2019-1177

United States Court of Appeals
for the Federal Circuit

KONINKLIJKE PHILIPS N.V.,
Appellant,

v.

GOOGLE, LLC, MICROSOFT CORP., and MICROSOFT MOBILE INC.,
Appellees

Appeal from the United States Patent and Trademark Office, Patent Trial and Appeal Board, in Case No. IPR2017-00447

APPELLANT'S COMBINED PETITION FOR REHEARING AND REHEARING EN BANC

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MARCH 2, 2020

UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

Koninklijke Philips N.V., *Appellant* *v.* Google, LLC, Microsoft Corporation, Microsoft Mobile Inc., *Appellees*

Case No. 19-1177

CERTIFICATE OF INTEREST

Counsel for the:

☐ (petitioner) ☒ (appellant) ☐ (respondent) ☐ (appellee) ☐ (amicus)

☐ (name of the party)

Koninklijke Philips N.V.

certifies the following (use "None" if applicable; use extra sheets if necessary):

1. Full Name of Party Represented by me	2. Name of Real Party in interest (Please only include any real party in interest NOT identified in Question 3) represented by me is:	3. Parent corporations and publicly held companies that own 10 % or more of stock in the party
Koninklijke Philips N.V.	Koninklijke Philips N.V. (formerly Koninklijke Philips Electronics N.V.); U.S. Philips Corporation	[NONE]

4. The names of all law firms and the partners and associates that have appeared for the party in the lower trial court or agency or are expected to appear for the party in this Court (**and who have not or will not enter an appearance in this case**) are:

Jason Dorsky
Sean Walsh

5. The title and number of any case known to counsel to be pending in this or any other court or agency that will directly affect or be directly affected by this court's decision in the pending appeal. See Fed. Cir. R. 47.4(a)(5) and 47.5(b). (The parties should attach continuation pages as necessary).

Koninklijke Philips N.V. v. ASUSTeK Computer Inc., No. 18-cv-1886-HSG (N.D. Cal.), and

Koninklijke Philips N.V. v. HTC Corp., No. 18-cv-1887-HSG (N.D. Cal.),

which have been consolidated as

In Re Koninklijke Philips Patent Litigation, No. 18-cv-1885-HSG (N.D. Cal.).

March 2, 2020

/s/Justin J. Oliver
Justin J. Oliver
Counsel for Appellant Koninklijke Philips N.V.

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RULE 35(B) STATEMENT OF COUNSEL

1. Based on my professional judgment, I believe the panel decision is contrary to the following precedent of this Court:
    a. *Polaris Indus., Inc. v. Arctic Cat, Inc.,* 882 F.3d 1056 (Fed. Cir. 2018)
    b. *Arctic Cat Inc. v. Bombardier Recreational Prods., Inc.,* 876 F.3d 1350 (Fed. Cir. 2017)
    c. *Pers. Web Techs., LLC v. Apple, Inc.*, 848 F.3d 987 (Fed. Cir. 2017)
2. Based on my professional judgment, I believe this appeal requires an answer to one or more precedent-setting questions of exceptional importance:
    a. Can a stated combination of one reference with "general knowledge," where the alleged general knowledge is based on the teaching of a single second reference, be used to circumvent consideration of the totality of the second reference, such that a Petitioner may opt to avoid portions of the second reference that would lead away from, or are incompatible with, the inventor's solution?

/*s*/ Justin J. Oliver

Attorney of Record for Appellant Koninklijke Philips N.V.

The Decision mistakenly adopts a conceptualized view of "conventional pipelining" that was never explicitly taught in Hua. Only through this conceptualization was the Decision able to use Hua to support "general knowledge" of pipelining, which was then used to reach a determination of obviousness via SMIL 1.0 in view of general knowledge. However, Hua does not describe a high-level conceptualized view of "conventional pipelining." The Decision avoids this deficiency by declining to consider what Hua teaches as a whole under the rationalization that Hua is not part of the asserted combination. The unintended consequence of this action is to create precedent that allows deficient combinations by using "general knowledge" to serve as a stand in for a secondary reference that is incompatible with the primary reference and/or discourages the combination when considered in its entirety. This allows an assertion of general knowledge to circumvent an entire body of obviousness case law, as detailed below.

I. Points of Law and Fact Misapprehended by the Panel

A. The Decision Misunderstands Hua's Description of Conventional Pipelining

The Decision overly conceptualizes Hua's description of pipelining in a manner that ignores the disclosure. Hua's description of conventional pipelining is not limited to the start of play of S_0 relative to start of download of S_1. Instead Hua also describes the manner of creating S_0 and S_1, which involves the dynamic

negotiation between the server and media player, and always describes segments in terms of S_0 to S_n. Appx316-317.

The '806 patent does not purport to invent pipelining, but instead sets forth an improved manner of implementing pipelining. The '806 patent acknowledges pre-existing, vertically integrated systems for providing video similar to the pipelining technique described in Hua, as well as their drawbacks. Appx46 (1:18-58). The present invention overcomes these drawbacks using alternative files described in a control information file that allow the media player ("client device") to achieve the ultimate outcome without the same dynamic interaction described in Hua's "conventional" method. Conventional pipelining involved a more fulsome concept than what the Decision appreciates. Thus, conventional pipelining at the time was not the conceptualized version adopted by the Decision, but the specific version described in Hua.

B. Relying on Hua as Supporting General Knowledge, While Declining to Address What It Teaches as a Whole Leads to Circular Logic and a Legally Improper Result

The Decision asserts that reliance on a combination with "general knowledge" is acceptable because the Petition cites to Hua as evidence. Later, however, the Decision declines to consider what Hua teaches as a whole, based on the assertion that Hua is not being relied upon in the combination. This results in circular logic and highlights the fundamental problem with the asserted ground—

the lack of compatibility between SMIL 1.0 and what Hua described as conventional pipelining.

