of the media content, as those terms are used in the Challenged Claims, is independent of delivery considerations, such as network quality.” Ex. 2002 ¶82.

This interpretation is wrong for several reasons. *First*, Avago relies on 6:11-18, but this non-limiting example is not a lexicography and does not support excluding delivery considerations. POR 42. *Second*, while Avago makes the point that the claims recite the “current quality level” of the “digital media content” before reciting a network connection (POR 43), this is a non sequitur because the earlier limitation recites quality level in connection with delivering digital media content.

Third, Avago points to FIG. 5 of the '992 patent, where the “user may initially be listening to music on headset 520 that is stored locally on PDA 515.” POR 43. Avago argues this is an example of delivering content at a current quality level without a network connection. POR 43. But this example does not involve ***streaming*** digital media content and therefore does not support Dr. AlRegib’s sweeping conclusion that the quality of digital media content is ***always*** independent of delivery considerations. Ex. 1011 ¶¶4-5. It was well-known that network delivery considerations impact the quality of streaming media. Ex. 1005, 1:36-54, 10:30-37; Ex. 1004, [0070]-[0072]. As the Board observed, “both Barnes and Shaw describe bandwidth as one factor affecting streaming quality.” DI 13 (citations omitted). Therefore, the proper interpretation of “quality level” cannot exclude considerations of network delivery.

B. Shaw teaches determining limitations [1c] and [6c].

The determining limitations are taught by Shaw's periodic determination of whether there is a better source for the current stream and switching the stream's source "to maintain and/or enhance the quality of service." Pet. 34-35. Shaw's process considers such factors as the cost of switching mid-stream and whether the current source is providing an acceptable stream. Pet. 35. One way in which a stream is not acceptable is if it is being thinned by the server. Pet. 35-36; Ex. 1005, 9:14-29.

The Petition gives several reasons for why Shaw's process teaches the determining limitations. Pet. 36-37. The first reason, based on Shaw's teaching that the communication bandwidth between the client and stream source affects stream quality, is not rebutted by Avago. Pet. 36; *infra* § III.B.4. Instead, Avago focuses on rebutting the second reason relating to stream thinning.

In addition, Avago argues that Shaw cannot teach switching to digital media content at a higher quality level because Avago believes that Shaw only teaches storing identical copies of digital media content (and hence at the same quality level) across a content delivery network, and Avago believes that Shaw's switching process requires that there be no difference in quality when streams are switched. Both arguments lack merit.

1. The determining limitations are taught by Shaw's thinning teachings.

Avago argues that Shaw's thinning teachings do not satisfy the determining limitations because switching to avoid thinning "relates to the quality of the network connection and not to the quality of the digital media content itself." POR 51. Avago's argument is incorrect for two reasons. *First*, it is premised on Avago's incorrect interpretation of "quality" that, as explained above, incorrectly excludes network delivery considerations from impacting quality. *Supra*, § III.A. *Second*, Avago ignores 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. Ex. 1011 ¶5, ¶7. In other words, even if the streaming client receives every bit of information sent by the server, the thinned stream being sent by the server is at a lower quality level than what the client could receive from another server that is not thinning the stream. Ex. 1011 ¶¶7-10.

Both experts agree that thinning a stream involves "dropping portions of a stream from transmission at its source." Ex. 1003 ¶72; Ex. 2002 ¶69; Ex. 1010 (AlRegib Dep.), 155:19-156:16 (an example of thinning involving dropping frames), 158:17-22. When a server thins a stream of digital media content, the server removes some information (e.g., frames of video) from the digital media content before the server places the stream on a network for transmission to the

client. A thinned stream therefore contains less information than the original content. This is reflected by the fact that a thinned stream will typically have a smaller file size. Ex. 1010, 161:9-15 (agreeing that it is “typical of the thinning outcome” that a thinned version has smaller file size than the non-thinned version); Ex. 1011 ¶9. Thus, when a stream is being thinned, the digital media content delivered, provided, or obtained from the server to the client device is of lower quality.

