

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

APPLE, INC.,
Petitioner

v.

PERSONALWEB TECHNOLOGIES, LLC, and
LEVEL 3 COMMUNICATIONS, LLC,
Patent Owners.

Case IPR2013-00596
Patent 7,802,310 B2

Before KEVIN F. TURNER, JONI Y. CHANG, and
MICHAEL R. ZECHER, *Administrative Patent Judges*

TURNER, *Administrative Patent Judge.*

DECISION ON REMAND
35 U.S.C. § 144 and 37 C.F.R. § 42.5(a)

I. INTRODUCTION

We address this case on remand after a decision by the U.S. Court of Appeals for the Federal Circuit in *Personal Web Technologies, LLC v. Apple, Inc.*, 848 F.3d 987, 987–94 (Fed. Cir. 2017) (“*Personal Web Tech.*”).

As background, Petitioner, Apple, Inc. (“Apple”), filed a Petition requesting an *inter partes* review of claims 24, 32, 70, 81, 82, and 86 of U.S. Patent No. 7,802,310 B2 (“the ’310 Patent,” Ex. 1001). Paper 1 (“Pet.”). Patent Owners, PersonalWeb Technologies LLC and Level 3 Communications, LLC (collectively “PersonalWeb”), filed a Preliminary Response (Paper 8). We determined that the information presented in the Petition demonstrated that there was a reasonable likelihood that Apple would prevail in challenging of claims 24, 32, 70, 81, 82, and 86 as unpatentable under 35 U.S.C. § 103(a). Pursuant to 35 U.S.C. § 314, we instituted trial on March 26, 2014, on the ground that the challenged claims are unpatentable under § 103(a) over Woodhill¹ and Stefik². Paper 9 (“Dec. on Inst.”).

During the course of trial, PersonalWeb filed a Patent Owner Response (Paper 15, “PO Resp.”), to which Apple filed a Reply to the Patent Owner Response (Paper 22, “Reply”). We held an oral hearing on November 17, 2014, with a transcript of that hearing appearing in the record. *See* Paper 31 (“Tr.”).

¹ Woodhill, U.S. Patent No. 5,649,196, issued July 15, 1997 (Ex. 1014).

² Stefik, U.S. Patent No. 7,359,881 B2, issued Apr. 15, 2008 (Ex. 1013).

On March 25, 2015, we issued a Final Written Decision in this proceeding in accordance with 35 U.S.C. § 318(a) and 37 C.F.R. § 42.73. Paper 33 (“Final Dec.”). We concluded that Apple had demonstrated by a preponderance of the evidence that claims 24, 32, 70, 81, 82, and 86 of the ’310 patent were unpatentable under § 103(a) over the combination of Woodhill and Stefik. Final Dec. 25. Subsequently, PersonalWeb requested rehearing under 37 C.F.R. § 42.71(d), where that request for rehearing was denied. Papers 34, 35. PersonalWeb appealed the Final Written Decision, except as to claim 70, to the Federal Circuit. Paper 36.

The Federal Circuit affirmed the Board’s claim construction of the claim terms “content-dependent name,” “content-based identifier,” and “digital identifier,” also concluding that PersonalWeb “does not deny that Woodhill discloses the required content-based identifier under the Board’s construction.” *Personal Web Tech.*, 848 F.3d at 991.

The Federal Circuit also determined the Board did not sufficiently explain and support the following conclusions: (1) Woodhill and Stefik disclose all of the elements recited in the challenged claims of the ’310 Patent; and (2) a relevant skilled artisan would have been motivated to combine Woodhill and Stefik in the way the ’310 Patent claims and reasonably expected success. *Personal Web Tech.*, 848 F.3d at 991–94. Consequently, the Federal Circuit vacated our determination of obviousness as to claims 24, 32, 81, 82, and 86 of the ’310 Patent and remanded this case to us for further proceedings. *Id.* at 994. The Federal Circuit’s mandate issued on April 7, 2017.

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On June 22, 2017, we issued an Order instructing the parties to file briefs specifically pointing out where Petitioner made out a proper case of obviousness on the instituted ground, or where Petitioner failed to make out such a case. Paper 39, 2. In accordance with this Order, the parties filed briefs on July 12, 2017. Papers 42, 43. PersonalWeb makes clear that it did not appeal claim 70, such that we need not address claim 70. Paper 43, 1. *See also Personal Web Tech.*, 848 F.3d at 990.

We have reconsidered the record developed during trial anew by reviewing the parties' positions in light of the Federal Circuit's guidance regarding the patentability under 35 U.S.C. § 103(a) over Woodhill and Stefik of claims 24, 32, 81, 82, and 86, as well as the parties' newly-filed briefs. For the reasons that follow, we maintain that Apple has demonstrated by a preponderance of the evidence that claims 24, 32, 81, 82, and 86 of the '310 Patent are unpatentable under § 103(a) over the combination of Woodhill and Stefik.