Allowing general knowledge to serve as a stand-in for a version of conventional pipelining overly conceptualized through hindsight not only fails to consider Hua's full disclosure, but leads to a fundamental legal failure. This use of general knowledge circumvents the principle that a reference must be taken as a whole, including the portions that discourage the inventor's path. *See Polaris Indus., Inc. v. Arctic Cat, Inc.,* 882 F.3d 1056, 1069 (Fed. Cir. 2018) (explaining the importance of considering a reference's teachings that "led in a direction divergent from the [applicant's] path"); *Arctic Cat Inc. v. Bombardier Recreational Prods., Inc.,* 876 F.3d 1350, 1360 (Fed. Cir. 2017) ("Evidence suggesting reasons to combine cannot be viewed in a vacuum apart from evidence suggesting reasons not to combine.").

Use of general knowledge to avoid proper consideration of a combination of references allows a Petitioner to avoid its burden of proof for obviousness.

C. The Decision Misapprehends SMIL 1.0

The Decision asserts that "SMIL 1.0 also teaches a 'seq' element that instructs a media player to play a list of files in sequence, ***one after another***." Slip Op. 5 (emphasis added). That misunderstands SMIL 1.0. SMIL 1.0 describes the use of a seq element to provide a delay between distinct media elements. The

relied-upon example describes a 5 second delay between media elements. Appx14, Appx234 (Fig. 4.1).

The record does not support that SMIL 1.0 "teaches" playing media files one right after the other. Petitioner's actual argument below asserted that the seq element could potentially be executed in a different manner, where the delay would be set to zero. Appx95. Thus, starting from the premise that SMIL 1.0 "teaches" playing files one right after the other misapprehends the record and overlooks that the argument below relied on an allegation of what "could" be done, not what SMIL 1.0 actually instructed.

D. Reliance on the '806 Patent's Own Specification as a Basis for Obviousness Misunderstands the Disclosure and Results in Improper Hindsight

The Decision states that "it would have been within a skilled artisan's abilities to take advantage of multithreaded environments to develop a simultaneous download and playback application." Slip Op. 16. The idea of using multithreading to implement the claimed manner of pipelining comes from the '806 patent itself, which describes the same as one of several tools that could be used. But an admission that tools exist to implement the invention does not bear on whether a POSA would have been led to the invention. Nothing in the record suggests that a POSA, without the benefit of the specification, would have considered multithreading in the context of pipelining, absent the present

invention. The Decision misapprehends that the specification only acknowledges that this tool was known, but does not admit that it would be obvious to use the same in connection with pipelining. This error exacerbates the failure of the Petition to articulate any way of actually combining SMIL 1.0 and Hua.

II. Argument

A. The Decision Misunderstands Hua's Description of Conventional Pipelining

The Decision states that Hua describes a conceptualized version of conventional pipelining, that is, a high-level concept of simultaneous download and playback. The Decision then uses this conceptual version of conventional pipelining as corroboration for a POSA's general knowledge of pipelining at the time of the invention. But in fact, Hua does not describe this conceptualized version of conventional pipelining. Hua describes a dynamic, real-time interaction between the server and the media player to determine how to divide segments for that particular exchange. Appx316-317, Appx200 (¶ 203). For Hua and a POSA at the time of the invention, this dynamic operation was conventional pipelining. By taking the position that conventional pipelining is the higher level concept of simultaneous download and playback, the Decision eviscerates the improvements contributed by the inventor over the actual knowledge at the time. There is no evidence that a POSA would have been motivated to depart from the conventional operation actually described in Hua.

Nowhere in Hua is there a discussion of pipelining on a conceptualized level. Under the heading "conventional pipelining," Hua describes more than just playing out one segment (S_0) while another (S_1) downloads and throughout the entire section, including Fig. 2, every mention of the segments are referred to as S_0 to S_n. Appx316-317. Hua continues by describing exactly how to calculate S_0 based on the modem download rate (m) and average playback rate (p), so as to dynamically determine the manner of dividing media content for that particular exchange. This was not disputed in the record. Appx4505 ("Hua suggests an approach in which the size of the segments is dynamically varied based on the ongoing playback rate."), Appx4639 ("Hua is directed to a more complicated algorithm for figuring out how best to divvy up files … you dynamically re-segment."). This vertically integrated, dynamic system is conventional pipelining known to a POSA and described in Hua. Any conceptualization of this definition of conventional pipelining is not discussed in Hua, and allowing such conceptualization provides a Petitioner means to circumvent this Court's case law intended to protect against a nebulous application of obviousness.

The '806 patent sets forth an improved manner of implementing pipelining. The '806 patent acknowledges pre-existing, vertically integrated systems for providing video similar to the pipelining technique described in Hua, as well as their drawbacks. Appx46 (1:18-58). The '806 patent describes and claims a way of

overcoming the drawbacks of "dynamic[]", "integrat[ed]" systems using a control information file and alternative segments. Appx46 (1:18-41), Appx1018-1019 (¶ 24), Appx1048 (¶ 96).

Hua's description of "conventional pipelining" does not use (i) control information files describing predetermined segments or (ii) alternatives for a given segment. No control information file describes the segments, as such segments would not have been considered in advance of the negotiation between the server and media player. Similarly, Hua's articulation of conventional pipelining does not use alternatives for a given segment because the customized division of segments renders alternatives superfluous. Appx4488-4889 ("there's no concept of alternative files"), Appx1074-1078 (¶¶ 163-167).

The '806 patent's solution achieves the same end result of conventional pipelining through a different mechanism, in which the dynamic interaction is not required. Appx46 (1:18-58), Appx1018-1019 (¶ 24), Appx1048 (¶ 96). Instead, a control information file provides the media player with information concerning predetermined segments, and alternative files for the same, which allows the ***media player*** to select options based on its own needs, without the server-dominated control used in the conventional understanding of pipelining. Appx46 (2:23-24) ("The client may make its own decisions").

The Decision conceptualizes the "idea" of pipelining in a manner that fails to reflect the true explanation of conventional pipelining articulated in Hua. This essentially assumes that a POSA would have thought of conventional pipelining in terms different than Hua actually articulates. Nothing in the record suggests that a POSA would have approached pipelining differently than Hua describes, let alone in the manner claimed. Indeed, Hua is the only prior art reference that describes the conventional understanding. Appx4611-4612 (14:25-15:6), Appx96-98.