Avago and its expert conveniently focus on the fact that thinning is caused by network conditions. Ex. 2002 ¶69. But this is only part of the picture. As Dr. Myler testifies, to which Dr. AlRegib does not object, thinning occurs when the server detects that the bandwidth between the server and the client is insufficient, and the server drops some information so that the client can keep up. Ex. 1003 ¶72; Ex. 2002 ¶69. A reduced amount of information, hence lowered in quality, is exactly what enables the client to “keep up” under the undesirable network bandwidth. Here, Avago and its expert completely disregard this fact. By reducing thinning to merely a network consideration or “a phenomenon of access to the information” (Ex. 2002 ¶91, ¶69), Avago and its expert ignore the very purpose and result of thinning: to produce a stream that has a lower quality, and, thus, is easier to transport over a low-bandwidth network.

Because a network connection of low communication bandwidth can cause a lowered quality of digital media content through thinning, in Shaw, the client device may find the stream to be of unacceptable quality. Pet. 36-37. By switching to a higher bandwidth network, which enables the server to transmit a stream “not currently being thinned,” the client device obtains digital media content of acceptable quality, which is at higher quality level compared to the thinned stream. Pet. 37. With Shaw’s teaching, a POSITA would have found the determining limitations satisfied.

2. Avago incorrectly limits Shaw’s content delivery network to providing a single, identical stream.

Avago argues that “Shaw teaches that identical copies of the media content are stored on servers with the [content delivery network]” and therefore “the client browser can switch between servers ... and still receive the same content (*i.e.*, the same ‘stream’).” POR 49-50. The factual basis for this argument is hard to discern because Avago’s argument cites to Section II.C.2 of the POR, which is thirteen pages long. Avago relies at least upon Dr. AlRegib’s opinion that “[n]otably, Shaw provides no disclosure that might indicate that the ‘source stream’ might be transcoded, re-encoded, or modified in any way that might change the quality of the source stream, either before or after it has been ‘replicated.’” Ex. 2002 ¶¶57-58.

Avago and Dr. AlRegib are wrong. Shaw teaches that “[p]rior to streaming, the content must first be encoded...” and that “[c]ontent owners typically choose to encode media at multiple rates so that users with fast connections get as good an experience as possible but users with slow connections can also access the content.” Ex. 1005, 1:47-58. Dr. AlRegib even admitted that encoding content at different bit rates was a known way to vary the quality of media content:

Q. Would a POSITA have known by 2003 that one way to vary the quality of media content is to encode the content at different bit rates?

A. Yes, a POSITA at the time who knows about decoding or decoding compression, they would.

Ex. 1010, 103:22-104:4.

Avago and Dr. AlRegib also wrongly suggest that Shaw is limited to storing identical copies of media content on the servers of the content delivery network (“CDN”). POR 49-50, 27-28; Ex. 2002 ¶¶57-58. Avago and Dr. AlRegib appear to rely upon Shaw’s FIG. 2. While Shaw’s FIG. 2 and accompanying text (e.g., 5:66-7:3) describe how a single stream is replicated from the entry point across the servers that make up the content delivery network, that does not mean Shaw’s content delivery network is limited to a single stream that is stored identically across the content delivery network. Rather, Shaw explains at the beginning of its description of FIG. 2 that there is a many-to-many relationship for streams and

content providers handled by the content delivery network: “An entry point, for example, comprises two servers (for redundancy), and *each server can handle many streams from multiple content providers.*” Ex. 1005, 6:1-3 (emphasis added); Ex. 1011 ¶¶13-14.

Finally, a POSITA would not have understood Shaw to only teach storing digital media content at a single quality level across a content delivery network because Shaw also teaches that content providers commonly encoded media into a number of different versions that varied by quality. Ex. 1005, 1:47-58. It makes even less sense to assume that a POSITA would think that a system like Shaw’s could not store media content at multiple quality levels because content delivery networks were already being used to store digital media content at multiple quality levels. Dr. AlRegib admitted that this was known:

Q. Do you know one way or another whether content delivery networks in 2003 were used to distribute media content at multiple quality levels, the same media content at multiple quality levels?

A. Yes, they will have, they will have different content at different bit rates, at different bit rates. But the main, the main contribution of these networks and what this is very well known for is to bring servers closer to the viewers, to campuses and something like that. So there’s minimizing basically going all the way back to a server very far off and that’s basically just bringing server

closer to the client. So that provides a better quality of service.