A. The '310 Patent (Ex. 1001)

The '310 Patent relates to a data processing system that identifies data items using substantially unique identifiers, otherwise referred to as True Names, which depend on all the data in the data item and only on the data in the data item. Ex. 1001, 1:44–48, 3:52–55, 6:20–24. According to the '310 Patent, the identity of a data item depends only on the data and is independent of the data item's name, origin, location, address, or other information not derivable directly from the data associated therewith. *Id.* at 3:55–58. The invention of the '310 Patent also provides that the system can

publish data items, allowing other, possibly anonymous, systems in a network to gain access to the data items. *Id.* at 4:32–34.

B. Illustrative Claim

The '310 Patent includes claims 1–87, of which a trial was instituted on claims 24, 32, 70, 81, 82, and 86. Of those the challenged claims, claims 24, 70, 81, and 86 are independent claims. Independent claim 24 is reproduced below:

24. A computer-implemented method implemented at least in part by hardware comprising one or more processors, the method comprising:

(a) using a processor, receiving at a first computer from a second computer, a request regarding a particular data item, said request including at least a content-dependent name for the particular data item, the content-dependent name being based, at least in part, on at least a function of the data in the particular data item, wherein the data used by the function to determine the content-dependent name comprises at least some of the contents of the particular data item, wherein the function that was used comprises a message digest function or a hash function, and wherein two identical data items will have the same content-dependent name; and

(b) in response to said request:

(i) causing the content-dependent name of the particular data item to be compared to a plurality of values;

(ii) hardware in combination with software determining whether or not access to the particular data item is unauthorized based on whether the content-dependent name of the particular data item corresponds to at least one of said plurality of values, and

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(iii) based on said determining in step (ii), not allowing the particular data item to be provided to or accessed by the second computer if it is determined that access to the particular data item is not authorized.

Ex. 1001, 40:1–26.

II. ANALYSIS

A. Claim Construction

In the Final Written Decision, we began our analysis by addressing the parties’ arguments regarding claim construction, as well as the standard to be applied in claim construction. Final Dec. 5–10. Because the ’310 Patent expired on April 11, 2015, PersonalWeb argued that we should not have relied on the broadest reasonable interpretation standard, and should have instead applied the standard of *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312–13 (Fed. Cir. 2005). Final Dec. 5–6; *Personal Web Tech.*, 848 F.3d at 990–91. The Federal Circuit found that our construction was correct under either standard, rendering moot the issue of the proper claim construction standard to be applied. *Personal Web Tech.*, 848 F.3d at 990.

We construed multiple claim terms in the Institution Decision, with those same claim terms also construed in the Final Written Decision. Dec. on Inst. 6–11; Final Dec. 5–10. Of import to the remanded case, we construed the following terms: “digital identifier” (Claim 86); “content-dependent name” (Claims 24 and 32); and “content-based identifier” (Claims 70 and 81). We construed these claim terms as “an identifier for a data item being based, at least in part, on a given function of at least some of the bits in the particular sequence of bits of the particular data item.” Final

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Dec. 7–9. The Federal Circuit affirmed that construction, and also acknowledged that PersonalWeb did not deny that Woodhill discloses the required content-based identifier under that construction. *Personal Web Tech.*, 848 F.3d at 991.

B. Federal Circuit Decision Regarding Obviousness Determination

On appeal to the Federal Circuit, PersonalWeb argues that we erred in our ultimate obviousness determination. *Personal Web Tech.*, 848 F.3d at 989. The Federal Circuit determines that we did not adequately support our findings that the prior art disclosed all elements of the challenged claims and that a relevant skilled artisan would have had a motivation to combine the prior art references to produce the claimed inventions with a reasonable expectation of success. *Id.* More specifically, the Federal Circuit determines that we did not sufficiently explain and support the conclusions that: (1) Woodhill and Stefik disclose all of the elements recited in the challenged claims of the '310 Patent; and (2) a relevant skilled artisan would have been motivated to combine Woodhill and Stefik in the way the '310 Patent claims and reasonably expected success. *Id.* at 991–94. The Federal Circuit emphasizes that their review of our obviousness determination is “rooted not just in the law of obviousness but in basic principles of administrative law.” *Id.* at 992–94.

With respect to exemplary claim 24, the Federal Circuit finds that the portion of the Petition (Pet. 42) relied upon for satisfying the element “causing the content-dependent name of the particular data item to be compared to a plurality of values” mentions only Stefik, not Woodhill, but

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that Apple made clear that it relies solely on Woodhill for disclosure of this claim element. *Id.* at 993. The Federal Circuit determines that the Final Written Decision does not explain, analyze, or adopt the portion of Apple’s Petition that specifically reference the specifically-cited section of Woodhill. *Id.* (citing Final Dec. 14–15; Pet. 33–34).

The Federal Circuit also concludes our response to another of PersonalWeb’s argument is incomplete. *Id.* PersonalWeb argued that Woodhill’s binary object identifiers are not used to access, search for, or address binary objects (PO Resp. 34), in response to which we referred to a portion of Apple’s Reply that referenced a specific portion of Woodhill. Final Dec. 21–22 (citing Reply 5; Ex. 1014 (Woodhill), 17:40–46). The Federal Circuit concludes that our opinion “does not explicitly say, let alone explain, how Woodhill shows that determination to involve a comparison between the content-based identifier and a plurality of values.” *Personal Web Tech.*, 848 F.3d at 993.