For these reasons, the Decision errs by morphing the actual description of conventional pipelining from Hua into a conceptualized idea, without evidence that a POSA would have viewed conventional pipelining in any way other than the full articulation in Hua. The correct analysis should consider whether Petitioner met its burden of proving that a POSA would have abandoned Hua's manner of pipelining in favor of the approach set forth in the claims, which has not been shown.

Furthermore, without a conceptualized view of conventional pipelining, there is no evidence to corroborate Google's expert testimony and reliance on general knowledge fails as it did in *Arendi*. *See* Slip Op. 13.

B. The Decision's Use of Hua to Condone Reliance on General Knowledge, While Declining to Consider What Hua Teaches as a Whole Circumvents this Court's Precedent

The Decision asserts that reliance on general knowledge is acceptable because it is supported by Hua. Slip Op. 13 ("corroborated by Hua"). However,

the Decision later declines to consider the full description of conventional pipelining in Hua because it is not part of the combination. Specifically, the Decision states that "the relevant inquiry is not whether a skilled artisan would have been motivated to combine SMIL 1.0 with the teachings of Hua, but rather whether the skilled artisan would have been motivated to combine SMIL 1.0 with his general knowledge of pipelining." Slip Op. 14.

As discussed above, the record does not establish an understanding of pipelining different from the specific operation described in Hua. The Decision adopts circular logic in which Hua allegedly provides evidence of general knowledge of conventional pipelining, but is ignored as to its specific teaching of pipelining. Such logic leads to condoned avoidance of the incompatibility between SMIL 1.0 and Hua. It also allows general knowledge to serve as a shield from the legal requirements for (i) articulating the manner of combination and (ii) addressing the entirety of the reference, including teachings that discourage the inventor's path.

By relying on a conceptualized version of conventional pipelining absent from Hua to support general knowledge, the Decision allows Petitioner to avoid consideration of what Hua teaches in its entirety, including the parts that discourage the inventor's path. This results in the invention here—a completely

new way of pipelining—being assumed to be part of the general knowledge despite neither SMIL 1.0 or Hua suggesting the particular operation.

SMIL 1.0 is simply a mark-up language that Petitioner theorized could be used to execute portions of the invention. But just because a language exists for executing portions of the operation does not itself suggest the operation. Additionally, there is no reason to believe or evidence to support that a POSA would have implemented pipelining in a different manner than that described in Hua.

The Decision thus allows the Petitioner to circumvent an actual combination of references that are inherently at odds. Hua requires interaction between a server and media player to execute a dynamic creation of segments based on knowledge of files sizes, download rates, etc. Appx316-317. SMIL 1.0 provides no manner of communicating such information and is admittedly incompatible with dynamic systems. *See* Blue Br. 8-9, Appx1076-1077 (¶ 165). The Decision absolves Petitioner of its burden to explain how SMIL 1.0's operation would be modified or changed to be compatible with the specific method of conventional pipelining described in Hua.

This Court's precedent explains the importance of considering a reference's teachings that "led in a direction divergent from the [applicant's] path." *Polaris Indus.,* 882 F.3d at 1069; *Interconnect Planning Corp. v. Feil*, 774 F.2d 1132, 1143

(Fed. Cir. 1985) ("Not only must the claimed invention as a whole be evaluated, but so also must the references as a whole, so that their teachings are applied in the context of their significance to a technician at the time—a technician without our knowledge of the solution."). That is exactly the situation here inasmuch as Hua implements pipelining in a divergent manner. The Decision's treatment of Hua condones circumvention of this case law in a manner sure to be adopted by other Petitioners going forward.

This Court has also explained that "[e]vidence suggesting reasons to combine cannot be viewed in a vacuum apart from evidence suggesting reasons not to combine." *Arctic Cat,* 876 F.3d at 1360. The Decision operates to ignore this precedent by adopting an idealized version of pipelining that differs from the specific manner of executing the same in Hua.

Finally, this Court also discourages any "change in the basic principles under which [the reference's] construction was designed to operate." *In re Ratti,* 270 F.2d 810, 813 (C.C.P.A. 1959). Again, that is the outcome here, where allegedly conventional pipelining takes place in a manner distinct from that admittedly described in Hua. Appx4505 ("Hua suggests an approach in which the size of the segments is dynamically varied based on the ongoing playback rate.").

Thus, the reliance on general knowledge here contradicts this Court's precedent and absolves Petitioner of its burden to prove why and how a POSA

would have achieved a combination of incompatible references. *Pers. Web Techs., LLC v. Apple, Inc.*, 848 F.3d 987, 994 (Fed. Cir. 2017) (rejecting obviousness where "the Board nowhere clearly explained, or cited evidence showing, how the combination of the two references was supposed to work."). This is particularly relevant where Google's own expert admitted that Hua's pipelining technique could not be implemented by SMIL 1.0, despite the Petition relying on such pipelining being implemented using SMIL 1.0. Appx1432 (198:4-17), Appx1231 ("SMIL player has no means to reliably detect[] that stored information has changed."), Appx1071-1072 (¶¶ 156-157), Appx1076-1077 (¶ 165), Appx4504-4505 (252:10-253:1), Appx98 ("implemented to accomplish … the pipelining technique described in Hua").

If the Decision stands, it will serve as a guidepost for a Petitioner looking to avoid a difficult combination of references. Rather than complying with the case law requiring (i) consideration of the full scope of what a reference teaches and (ii) an articulation of the manner of combining references, a Petitioner could use "general knowledge" as a stand in for a reference, and avoid an entire body of obviousness precedent. For this reason, the Decision should not stand.

C. The Decision Misapprehends What SMIL 1.0 Teaches

The Decision asserts that "SMIL 1.0 also teaches a 'seq' element that instructs a media player to play a list of files in sequence, ***one after another***." Slip

Op. 5 (emphasis added). That assertion misunderstands the suggested manner of using a seq element from SMIL 1.0.