Ex. 1010, 164:9-165:4 (objection omitted), 163:14-164:8.

3. Avago mischaracterizes Shaw's switching teachings.

Avago argues that Shaw does not teach providing digital media content at a higher quality level because "Shaw repeatedly states that, if the network switch is done correctly, the user will not notice the switch because the 'stream' will seamlessly switch from the first server to the second server." POR 50. Avago thus stretches to contend that the digital media content cannot be at a higher quality level because "the user cannot tell the difference in the media content[.]" POR 50 (citing Ex. 2002 ¶¶94-95). Notably, Avago plays a shell game by not citing to any portions of Shaw and instead cites to paragraphs 94-95 of Dr. AlRegib's declaration. Paragraphs 94-95 similarly do not cite any portions of Shaw, but instead cite to fourteen other paragraphs of Dr. AlRegib's declaration.

Avago's argument is flawed for several reasons. *First*, the cited portion teaches a **substantially** seamless switch and not strictly a seamless switch: "[t]he stream switch process includes the capability to match data packets from first and second servers to enable a substantially seamless switch to the new stream source." Ex. 1005, 9:63-66 (cited by Ex. 2002 ¶¶59, 73). Moreover, Shaw makes clear that this is only one example and that "any convenient switching technique may be implemented." Ex. 1005, 10:1-3. In fact, Shaw gives another example of a

switching technique for voice streams where the stream is modified by inserting minute bits of silence between words. Ex. 1005, 9:66-10:1. Avago even asked Dr. Myler about some of the other ways of accomplishing switching without packet matching. Ex. 2003, 73:6-17, 87:2-88:15.

In the context of switching streams, a POSITA would have understood that “seamless” does not mean that the switch is accomplished in a manner undetectable by the user. Rather, Shaw clarifies that “seamless” refers to the lack of a gap in the stream: “the client player may selectively switch from one stream to another, *either seamlessly or with as minimal of a break as possible....*” Ex. 1005, 12:14-17 (emphasis added).

In any event, Shaw makes clear that the purpose of switching includes *enhancing* the quality of service:

- “The player is controlled to switch to the better stream source ‘on the fly’ if appropriate to maintain and/or enhance the quality of service.” Ex. 1005, 3:64-66.
- “The invention enables the browser and, in particular, the media client, to identify an optimum streaming server for the stream in the first instance and, if appropriate, to selectively switch from a first server to an optimum streaming server ‘on the fly’ so that it continues to receive the best possible service.” *Id.*, 6:65-7:3.

- “Another function provided by the present invention is the ability of the client player ... to identify a ‘better’ source for a stream being received and to switch to that source ‘on the fly,’ i.e., while the stream is being received and rendered on the client.” *Id.*, 9:14-19.

4. Avago ignores Shaw’s other teachings relating to the determining limitation.

The glaring hole in Avago’s arguments is the failure to address Shaw’s other teachings beyond thinning. Indeed, the Petition explains (before addressing Shaw’s thinning teachings) that it would have been obvious to use Shaw’s process to determine the communication bandwidth between the client media player and each server identified as a source for a stream because “Shaw teaches that the purpose of performing the test [process] is to determine whether there is a ‘better’ source for the current stream” and “Shaw teaches that the communication bandwidth between the client and stream source affects stream quality.” Pet. 36.

Shaw recognizes that bandwidth is a constraint on the quality of streaming media content. Pet. 14, 32-33; Ex. 1005, 1:37-40. Shaw teaches that content owners sought to provide a better quality of service by encoding media content at multiple encoding bit rates and thereby producing content at different quality levels. Pet. 14-15, 33; Ex. 1005, 1:54-58. Dr. AlRegib admitted that a POSITA would have known that encoding content at different bit rates was a way to vary the quality of media content. Ex. 1010, 103:22-104:4.

The purpose of this encoding practice is that users with different bandwidth can access the content at a quality level that is better matched to their available bandwidth. Pet. 14-15, 33; Ex. 1005, 1:47-58. A user with a high-bandwidth connection can “get as good an experience as possible” by accessing the content that is encoded at a higher encoding bit rate and thus higher quality, while a user with a low-bandwidth connection can access the content encoded at the lower bit rate and thus lower quality. Pet. 15, 33; Ex. 1005, 1:54-58. Avago did not rebut this evidence, which is another reason for finding that Shaw’s teachings satisfy the determining limitations.