With respect to a motivation to combine Woodhill and Stefik, the Federal Circuit determines that our reasoning also was deficient. *Id.* The Federal Circuit determines that:

The Board’s most substantial discussion of this issue merely agrees with Apple’s contention that “a person of ordinary skill in the art reading Woodhill and Stefik would have understood that the combination of Woodhill and Stefik *would have allowed for* the selective access features of Stefik to be used with Woodhill’s content-dependent identifiers feature.” *Id.* at *8 (emphasis added). But that reasoning seems to say no more than that a skilled artisan, once presented with the two references, would have understood that they *could be* combined. And that is not

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enough: it does not imply a motivation to pick out those two references and combine them to arrive at the claimed invention. *Id.* at 993–94 (citations omitted) (emphasis in original). The Federal Circuit further finds that “a clear, evidence-supported account of the contemplated workings of the combination is a prerequisite to adequately explaining and supporting a conclusion that a relevant skilled artisan would have been motivated to make the combination and reasonably expect success in doing so.” *Id.* at 994.

The Federal Circuit vacates our determination of obviousness as to claims 24, 32, 81, 82, and 86 of the ’310 Patent and remands this case to us for further proceedings. *Id.*

*C. Alleged Obviousness over Woodhill and Stefik
Claims 24, 32, 81, 82, and 86*

In its Petition, Apple contends that claims 24, 32, 81, 82, and 86 are unpatentable under § 103(a) over the combination of Woodhill and Stefik. Pet. 28–43. Apple provides a rationale for modifying Woodhill in light of Stefik to arrive at the features of claims 24, 32, 81, 82, and 86. *Id.* at 41–42. In support of its asserted ground of unpatentability, Apple relies on the testimony of Dr. Benjamin F. Goldberg. Ex. 1007 ¶¶ 61–88.

In its Patent Owner Response, PersonalWeb presents a myriad of arguments that the modification to Woodhill based on Stefik would not have been obvious to a person of ordinary skill in the art, and that certain aspects of Woodhill and Stefik, even if combined, would not meet the limitations of the challenged claims. PO Resp. 12–41. Apple responds to these arguments in its Reply. Reply 4–13. As noted above, both parties provided briefing

after remand on whether the Petition explains and supports that Woodhill and Stefik disclose all of the elements recited in the challenged claims, and whether a skilled artisan would have been motivated to combine Woodhill and Stefik as provided in the challenged claims with a reasonable expectation of success. Paper 42 (“Pet. Br.”); Paper 43 (“PO Br.”).

We begin our analysis with brief overviews of Woodhill and Stefik, then we address the parties’ arguments as to whether Woodhill and Stefik disclose all of the elements of the challenged claims, as well as whether the Petition supports and explains that a skilled artisan would have been motivated to combine Woodhill and Stefik as provided in the challenged claims with a reasonable expectation of success.

1. Woodhill

Woodhill discloses a system for distributed storage management on a computer network system. Ex. 1014, 1:11–17. Figure 1 of Woodhill, reproduced below:

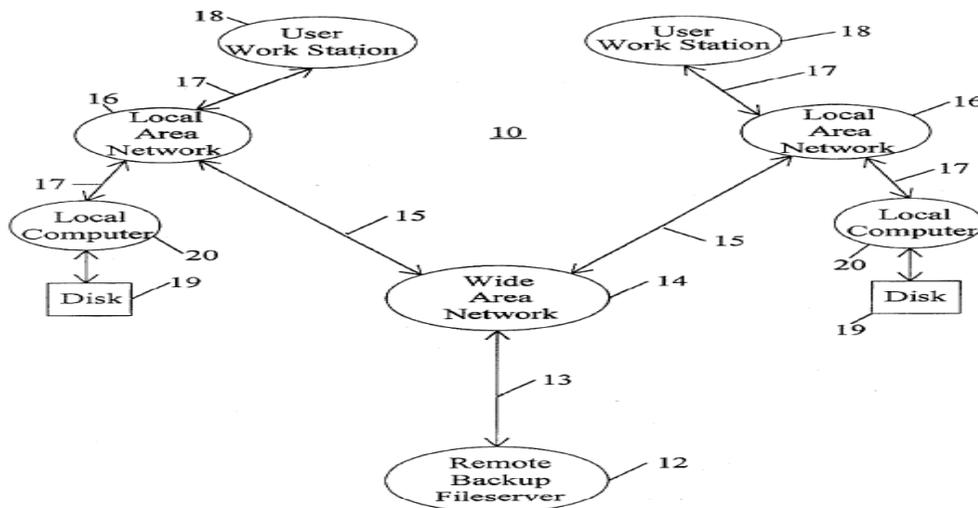


FIG. 1

Figure 1 depicts a computer network system that includes a distributed storage management system. As illustrated in Figure 1 of Woodhill, each local area network 16 includes multiple user workstations 18 and local computers 20. *Id.* at 3:24–44. Woodhill’s system includes a Distributed Storage Manager (“DSM”) program for building and maintaining the File Database. *Id.* at 3:44–49.