SMIL 1.0 describes using a seq element to provide a delay between distinct media elements (e.g., different audio and video files). The example in SMIL 1.0 relied upon as the basis for the asserted ground describes playing two different audio files with a ***5 seconds delay***. Appx14, Appx234 (Fig. 4.1). Further, that example is described within the context of par elements, which play different files in an overlapping manner. Appx233-236. These elements operate together to control the relative timing of different elements of a media presentation (with overlapping content elements) on a website. Appx234, Appx226.

The idea adopted by the Board's Final Written Decision was not that SMIL 1.0 ***describes*** the playing of media files one right after the other, but that the seq element allows that the timing delay could theoretically be set to zero. Appx14, Appx95. Thus, starting from the premise that SMIL 1.0 "teaches" playing files one right after the other misstates the record.

Furthermore, even if a POSA had been prompted to implement the claimed version of pipelining, SMIL 1.0 had no ability to instruct a media player concerning such intention. For the claimed invention to be implemented through a SMIL file, the media player would either need to be instructed as to a start time of downloading for one element relative to a start time of playing another, which

capability SMIL 1.0 lacks (Appx997-998, Blue Br. 37, 45-46), or the media player would have needed to be able to make that determination on its own. SMIL 1.0 provides no manner of indicating file sizes or download times, which would make it impossible for the media player to know if the play time of one segment would allow for time required to download a next segment. Nowhere does the record address how a POSA would account for these issues, which goes to whether the Petitioner met its burden. 35 U.S.C. § 316(e).

Ultimately, the Decision repeats the error below—accepting that pipelining would be implemented with SMIL 1.0 without requiring any explanation of how the same would operate.

D. The Decision Allows for a Finding of Obviousness Predicated on Hindsight

Ultimately, the finding that a POSA would have arrived at the claimed invention rests on hindsight. The Decision states that "it would have been within a skilled artisan's abilities to take advantage of multithreaded environments to develop a simultaneous download and playback application." Slip Op. 16. That assertion relies on statements from the '806 patent itself.

As background, multithreading is a technique implemented in the programming language of Java, not the mark-up language of SMIL 1.0. Appx1136-1137; Appx1172; Appx1177; Appx2002. The specification identifies

different software tools, including multithreading, that could be used to implement the claimed invention. Appx47 (3:14-30). Reliance on the same fails to explain why the mere existence of a tool that could be used to implement part of the invention would have led a POSA to perform pipelining in a way different than previously achieved. *Belden Inc. v. Berk-Tek LLC*, 805 F.3d 1064, 1073 (Fed. Cir. 2015) ("[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) (emphasis added)); *In re Sponnoble*, 405 F.2d 578, 585 (C.C.P.A. 1969) ("The issue, then, is whether the teachings of the prior art would, *in and of themselves and without the benefit of appellant's disclosure*, make the invention as a whole, obvious." (Emphasis in original) (citation omitted)). Nothing in the record suggests that a POSA, without the benefit of the specification, would have considered multithreading in the context of pipelining absent the present invention.

While the Decision states that admissions in the specification should be taken at face value (Slip Op. 15), that assertion fails to acknowledge that the "admission" that multithreading was known is not an admission that a POSA would have considered using the same in the context of pipelining. Absent an admission concerning the latter, the discussion of multithreading cannot be used to assert that a POSA would have arrived at the claimed invention, let alone through

SMIL 1.0. *See KSR Int'l v. Teleflex*, 550 U.S. 398, 401 (2007) ("A patent composed of several elements is not proved obvious merely by demonstrating that each element was, independently, known in the prior art."). Computer-based inventions often rely on implementation through existing computer languages. That the Java language provides for multithreading should not, on its own, be a basis to assert that any invention that may use the same would be presumed obvious.

E. Rehearing En Banc

As discussed above, Philips submits that the Decision allows a ground predicated on a first reference in view of "general knowledge," where alleged general knowledge is based on the teaching of a single second reference, to be used to circumvent consideration of the full teaching of the second reference and the manner of combining the same. The Decision allows general knowledge based on a conceptualized version of the description in Hua, and then declines to consider the full teaching of Hua because it is not part of the asserted combination.

Doing so allows general knowledge to be employed in a manner that avoids case law requiring consideration of the totality of a reference, including portions incompatible with or divergent from the inventor's solution. This provides a mechanism for ignoring *Polaris Indus.* (882 F.3d 1056) and *Arctic Cat* (876 F.3d 1350), which are discussed above. It also provides a path to avoiding an

articulation of the manner in which references are to be combined, in contravention of *Pers. Web Techs.* (848 F.3d 987).

Consequently, this case presents an important legal issue, concerning whether general knowledge now operates as a work around to a whole body of obviousness case law. This issue should be addressed *en banc* before it becomes pervasive in IPR proceedings.

CONCLUSION

For the reasons set forth above, Philips petitions for rehearing in this case.

Respectfully submitted,

/s/Justin J. Oliver

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ADDENDUM

United States Court of Appeals for the Federal Circuit

KONINKLIJKE PHILIPS N.V.,
Appellant

v.

GOOGLE LLC, MICROSOFT CORPORATION, MICROSOFT MOBILE INC.,
Appellees

2019-1177

Appeal from the United States Patent and Trademark Office, Patent Trial and Appeal Board in No. IPR2017-00447.

Decided: January 30, 2020

JUSTIN J. OLIVER, Venable LLP, Washington, DC, argued for appellant.

DAVID M. KRINSKY, Williams & Connolly LLP, Washington, DC, argued for all appellees. Appellee Google LLC also represented by KEVIN HARDY, AARON P. MAURER, ANDREW V. TRASK.

CHRISTINA JORDAN MCCULLOUGH, Perkins Coie, LLP, Seattle, WA, for appellees Microsoft Corporation, Microsoft

Mobile Inc. Also represented by CHAD S. CAMPBELL, Phoenix, AZ.

Before PROST, *Chief Judge*, NEWMAN and MOORE, *Circuit Judges*.

PROST, *Chief Judge*.