C. The combination of Shaw and Barnes teaches the using and second delivery limitations [1d] and [6d].

Avago argues that “neither Barnes nor Shaw discloses the Second Delivering Limitation (*i.e.*, limitation [1d] and [6d]).” POR 52. This first argument is the same argument that Avago makes for the determining limitation [1c], and fails for the same reasons given above. *Supra*, § III.B.

Avago also contends that Petitioner and Dr. Myler argue “the Using Limitation and Second Delivery Limitation are part of the same limitation, which attempts to improperly eliminate the Second Delivery Limitation....” POR 53. Avago’s argument lacks merit because Petitioner and Dr. Myler did not render what Avago refers to as the second delivery limitation superfluous. While the Petition and Dr. Myler addressed what Avago refers to as the using limitation and

the second delivery limitation together under one heading in the Petition and declaration, the Petition and Dr. Myler addressed both limitations, providing evidence and explanation for each limitation. Pet. 39-42; Ex. 1003 ¶¶78-83.

The using limitation is directed to obtaining digital media content from the second system. Dr. Myler explained that the using limitation is satisfied because “Shaw contemplates using the network connection to obtain the digital media content at the higher quality level from the second system” and pointed to Shaw’s teaching of “identify[ing] a ‘better’ source for a stream being received and to switch to that source ‘on the fly....’” Ex. 1003 ¶¶79-81; Pet. 39-41. The second delivering limitation is directed to the client device presenting/playing back media content obtained from the second system to the user. Dr. Myler explained that the second delivery limitation is satisfied because the client device performs a substantially seamless switch for “the new and better stream source to *continue delivery of the media content to the user* at the higher quality level without any break or interruption”). Ex. 1003 ¶¶82-83 (emphasis added); Pet. 41-42. Both Shaw and Barnes teach a client media player, such as the RealPlayer Media Player® (*id.* ¶¶ 22, 39-42; Pet. 11, 22-23), the very purpose of which is to present/playback media content to a user.

Avago’s remaining arguments lack merit because they are premised on convoluted leaps of logic to narrowly interpret limitation [1d] to non-limiting

examples from the specification. POR 53-55. *First*, Avago begins by asserting that “Dr. Myler gave an even more specific explanation of the difference between obtaining digital media content at a higher quality level and delivering that higher quality content to the user.” POR 53-54 (quoting Ex. 2003, 181:24-183:2). What Avago fails to mention is that Dr. Myler was not asked to explain the full scope of limitation [1d] in the quoted portion of his deposition (181:24-183:2), but instead was asked to elaborate on one specific example from the specification (5:2-7). Ex. 2003, 181:7-23 (questioner stating he was summarizing a portion of the ’992 patent and highlighting column 5, lines 2-7 for Dr. Myler).

Second, Avago proceeds to argue that as part of the claimed method, “the two systems share information, including the various processing capabilities (*e.g.* decoding capabilities) of the two systems” and that this “exchange of information” helps ensure that “the portable system will be able to deliver [higher quality digital media content] to the user.” POR 55. Avago relies on the same example discussed in Dr. Myler’s deposition. POR 55 (quoting Ex. 1001, 5:3-17 and 5:18-52). But, there is nothing in the claims that requires the claimed portable device to exchange “processing capabilities” with the claimed second system, and such an interpretation is not supported by the specification. The example given at 5:3-17 is but one of many examples the specification provides for how step 150 of FIG. 1 may be performed. Step 150 is labeled “[d]etermine whether utilizing 2nd system

resource(s) will produce higher quality service.” Ex. 1001, FIG. 1. The ’992 patent describes step 150 in general terms, and notes that the “first system and second system may, for example, communicate a variety of information ... to make such a determination.” Ex. 1001, 4:25-41. Rather than being limiting, the specification provides a variety of examples of information that may be communicated *other than* processing capabilities:

- “communicating quality of service information” (Ex. 1001, 4:61-5:2);
- “communicating information of communication capability” such as minimum communication *bandwidth*, reliability, or specific communication protocols (*id.*, 5:25-42); and
- “access control information” (*id.*, 6:50-67).