The DSM program views a file as a collection of data streams, and divides each data stream into one or more binary objects. *Id.* at 4:13–23, 7:40–43; Fig. 5A, item 132. More specifically, the data streams represent regular data, extended attribute data, access control list data, etc. *Id.* at 7:44–47. For each binary object being backed up, a Binary Object Identification Record is created in a File Database and includes a Binary Object Identifier to identify a particular binary object uniquely. *Id.* at 7:60–8:1, 8:33–34.

Binary Object Identifiers are calculated based on the contents of the data so that the Binary Object Identifier changes when the contents of the binary object changes. *Id.* at 8:57–62, 8:40–42. Notably, the Binary Object Identifier includes a Binary Object Hash field which is calculated against the contents of the binary object that is taken one word (16 bits) at a time using a hash algorithm. *Id.* at 8:22–32. Duplicate binary objects can be recognized from their identical Binary Object Identifiers, even if the objects reside on different types of computers in a heterogeneous network. *Id.* at 8:62–65.

2. *Stefik*

Stefik discloses a system for preventing the unauthorized access to digital works. Ex. 1013, 1:17–20. Stefik discloses receiving a request for access to a particular digital work from a requester, including a unique identifier for the digital work, and only providing access if it is determined that the request is authorized. *Id.* at 9:47–49, 31:13–20, 41:60–65.

3. *Specific Claim Terms*

In its Petition, Apple identifies that the Binary Object Identifiers of Woodhill are equivalent to the “digital identifier,” “content-dependent name,” and “content-based identifier”³ recited in claims 24, 70, 81, and 86. Pet. 31. These Binary Object Identifiers are based on a cryptographic hash, with the chance of two different objects being assigned the same Binary Object Identifier being very small. Ex. 1014, 8:33–36. In Woodhill, two identical items will have the same Binary Object Identifier. Ex. 1007 ¶ 67. The Federal Circuit acknowledged that PersonalWeb did not deny that Woodhill discloses the required content-based identifier as we had construed that term. *Personal Web Tech.*, 848 F.3d at 991.

4. *Apple’s Assertions Regarding Claim 24*

In its Petition, Apple relies in part on its analysis of claim 70 to demonstrate that elements of claim 24 are taught or suggested by Woodhill and/or Stefik, and thereafter extends that analysis to the other challenged

³ The Federal Circuit used the term “content-based identifier” to refer to all of the terms in this list (*Personal Web Tech.*, 848 F.3d at 990), and we adopt this terminology herein except where specifically referring to claim 81.

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claims. Pet. 28–43. Given that claim 70 is no longer at issue in this proceeding (*see* PO Br. 1), we examine that analysis in our consideration of independent claim 24, still at issue.

Claim 24 is directed to a computer-implemented method implemented at least in part by hardware comprising one or more processors. Apple identifies that Woodhill is directed to a system and method for the distributed management of the storage space and data on a networked computer system, where that system includes at least two storage devices for storing data files. Pet. 30–31 (citing Ex. 1014, Abs.).

Claim 24 also provides that a first computer receives a request regarding a particular data item from a second computer, with the request including at least a content-dependent name for the particular data item. Claim 24 continues that the content-dependent name is based, at least in part, on at least some of the contents of the particular data item, and that the function is a message digest function or a hash function, such that two identical data items will have the same content-dependent name. Apple identifies the Binary Object Identifier in Woodhill as being equivalent to the claimed content-dependent name. *Id.* at 31–33 (citing Ex. 1014, 8:33–38, 8:33–38, 58–65; Ex. 1007 ¶ 67). As discussed above, this assertion is not denied by PersonalWeb.

In response to the request, claim 24 recites that the content-dependent name of the particular data item is compared to a plurality of values. As pointed out by Apple, the anticipation ground applying Woodhill (Pet. 28–37, 38–39), which is incorporated into the obviousness ground over

Woodhill and Stefik (Pet. 41–43), discusses this aspect of claim 24 in depth. Pet. Br. 3. The Petition references the following disclosure of Woodhill regarding this limitation:

Program control then continues with step 446 where the Distributed Storage Manager program 448 transmits an ‘update request’ to the remote backup file server 12 which includes the Binary Object Identification Record 58 for the previous version of each binary object as well as the list of ‘contents identifiers’ calculated in step 444.

Pet. 33–34 (quoting Ex. 1017, 17:40–46, Figs. 1, 5I). Apple continues that, in order “[t]o determine which data needs to be restored by the update request, the remote backup file server of Woodhill must be able to reference its local files using the information it receives - namely the Binary Object Identification Record.” *Id.* at 34 (citing Ex. 1007 ¶ 70). The Petition then relies on the testimony of Dr. Goldberg as to how that referencing necessarily must be accomplished, i.e., that the remote backup fileserver maintains some sort of file system or other mapping (i.e., a database) that allows the Binary Object Identification Record to serve as a lookup for the requisite file data that is to be restored. *Id.* at 35 (citing Ex. 1007 ¶ 72).