Koninklijke Philips N.V. ("Philips") appeals the decision of the Patent Trial and Appeal Board ("Board") in an inter partes review of U.S. Patent No. 7,529,806 ("the '806 patent"), in which the Board found that claims 1–11 were unpatentable as obvious. For the reasons below, we affirm.[1]

BACKGROUND

I

The '806 patent identifies two prior art technologies for delivering digital content for playback on a client device: downloading and streaming. The '806 patent states that the downloading approach suffers from delay because the user cannot play back the digital content until after the entire file finishes downloading. The patent also states that streaming generally requires "two-way intelligence" and a "high level of integration between client and server software," which "mostly excludes third parties from developing custom server software . . . and/or client applications." '806 patent col. 1 ll. 24, 36–41.

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[1] Appellee Google LLC argues that, even if we disagree with the Board's findings on obviousness, we can affirm the judgment as to claims 1–9 and 11 on the alternative ground that the claims are anticipated. Because we affirm the Board's obviousness findings, we do not reach this issue.

The '806 patent offers a hybrid approach as a solution. In particular, the alleged invention relates to a method of forming a media presentation using a control information file that (a) offers the media presentation in multiple alternative formats to allow a client device's media player to "automatically choose the format compatible with the client's play-out capabilities," *id.* at col. 3 ll. 55–56; and (b) provides the media presentation in multiple files so the media player can download the next file concurrently with playback of the previous file, *see id.* at claim 1. Compared to the traditional downloading approach, the alleged invention purportedly reduces delay because the media player can download the next portion of a media presentation concurrently with playback of the previous portion. The alleged invention also purportedly avoids any need for "two-way intelligence" or "integration" between the client and server software by permitting the media player itself to choose which of the multiple alternative formats is most appropriate.

Claim 1 is representative and recites:

> 1. A method of, at a client device, forming a media presentation from multiple related files, including a control information file, stored on one or more server computers within a computer network, the method comprising acts of:
>
> [1] downloading the control information file to the client device;
>
> [2] the client device parsing the control information file; and based on parsing of the control information file, the client device:
>
> [3] identifying multiple alternative f[il]es corresponding to a given segment of the media presentation,
>
> [4] determining which files of the multiple alternative files to retrieve based on system restraints;

> [5] retrieving the determined file of the multiple alternative files to begin a media presentation,
>
> wherein if the determined file is one of a plurality of files required for the media presentation, the method further comprises acts of:
>
> [6] concurrent with the media presentation, retrieving a next file; and
>
> [7] using content of the next file to continue the media presentation.

Id. at claim 1 (bracketed numbers added for ease of discussion).[2] Method steps identified above as steps [6] and [7] only occur "if the determined file is one of a plurality of files required for the media presentation" ("the conditional statement").

II

There are two prior art references relevant to this appeal: Synchronized Multimedia Integration Language 1.0 Specification ("SMIL 1.0") and Kien A. Hua et al., *2PSM: An Efficient Framework for Searching Video Information in a Limited-Bandwidth Environment*, 7 Multimedia Systems 396 (1999) ("Hua").

SMIL 1.0 describes a computer language in which a designer creates a SMIL file that specifies the relationship among media files that collectively make up a media presentation. For example, SMIL 1.0 teaches a "switch" element that specifies a set of alternative files from which only one should be chosen by a media player. J.A. 243–44. The switch element can, for instance, specify two audio

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[2] Google contends that claim 1 is representative. Appellee's Br. 4. Philips neither disputes the representativeness of claim 1 nor makes any arguments suggesting that claim 1 is not representative.

files of different quality and instruct a media player to select one of the files based on the client system's bandwidth. J.A. 246. SMIL 1.0 also teaches a "seq" element that instructs a media player to play a list of files in sequence, one after another. J.A. 237–38; *see also* Appellant's Br. 7–8. SMIL 1.0 does not disclose a way to specify the timing for playback of a particular media file relative to the timing of downloading another media file.

Hua provides a "review [of] the conventional pipelining scheme." J.A. 316. Hua explains that pipelining refers to dividing a media presentation into multiple segments (S_0, S_1, etc.) and playing segment S_n while $S_{(n+1)}$ is downloading. So long as the playback duration of S_n "eclipse[s]" the download time for $S_{(n+1)}$, the media presentation can be continuously played back starting after the first segment S_0 finishes downloading. *Id.*

III

Google LLC ("Google") filed a petition for inter partes review presenting two grounds of unpatentability. First, Google alleged that claims 1–7 and 9–11 of the '806 patent are anticipated by SMIL 1.0.[3] *Google Inc. v. Koninklijke Philips N.V.*, No. IPR2017-00447, Paper 2, at 20 (P.T.A.B. Dec. 9, 2016) ("*Petition*"). Google argued that because steps [6] and [7] of claim 1 are only required if the conditional statement is met, these steps are not limiting and thus can be ignored in the anticipation analysis. Google did not address how or whether SMIL 1.0 would disclose these steps if they were considered limiting.

Second, Google contended that, even if SMIL 1.0 did not anticipate any claims, and even if steps [6] and [7] are limiting, claims 1–11 "would nevertheless have been obvious over SMIL 1.0 in light of the *general knowledge* of the

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[3] Google also alleged that claims 12–13 were anticipated, but those claims are not at issue on appeal.

[skilled artisan] regarding distributed multimedia presentation systems as of the priority date." *Id.* at 40 (emphasis added).[4] Citing Hua and an expert declaration as authority, the petition contended that "'[p]ipelining' was a well-known design technique that minimized the amount of time a user would have to wait to receive multimedia content" and that a skilled artisan "would have been motivated to use pipelining with SMIL" to "minimize the amount of time a user would have to wait to view a media presentation." *Id.* at 42–43.

In its preliminary response, Philips argued that it was inappropriate for Google to rely on Hua as evidence of general knowledge but rather was required to make Hua "part of the combination" and "explain[] how [Hua] would have been combined with SMIL 1.0." *Google Inc. v. Koninklijke Philips N.V.*, No. IPR2017-00447, Paper 6, at 42 (P.T.A.B. Mar. 13, 2017) ("*Preliminary Response*"); *see also id.* at 49–52. Philips also argued that Google could not rely on "conclusory statements of 'general knowledge'" to supply a missing claim limitation. *Id.* at 51.