D. A POSITA would have been motivated to combine Shaw and Barnes, and the combination would invalidate Challenged Claims.

A POSITA would have been motivated to combine Barnes’ portable device that has a media player with Shaw’s teaching of identifying an optimum server source for streaming content, which renders the Challenged Claims obvious. Pet. 21. The Petition identified multiple motivations for the combination. Pet. 22-23. For example, both references use a media player to deliver streaming media content to the user. Pet. 21-22. Barnes teaches switching to a network with a higher bandwidth or a network in better condition (Ex. 1004, [0070-74]), and Shaw teaches a client player that can identify a “better” source for a stream and switch to

the better source on the fly to provide a better quality of service (Ex. 1005, abs., 3:40-66, 6:57-7:3, 9:14-20, 10:18-34). Pet. 22. The combination involves using a known technique (Shaw's teaching on how to improve the operation of a media player such as a RealPlayer) to improve a similar device (Barnes' teaching of a portable device that includes a RealPlayer). Pet. 22. The Petition provides additional reasons, including that the prior art references suggest the combination themselves because Barnes teaches including a media player (such as a RealPlayer), and Shaw teaches that its inventive method improves the operation of a media player and may be implemented as a software enhancement to a media player (such as a RealPlayer). Pet. 23; Ex. 1005, 12:12-13:30.

The Institution Decision credited Petitioner's evidence of motivation to combine, specifically finding that "the references' similarities support the argument that a person of ordinary skill would have understood the combination to involve use of a known technique to improve a similar device with a reasonable expectation of success." DI 9 (citations omitted).

Avago does not attempt to rebut the Petition's evidence or demonstrate error in the Board's analysis. Instead, Avago reproduces six pages of Dr. Myler's deposition testimony and notes that Dr. Myler did not say the word "quality." POR 59-63. Avago's argument that this somehow demonstrates no motivation to combine Barnes and Shaw is without merit. *First*, it is notable that Avago did not

ask Dr. Myler about the opinions he expressed in his declaration where he addressed quality in the context of a POSITA's motivation to combine Barnes and Shaw. In paragraph 40 of the declaration, Dr. Myler explained that Shaw teaches that the quality of streaming media varies according to the type of media being delivered, the speed of the user's Internet connection, and network conditions, and then explains that this would have taught a POSITA to incorporate Barnes' bandwidth test as one of the tests used by Shaw's testing process to select a better source for a stream. Ex. 1003 ¶40.¹

Second, even in the cited portion, Dr. Myler discussed “enhanc[ing] real-time streaming” and “deliver[ing] a better overall performance” as an advantage of using RTSP taught in Shaw to improve Barnes' device. Ex. 2003, 138:20-139:4, 139:5-140:7. As explained above, enhanced streaming and improved overall performance embody improved content quality, which is the purpose and the natural result of Shaw's techniques.

¹ To the extent Avago contends that Shaw's speed test only measures response time and not bandwidth (POR 31), Avago's expert admitted that a POSITA would have known how to use a ping technique to calculate the bandwidth between the portable device and a server. Ex. 1010, 126:25-129:5.

For at least these reasons, a POSITA would be motivated to combine Barnes and Shaw and would have a reasonable expectation of the combination's success.

IV. Conclusion

For the foregoing reasons, Avago's arguments against the Petition's showing are unavailing.

Date: December 27, 2021

Respectfully,

/Harper Batts/

Harper Batts (Reg. No. 56,160)

CERTIFICATE OF COMPLIANCE

Pursuant to 37 C.F.R. § 42.24(d), the undersigned certifies that the foregoing Reply to Patent Owner's Response contains 5,081 words and therefore complies with the 5,600 word type-volume limit specified by 37 C.F.R. § 42.24(c)(1). The word count does not include those portions excepted by 37 C.F.R. § 42.24(a)(1) and was calculated by Microsoft Word 365.

Date: December 27, 2021

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CERTIFICATE OF SERVICE

The undersigned hereby certifies that on December 27, 2021, a complete copy of the foregoing was served via email to all parties to this proceeding at the addresses indicated:

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