We agree with Apple’s argument that Woodhill compares the content-dependent name of the particular data item to a plurality of values. Woodhill is clear that the remote backup file server “routes” the storage files to “magnetic tape or other low cost storage media” (Ex. 1014, 10:13–21, 32–34), and it would have been necessary for the remote backup file server to maintain some type of system for managing its files, per Dr. Goldberg’s testimony (Ex. 1007 ¶ 72). The use of a database in Woodhill to determine

which data need to be restored would necessarily require comparisons with a plurality of values, per the discussed element of claim 24.

Claim 24 also recites that the hardware in combination with software determines whether or not access to the particular data item is unauthorized based on whether the content-dependent name of the particular data item corresponds to at least one of the plurality of values. Lastly, based on the access authorization step, the particular data item is not allowed to be provided to or accessed by the second computer if it is determined that access to the particular data item is not authorized.

Apple identifies the Petition as providing for the above-discussed limitations of claim 24 both through Woodhill alone, and in combination with Stefik. Pet. Br. 6. The Petition provides an interpretation of these latter elements of claim 24 as meaning that “the location can be provided if known, and not provided if not known,” which is asserted to be fully taught by Woodhill. *See* Pet. 37–38 (citing Ex. 1007 ¶ 75). In the Decision on Institution, we determined that the challenged claims refer to authorized and unauthorized access, as opposed to not providing information if not known, and, we thus, relied also on the teachings of Stefik for the determining and authorization steps. Dec. on Inst. 16–17 (citing Ex. 1013, 1:17–20, 9:47–49, 31:13–20, 41:60–65). The Petition cites to the teachings of Stefik, specifically of a system that addresses the problem of preventing unauthorized access to digital works, with an access request utilizing a unique identifier for the digital work. Pet. Br. 7–8 (citing Pet. 26, 41–43; Ex. 1013, 9:47–61, 41:60–65). *See also* Section II.C.2. We agree with

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Apple that access provided in Stefik would necessarily require a comparison between the unique identifier and other values to see if a match can be obtained. This is further supported by the testimony of Dr. Goldberg. Ex. 1007 ¶¶ 57, 85). As such, we remain persuaded that the combination of Woodhill and Stefik teach the latter limitations of claim 24.

Turning to a rationale or motivation to combine Woodhill and Stefik, Apple points to its Petition as “‘explain[ing] why one of skill would have been so motivated’ based on evidence in the references and ‘supported by evidence of the knowledge of a skilled artisan’ in the form of Dr. Goldberg’s declaration.” Pet. Br. 10 (quoting *Outdry Techs. Corp. v. Geox S.p.A.*, 859 F.3d 1364, 1370–71 (Fed. Cir. 2017)). Apple points to pages 41 through 43 of its Petition, citing Dr. Goldberg’s testimony, as demonstrating that a skilled artisan would have combined the backup and restore system in Woodhill with the repository in Stefik to add an authorization layer to prevent unauthorized users from accessing a different user’s back up files. *Id.* (citing Ex. 1007 ¶ 84). Apple indicates that preventing unauthorized users from accessing a different user’s back up files is a precise and specific reason why a skilled artisan would have modified Woodhill in view of Stefik to arrive at the claimed subject matter. *Id.* at 11.

Apple further buttresses this by pointing to portions of the Petition (Pet. 26, 41–43) that discuss the purpose of Stefik to prevent authorized access to digital works, and the testimony of Dr. Goldberg (Ex. 1007 ¶¶ 57, 85, 88) that both Stefik and Woodhill involve file management and aim to solve problems with secure access. Pet. Br. 11. Apple also cites the oral

hearing transcript that provides:

We have two references that are in the same field, file management on a network system, two references that are addressing the same problem, secure access to data, and then each of these two references, Stefik and Woodhill, certainly take different approaches or they approach this problem in different ways, but they do so in a way that lends itself to a combination with the other in the way that the Board described in the decision, again, using the unique content-dependent identifiers of Woodhill with the selective access concept of Stefik.

Id. at 11–12 (quoting Paper 31, 18:19–19:2).

Additionally, Apple points to the Petition and Dr. Goldberg’s testimony as explaining and supporting that a skilled artisan would have had a reasonable expectation of success in combining the backup and restore system of Woodhill with the repository of Stefik. *Id.* at 13. Apple contends that that “the skilled artisan would have had a reasonable expectation of success because ‘any particular choice of a unique identifier would have been a mere design choice among well-known options, including content-dependent identifiers such as message digest identifiers.’” *Id.* (citing Pet. 42). Apple also indicates that Dr. Goldberg’s testimony provides support that Stefik’s authorization layer would have been added with a reasonable expectation of success because modifying Woodhill to perform Stefik’s selective access function would have been a mere design choice, with such options as using content-dependent identifiers. *Id.* (citing Ex. 1007 ¶ 87).