The Board instituted review on three grounds, including both grounds raised by Google. In addition, although the Board disagreed with Philips that there was "any error in [Google] relying on Hua as evidence of the knowledge of a person [of] ordinary skill in the art," the Board stated that "[n]onetheless, for clarity, we exercise our discretion and institute an inter partes review on the additional ground that claims 1–11 would have been obvious over SMIL 1.0 and Hua based on the arguments and evidence presented in the Petition." *Google Inc. v. Koninklijke*

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[4] Google also alleged that claims 12–16 were unpatentable as obvious, but those claims are not at issue on appeal.

Philips N.V., No. IPR2017-00447, Paper 7, at 18 (P.T.A.B. June 8, 2017) ("*Institution Decision*").

The Board construed the claim term "a given segment of [a/the] media presentation" to mean "a media presentation with multiple segments." *Google Inc. v. Koninklijke Philips N.V.*, No. IPR2017-00447, Paper 29, at 7–8 (Sept. 6, 2018) ("*Final Written Decision*") (alteration in original). As conceded by Google, under this claim construction, the conditional statement of claim 1—i.e., "if the determined file is one of a plurality of files required for the media presentation"—is always satisfied, rendering the steps that follow mandatory and limiting. *See, e.g.*, Appellee's Br. 53–54.[5]

In view of this claim construction, the Board concluded that Google had not demonstrated that any of the claims were anticipated. *Final Written Decision*, at 10. But the Board concluded that Google had demonstrated that claims 1–11 would have been obvious in view of SMIL 1.0. In addition, "[f]or the same reasons," and based on "the same arguments and evidence," the Board concluded that Google had demonstrated that claims 1–11 would have been obvious over SMIL 1.0 in view of Hua. *Id.* at 38–39.

Philips appealed. We have jurisdiction under 28 U.S.C. § 1295(a)(4)(A).

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[5] Although Google disputes this construction, it does so only in relation to its argument that we can affirm the judgment as to claims 1–9 and 11 on the alternative ground that the claims are anticipated. Because we do not reach this alternative avenue for affirmance, we do not reach this claim construction dispute. Moreover, as explained below, even under the Board's construction, substantial evidence supports the Board's findings that claims 1–11 are unpatentable as obvious.

DISCUSSION

Obviousness is a legal question based on underlying fact findings. *Purdue Pharma L.P. v. Epic Pharma, LLC*, 811 F.3d 1345, 1351 (Fed. Cir. 2016). We review the Board's legal determinations de novo and its underlying factual determinations for substantial evidence. *Rambus Inc. v. Rea*, 731 F.3d 1248, 1251 (Fed. Cir. 2013).

As stated previously, the Board found that claims 1–11 would have been obvious over SMIL 1.0 in light of Hua, and SMIL 1.0 alone. On appeal, Philips advances three arguments challenging these obviousness findings. First, Philips argues that the Board erred by instituting inter partes review on the ground that the claims would have been obvious over SMIL 1.0 in light of Hua because Google did not advance that combination of prior art in its petition. Second, Philips contends that the Board erred in finding that the claims would have been obvious in view of SMIL 1.0 because the Board impermissibly relied on "general knowledge" to supply a missing claim limitation. Third, Philips argues that even if we reject one or both of Philips's first two arguments, the Board's obviousness findings are nevertheless unsupported by substantial evidence. We discuss each of these arguments in turn.

I

We begin with Philips's first argument that the Board erred by instituting inter partes review on a ground not advanced in Google's petition. The Board instituted inter partes review on three grounds of unpatentability: (1) anticipation in view of SMIL 1.0; (2) obviousness over SMIL 1.0; and (3) obviousness over SMIL 1.0 in combination with Hua. It is undisputed that Google's petition advanced only the first two grounds; the petition did not allege the third. *See, e.g.*, Appellee's Br. 45 ("The Board instituted [the ground identified by Google in its petition], as well as a second obviousness ground based on 'SMIL 1.0 and Hua.'"); *see also Petition*, at 20 (identifying ground 1 as anticipation by

SMIL 1.0); *id.* at 40 (identifying ground 2 as obviousness over SMIL 1.0); *Institution Decision*, at 18.

We hold that the Board erred by instituting inter partes review based on a combination of prior art references not advanced in Google's petition. Under 35 U.S.C. § 311(a), a party may seek inter partes review by filing "a petition to institute an inter partes review." The Supreme Court has explained that this language does not "contemplate a petition that asks the Director to initiate whatever kind of inter partes review he might choose." *SAS Inst. Inc. v. Iancu*, 138 S. Ct. 1348, 1355 (2018). Rather, "[f]rom the outset, we see that Congress chose to structure a process in which it's the petitioner, not the Director, who gets to define the contours of the proceeding." *Id.* More specifically, "the statute envisions that a petitioner will seek an inter partes review of a particular kind—one guided by a petition describing 'each claim challenged' and 'the grounds on which the challenge to each claim is based.'" *Id.* (quoting 35 U.S.C. § 312(a)(3)); *see also id.* ("[R]ather than create (another) agency-led, inquisitorial process for reconsidering patents, Congress opted for a party-directed, adversarial process.").

In addition, 35 U.S.C. § 314(b) states that "[t]he Director shall determine whether to institute an inter partes review . . . pursuant to a petition." Thus, as explained by the Supreme Court, § 314(b) informs us that the Director

> is given only the choice "whether" to institute an inter partes review. That language indicates a binary choice—either institute review or don't. And by using the term "pursuant to," Congress told the Director what he must say yes or no to: an inter partes review that proceeds "[i]n accordance with" or "in conformance to" the petition.

SAS, 138 S. Ct. at 1355–56 (quoting Oxford English Dictionary (3d ed. Mar. 2016), www.oed.com/view/Entry/155073) (alteration in original); *see also id.* at 1356

("The rest of the statute confirms, too, that the petitioner's petition, not the Director's discretion, is supposed to guide the life of the litigation.").