As such, Apple has provided in the Petition a sufficient rationale or motivation to combine Woodhill and Stefik, and that combination teaches or suggests all of the limitations of claim 24. Therefore, we maintain that

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Apple has demonstrated by a preponderance of the evidence that claim 24 of the '310 Patent is unpatentable under § 103(a) over the combination of Woodhill and Stefik.

5. PersonalWeb's Assertions Regarding Claim 24

PersonalWeb's briefing focuses on Apple's alleged failure to make out a proper case of obviousness at least because "Apple: (1) failed to meet its burden of establishing that the prior art discloses all elements of the challenged claims, and (2) failed to meet its burden of establishing that a skilled artisan would have been motivated to combine Woodhill and Stefik in the way the '310 patent claims and reasonably expect success." PO Br. 1. In particular, PersonalWeb argues that Woodhill and Stefik fail to disclose comparison of a data item identifier to a plurality of values to determine access authorization, and that the Petition fails to meet its burden of establishing that a skilled artisan would have been motivated to combine the references as claimed with a reasonable expectation of success. *Id.* at 1–15. We consider PersonalWeb's arguments in each contention below.

PersonalWeb takes claim 24 as representative and argues that the Petition and Institution Decision are "fatally flawed." *Id.* at 1–2. PersonalWeb points out that the Institution Decision relies, in part, on Stefik for the comparison with a plurality of values step of claim 24, whereas the Petition relies on Woodhill. *Id.* (citing Dec. on Inst. 16; Pet. 42). Although we agree that we relied, mainly, on different portions of Woodhill and Stefik in the Institution Decision, we disagree that Woodhill and Stefik fail to teach the cited elements of claim 24.

As discussed above, the Petition provides that, in order to determine which data need to be restored by the update request, in Woodhill, the remote backup file server must be able to reference its local files using the information it receives, and that such a server would maintain some sort of file system or other mapping (i.e., a database) to perform the lookup. *See* Pet. 33–35 (citing Ex. 1017, 17:40–46, Figs. 1, 5I; Ex. 1007 ¶¶ 70, 72). This is equivalent to the limitation of claim 24, namely: “causing the content-dependent name of the particular data item to be compared to a plurality of values.”

We also note that in another portion of its Briefing, PersonalWeb cites to a portion of Woodhill detailing “comparing *the current value* of the binary object identifier associated with a particular binary object to *one or more previous values* of the of the binary object identifier associated with that particular binary object.” PO Br. 10, n.1 (citing Ex. 1014, 2:14–17, emphases added). Although PersonalWeb cites that portion of Woodhill to show that the comparison is made against *prior* values of the same binary object, i.e., not for determination of authorization, that citation demonstrates that Woodhill provides for comparison of a binary object identifier with other values. The subject step in claim 24, i.e., causing the comparison, does not require more, with only subsequent steps of claim 24 using the comparison to determine authorization.

The next element of claim 24 recites “determining whether or not access to the particular data item is unauthorized based on whether the content-dependent name of the particular data item corresponds to at least

one of said plurality of values.” As discussed above, Stefik prevents unauthorized access to digital works, with an access request utilizing a unique identifier for the digital work, which would necessarily require a comparison between the unique identifier and other values to see if a match can be obtained. *See* Pet. 33–35 (citing Ex. 1013, 9:47–61, 41:60–65; Ex. 1007 ¶¶ 57, 85),

Although PersonalWeb addresses latter elements recited in claim 24 as a unitary step, i.e., comparison and determination, obviousness need not be determined on such a limited basis. *See KSR*, 550 U.S. at 418 (explaining that obviousness must be gauged in view of common sense and the creativity of an ordinarily skilled artisan). As we explain above, Apple properly relies upon Woodhill to show the comparison of the content-dependent name to a plurality of values, and that comparison would have been used to determine authorization, based on the teachings of Woodhill and Stefik. The obviousness ground is based on both Stefik and Woodhill, as such the arguments raised against either reference individually can be ineffective in showing non-obviousness. *See In re Merck & Co., Inc.*, 800 F.2d 1091 (Fed. Cir. 1986). Here, PersonalWeb’s arguments that Stefik’s unique identifiers 701 are not used to determine access to anything unauthorized and are not content-based (PO Br. 4) are unavailing in view of the teachings of Woodhill of the use of such content dependent identifiers.

PersonalWeb also argues that Woodhill fails to disclose comparing a binary object identifier to a plurality of values to determine whether access is authorized. *Id.* at 6–9. As discussed above, however, the ground is based

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on the combination of Woodhill and Stefik, such that any deficiency of Woodhill itself only failing to disclose both the comparing and determining aspects of claim 24 is not fatal. As such, PersonalWeb’s contention that “[t]he Petition and accompanying Goldberg Declaration are silent regarding this claimed subject matter [elements (1) and (ii) of claim 24]” (*id.* at 6), is not determinative.