Turning back to this case, in its institution decision, the Board stated, "we *exercise our discretion* and institute an inter partes review on the *additional ground* that claims 1–11 would have been obvious over SMIL 1.0 and Hua based on the arguments and evidence presented in the Petition."[6] *Institution Decision*, at 18 (emphases added). Although the Board is not limited by the exact language of the petition, *see, e.g.*, *Sirona Dental Sys. GmbH v. Institut Straumann AG*, 892 F.3d 1349, 1356 (Fed. Cir. 2018), the Board does not "enjoy[] a license to depart from the petition and institute a *different* inter partes review of his own design." *See SAS*, 138 S. Ct. at 1356 (emphasis in original). Accordingly, we conclude that the Board erred when it instituted inter partes review based on a combination of prior art references Google did not advance in its petition.

Google's counterarguments are unpersuasive. First, Google argues that the Board properly instituted inter partes review on obviousness over SMIL 1.0 in view of Hua because the Board did so only "for clarity," and only on "the [same] arguments and evidence" Google presented in its petition as to why the claims would have been obvious over SMIL 1.0. *See Institution Decision*, at 18. However, as we explained, it is the petition, not the Board's "discretion," that defines the metes and bounds of an inter partes review. *See SAS*, 138 S. Ct. at 1355–56. And Google's petition did not advance an argument that the challenged claims would have been obvious over SMIL 1.0 in combination with Hua.

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[6] We note that the Director has delegated the institution decision to the Board. *See* 37 C.F.R. § 42.4.

Second, citing to our decisions in *Anacor Pharmaceuticals, Inc. v. Iancu*, 889 F.3d 1372, 1379 (Fed. Cir. 2018), and *Genzyme Therapeutic Products Ltd. Partnership v. Biomarin Pharmaceutical Inc.*, 825 F.3d 1360, 1366 (Fed. Cir. 2016), Google argues that the Board "need not adhere unthinkingly to the evidence and arguments precisely as formulated in the petition" so long as the Board "provide[s] reasonable notice of the invalidity arguments at issue and an opportunity for the Patent Owner to be heard in response to those arguments." Appellee's Br. 49.

Google's reliance on *Anacor* and *Genzyme* is misplaced. Both *Anacor* and *Genzyme* relate to the circumstances under which the Board can rely on evidence not raised in the petitioner's petition to support the grounds that were raised in the petition. *See Anacor*, 889 F.3d at 1364–67; *Genzyme*, 825 F.3d at 1366. These cases do not concern whether the Board has discretion to institute an inter partes review on a ground of unpatentability not raised in the petitioner's petition. Thus, we find Google's reliance on these cases unpersuasive.

In sum, we conclude that the Board erred by instituting inter partes review of claims 1–11 of the '806 patent based on obviousness over SMIL 1.0 and Hua because Google did not advance such a combination of references in its petition.

II

Next we address Philips's contention that the Board erred in relying on "general knowledge" to supply a missing claim limitation. Philips advances two arguments in support of this assertion.

First, Philips argues that because 35 U.S.C. § 311(b) expressly limits inter partes reviews to "prior art consisting of patents or printed publications," and because general knowledge is neither of those, § 311(b) prohibits use of

general knowledge to supply a missing claim limitation in an inter partes review. We disagree.

Although the prior art that can be considered in inter partes reviews is limited to patents and printed publications, it does not follow that we ignore the skilled artisan's knowledge when determining whether it would have been obvious to modify the prior art. Indeed, under 35 U.S.C. § 103, the obviousness inquiry turns not only on the prior art, but whether "the differences between the claimed invention and the prior art are such that the claimed invention as a whole would have been obvious . . . to a person having ordinary skill in the art to which the claimed invention pertains." 35 U.S.C. § 103. Regardless of the tribunal, the inquiry into whether any "differences" between the invention and the prior art would have rendered the invention obvious to a skilled artisan necessarily depends on such artisan's knowledge. *Dow Jones & Co. v. Ablaise Ltd.*, 606 F.3d 1338, 1349, 1353 (Fed. Cir. 2010) (affirming the district court's grant of summary judgment of invalidity on "grounds of obviousness under [a single prior art reference] in view of general knowledge in the field," in part because the obviousness "analysis *requires* an assessment of the '. . . background knowledge possessed by a person having ordinary skill in the art'" (emphasis added) (quoting *KSR Int'l Co. v. Teleflex, Inc.*, 550 U.S. 398, 401 (2007))); *see also Arendi S.A.R.L. v. Apple Inc.*, 832 F.3d 1355, 1361 (Fed. Cir. 2016) (in an inter partes review, acknowledging that common sense and common knowledge can, under certain circumstances, be used to supply a missing limitation); *Randall Mfg. v. Rea*, 733 F.3d 1355, 1362–63 (Fed. Cir. 2013) (in an ex parte reexamination, in which the applicable prior art is similarly limited to patents and printed publications, determining that "[a]s *KSR* established, the knowledge of such an artisan is part of the store of public knowledge that must be consulted when considering whether a claimed invention would have been obvious").

Here, Google properly alleged that although SMIL 1.0 did not disclose each and every element of the claimed invention, the differences between the claimed invention and SMIL 1.0 are such that the claimed invention would have been obvious to a person having ordinary skill in the art when considering SMIL 1.0. In particular, Google properly alleged that a skilled artisan would have known about pipelining and been motivated to combine pipelining with SMIL 1.0. *See, e.g.*, *Petition*, at 40–43.

Second, Philips argues that even if the Board is permitted to rely on general knowledge to supply a missing claim limitation in an inter partes review, doing so in this case violates *Arendi*. In *Arendi*, we cautioned that although "common sense and common knowledge have their proper place in the obviousness inquiry," (a) invoking "common sense . . . to supply a limitation that was admittedly *missing* from the prior art" should generally only be done when "the [missing] limitation in question [is] unusually simple and the technology particularly straightforward;" and (b) references to common sense "cannot be used as a wholesale substitute for reasoned analysis and evidentiary support." 832 F.3d at 1361–62. We concluded in *Arendi* that the Board erred in relying on common sense because such reliance was based merely upon "conclusory statements and unspecific expert testimony." *Id.* at 1366.