We also disagree with PersonalWeb’s argument that, if the Institution Decision considered Stefik for the comparing aspect of claim 24, we cannot properly consider the disclosure of Woodhill with respect to that comparing aspect. Patent Owner has not been denied an opportunity to address the facts and legal arguments upon which our final determination rests. *See Genzyme Therapeutic Prods Ltd. P’ship v. Biomarin Pharm. Inc.*, 825 F.3d 1360, 1366–67 (Fed. Cir. 2016) (“There is no requirement, either in the Board’s regulations, in the APA, or as a matter of due process, for the institution decision to anticipate and set forth every legal or factual issue that might arise in the course of trial,” and “The purpose of the trial in an inter partes review proceeding is to give the parties an opportunity to build a record by introducing evidence—not simply to weigh evidence of which the Board is already aware.”)

As discussed above, the Petition clearly referenced portions of Woodhill as disclosing “causing the content-dependent name of the particular data item to be compared to a plurality of values.” Pet. 33–34. Although PersonalWeb argues that “the Board relied on Stefik for this claimed subject matter in the institution decision” (PO Br. 4), we disagree in

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that we indicated the in the Petition that institution relied upon the combination of Woodhill and Stefik. *See* Dec. on Inst. 13–18. For us to fail to consider fully the Petition to assess whether Apple has established by a preponderance of the evidence that claim 24 is obvious from Woodhill and Stefik would run afoul of our reviewing court’s admonition “to reconsider the merits of the obviousness challenge.” *Personal Web Tech*, 848 F.3d at 994. In addition, we disagree that consideration of Woodhill for its teachings of a comparison step as required by claim 24 is in effect to “change theories midstream, as PersonalWeb alleges (PO Br. 6–7 (citing *SAS Inst., Inc. v. ComplementSoft, LLC*, 825 F.3d 1341, 1351–52 (Fed. Cir. 2016))), because there is no change from what the Petition put forth in consideration of the instituted obviousness ground.

Additionally, PersonalWeb argues that we conceded that “Woodhill fails to make a determination as to whether access to a given data item is not authorized” (*id.* at 7 (citing Final Dec. 28)), but that is not a concession that Woodhill fails to teach or suggest both the comparing and determining aspects of claim 24. Again, the Petition relies on Stefik for the authorization aspects of claim 24. *See* Pet. 26–27, 41.

In addition, although claim 24 provides that the content-dependent name is compared to a plurality of values, where that comparison is used in the next step, the Specification of the ’310 Patent provides for greater utility to the content-dependent name. The Specification provides for the use of identifiers to determine presence of a data item, to allow for redundancy, to

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provide version control, to verify retrieved data, and to provide tracking.
Ex. 1001, 3:52–4:59.

PersonalWeb also argues that the “restore” procedure in Woodhill does not disclose comparing a binary object identifier to a “plurality of values” for any reason. PO Br. 8–9. As discussed above, the remote backup file server, in Woodhill, must be capable of referencing its local files using the information it receives, using a database to perform the lookup, such that a comparison must occur in Woodhill. We accept that Woodhill “doesn’t mention [a comparison] explicitly” in the context of the remote file backup server, as acknowledged by Dr. Goldberg (Ex. 2015, 75–76), but we remain convinced that Woodhill nevertheless necessarily teaches the cited element of claim 24 based on its disclosure.

PersonalWeb also argues that Woodhill’s “contents identifiers” also do not meet the claims, i.e., instead of the content-based identifier disclosed in Woodhill and relied upon in the Institution Decision. PO Br. 9–10. However, as PersonalWeb acknowledges, the Institution Decision and Final Written Decision did not rely on Woodhill’s “contents identifiers” embodiments, and do not rely on the same in the instant analysis.

Turning to the rationale or motivation to combine Woodhill and Stefik, PersonalWeb argues that “[t]he Petition provides no logical reason for [the combination] resulting in a comparison, . . . no detailed explanation of any such combination, and provides no technical explanation of how any such combination in this complicated technical field was supposed to work.” *Id.* at 12–13. To that end, PersonalWeb argues that Apple’s motivation, to

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combine the systems “to prevent unauthorized users from accessing a different user’s back up files” (Ex. 1007 ¶ 84), is not supported because the identified process is “expressly designed for *one user*, who necessarily *already has access to the current and previous versions of that one file.*” *Id.* at 13 (emphasis in original). We do not agree.

As discussed in the Final Written Decision, the system in Woodhill includes multiple local computers connected to the same remote backup file server, which store files and binary objects from multiple users. Final Dec. 17 (citing Ex. 1014, 3:25–27). Woodhill does not disclose that files at the same remote backup file server are segregated by user, such that it would have been understood that users could connect to multiple files thereon, including other user’s files. As discussed therein, Stefik is directed to determining authorization access to a file based on identifiers, such that it would have been readily understood as applicable to the system of Woodhill. As discussed above, the Petition (Pet. 41–43) and the testimony of Dr. Goldberg (Ex. 1007 ¶ 84), support this determination. Further, we agree with Apple that preventing unauthorized users from accessing a different user’s back up files is a precise and specific reason why a skilled artisan would have modified Woodhill in view of Stefik to arrive at the claimed subject matter. Pet. Br. 11. As such, contrary to PersonalWeb’s assertions, we are convinced that the Petition provides a reasonable motivation to combine Woodhill and Stefik, based on rationale underpinnings.