Philips argues that this case is analogous to *Arendi*. We disagree. In *Arendi*, the Board relied on nothing more than "conclusory statements and unspecific expert testimony" in finding that it would have been "common sense . . . to supply a limitation that was admittedly *missing* from the prior art," *id.* at 1362, 1366 (emphasis added). Conversely, here the Board relied on expert evidence, which was corroborated by Hua, in concluding that pipelining was not only in the prior art, but also within the general knowledge of a skilled artisan. Moreover, Philips offered no evidence to rebut the conclusion that a skilled artisan would have known about pipelining.

In sum, we conclude that the Board did not violate § 311(b) or the inter partes review statute in determining that the claims would have been obvious over SMIL 1.0 in light of the general knowledge of a skilled artisan.

III

Finally, Philips argues that substantial evidence does not support the Board's determination that the claims would have been obvious over SMIL 1.0 in light of a skilled artisan's general knowledge. We disagree.

We focus our attention on the Board's analysis with respect to representative claim 1. The Board thoroughly explained why SMIL 1.0 combined with pipelining disclose all the limitations of claim 1. *Final Written Decision*, at 17–27. In addition, relying on an expert declaration and Hua as evidence of a skilled artisan's general knowledge, the Board found that a skilled artisan "would have been motivated to reduce the wait time to receive media content over the Internet by using pipelining with SMIL 1.0." *Id.* at 22–23; *see* J.A. 315; J.A. 199–200 (¶ 202). The Board also determined that there would have been a reasonable expectation of success. *Final Written Decision*, at 23. We therefore conclude that the Board's findings are supported by substantial evidence.

Philips's counterarguments are unavailing. For example, Philips argues that SMIL 1.0 and Hua's teaching of conventional pipelining cannot be combined because SMIL 1.0 is incompatible with Hua's teaching of dynamic re-segmentation of video content. *See, e.g.*, Appellant's Reply Br. 3. However, the relevant inquiry is not whether a skilled artisan would have been motivated to combine SMIL 1.0 with the teachings of Hua, but rather whether a skilled artisan would have been motivated to combine SMIL 1.0 with his general knowledge of pipelining. And, as noted above, substantial evidence, including expert testimony, supports the Board's determination that a skilled artisan would have been motivated to combine SMIL 1.0 with his

knowledge of conventional pipelining (i.e., simultaneous download and playback) to achieve the claimed invention. *See Final Written Decision*, at 26; *see also, e.g.*, J.A. 198–203 (¶¶ 198–207).

Philips also argues that the Board impermissibly relies on the notion that SMIL 1.0 and pipelining can exist "simultaneously" but fails to explain a reason for combining the elements in the manner claimed. *See, e.g.*, Appellant's Br. 39. Philips ignores the Board's extensive findings, which are supported by substantial evidence, explaining how a skilled artisan would have been motivated to combine SMIL 1.0 with pipelining to achieve the claimed method. *See, e.g.*, *Final Written Decision*, at 22–27; *see also, e.g.*, J.A. 198–203 (¶¶ 198–207).

Philips further argues that "[t]he Board's combination also fails because the basis for the combination rests on the patentee's own disclosure." Appellant's Br. 35–40, 50–51. More specifically, Philips argues that the Board impermissibly relied on the '806 patent's disclosure that a client device can playout one file while downloading another via a multithreaded environment and that "working with threads is a skill common for software engineers." *See* '806 patent col. 3 ll. 20–30; *see also* Appellant's Br. 35–36. Philips reasons that this statement only relates to enablement—i.e., that pipelining could be implemented with well-known multithreading techniques—and has no bearing on the obviousness inquiry. Appellant's Reply Br. 15–19.

The Board's reliance on the '806 patent's disclosure was proper. As an initial matter, it is appropriate to rely on admissions in a patent's specification when assessing whether that patent's claims would have been obvious. *See, e.g.*, *PharmaStem Therapeutics, Inc. v. ViaCell, Inc.*, 491 F.3d 1342, 1362 (Fed. Cir. 2007) ("Admissions in the specification regarding the prior art are binding on the patentee for purposes of a later inquiry into obviousness."). What matters is that substantial evidence supports the

findings and inferences made based on those admissions. Here, the Board properly relied on this disclosure as evidence that it would have been within a skilled artisan's abilities to take advantage of multithreaded environments to develop a simultaneous download and playback application. *See* J.A. 202–203. The Board supported its additional findings—including that a skilled artisan would have been motivated to combine SMIL 1.0 with pipelining to achieve the claimed invention and would have had a reasonable expectation of success in doing so—with, for example, citations to an expert declaration as well as the Hua reference. *See, e.g.*, *Final Written Decision*, at 22–23; *see also* J.A. 315; J.A. 199–200 (¶ 202).

Accordingly, we determine that the Board's factual findings underlying its obviousness determination are supported by substantial evidence.

CONCLUSION

We have considered Philips's remaining arguments but find them unpersuasive. For the foregoing reasons, we affirm the Board's decision that claims 1–11 of the '806 patent are unpatentable as obvious.

AFFIRMED

United States Court of Appeals
for the Federal Circuit
KONINKLIJKE PHILIPS N.V. v. GOOGLE, LLC, MICROSOFT CORP., and MICROSOFT MOBILE INC. 2019-1177

CERTIFICATE OF SERVICE

I hereby certify that on March 2, 2020, I caused to be electronically filed the foregoing Appellant's Combined Petition for Rehearing and Rehearing En Banc with the Court's CM/ECF filing system, which constitutes service pursuant to Fed. R. App. P. 25(c)(2) and Fed. Cir. R. 25(e)(1).

March 2, 2020 /s/Justin J. Oliver

CERTIFICATE OF COMPLIANCE

This brief complies with the type-volume limitation of Federal Rule of Appellate Procedure 28.1(e) and Federal Circuit Rule 28.1(b). This brief contains 3,859 words, excluding the parts of the brief exempted by Federal Rule of Appellate Procedure 35(b)(2) and Federal Circuit Rule 35.

This brief complies with the typeface requirements of Federal Rule of Appellate Procedure 32(a)(5) and the type style requirements of Federal Rule of Appellate Procedure 32(a)(6), as it has been prepared in a proportionally-spaced typeface using Microsoft Word in 14-point Times New Roman font.

March 2, 2020

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