PersonalWeb also argues that, even providing Stefik’s system in Woodhill would not meet the claims, because Stefik’s unique identifier 701

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is not used for determining unauthorization and Stefik never compares any identifier to a plurality of values for determining unauthorization. PO Br. 14. PersonalWeb further argues that this non-use of unique identifiers is a teaching away from the claimed invention. *Id.* We do not agree.

Simply because Stefik does not use its unique identifier 701 in its authorization determination does not commend itself to a determination that it would not have been obvious to use Woodhill’s binary object identifiers for such a purpose. File identification is one of the primary uses of the binary object identifiers in Woodhill (Ex. 1014, 8:33–65), so identification of files by binary object identifiers in the Stefik authorization access method would have been obvious to one of ordinary skill in the art. Further, as we stated in the Final Written Decision, “[t]he fact that Woodhill uses one access control method, and Stefik uses another, does not mean that one of ordinary skill in the art would not have combined the aspects of each, instead of the wholesale swapping of one for another.” Final Dec. 18.

Additionally, we do not agree that Stefik’s alternative access control method rises to the level of teaching away from the combination, as argued by PersonalWeb. PO Br. 14. A reference that “merely expresses a general preference for an alternative invention but does not criticize, discredit, or otherwise discourage investigation into” the claimed invention does not teach away. *Galderma Labs., L.P. v. Tolmar, Inc.*, 737 F.3d 731, 738 (Fed. Cir. 2013). The alternatives described do not result in a teaching away between the references, much less from the instant invention.

In addition, PersonalWeb argues that Woodhill's binary object identifiers 74, and Stefik's unique identifiers 701, would not have been used for their intended purpose in any alleged combination, which is strong evidence of non-obviousness. *Id.* at 15 (Ex. 2020 ¶ 42). We do not agree. Both types of identifiers would serve their intended purposes, and the systems of Woodhill and Stefik would have worked together to provide controlled access. We reject the assertion that multiple types of identifiers could not have been utilized in a combined system of Woodhill and Stefik.

After consideration of all of PersonalWeb's counter arguments, and in view of Apple's Petition and Dr. Goldberg's testimony, we remain convinced that Apple has provided in the Petition sufficient rationale or motivation to combine Woodhill and Stefik, and that combination teaches or suggests all of the limitations of claim 24.

6. Claims 32, 81, 82, and 86

With respect to claims 32, 81, 82, and 86, those claims are largely similar to claim 24, analyzed above. Apple has identified the elements of those claims found in Woodhill and Stefik. *See* Pet. 38–40, 41–43. Specifically, with respect to claim 32, which depends from independent claim 24, Apple argues that claim 32 further requires that the data used by the function to determine the content-dependent name comprises all of the contents of the particular data item. Apple identifies that Woodhill discloses that the data used to determine the Binary Object Identifier for a particular file comprises all of the contents of the file. *Id.* at 39 (citing Ex. 1014, 8:58–65). As such, based on the analysis of claim 24, Apple has identified that all

of the elements of claim 32 are taught by the combination of Woodhill and Stefik.

Additionally, Apple details that claim 81 relates to a device that performs the method of claim 70, where Apple's analysis relies on demonstrating that aspects of Woodhill and Stefik disclose the elements of claim 70. *Id.* at 38. With respect to the analysis above, Apple discusses the similarities of claims 24 and 70, with claim 24 requiring the ability to not allow a particular data item to be accessed if access is "unauthorized," with that authorization determination being based on "whether the content-dependent name of the particular data item corresponds to at least one of the plurality of values." *Id.* at 38–39, 43. As such, having shown the obviousness of claim 24, which is narrower in scope, Apple has also demonstrated the obviousness of claims 70 and 81, which are broader in scope.

With respect to claim 82, which depends from claim 81, claim 82 further recites that the "sequence of bits" for which a content-based identifier is determined is one of many disclosed "sequences of bits," including "a file" or "a portion of a file." *Id.* at 38. Apple argues that, because Binary Object Identification Records are determined for files in Woodhill, Woodhill meets the limitations of claim 82. *Id.* (citing Ex. 1014, 4:12–47). As such, based on the analysis of claims 24 and 81, Apple has identified that all of the elements of claim 82 are taught by the combination of Woodhill and Stefik.

With respect to claim 86, Apple argues that "[c]laim 86 is an

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apparatus claim very similar in scope to claim 81,” and that claim 86 is obvious over Woodhill and Stefik for the same reasons. *Id.* at 38–39, 43. We agree with Apple that claims 86 and 81 are sufficiently similar such that Apple has demonstrated that the combination of Woodhill and Stefik teaches all of the elements of claim 86.

With respect to the combination of Woodhill and Stefik, as applicable to claims 32, 81, 82, and 86, we rely on the analysis with respect to the motivation to combine applied above with respect to claim 24. Based on the record developed during trial, the briefs of both parties upon remand, and the discussion of claims 32, 81, 82, and 86 above, Apple has demonstrated by a preponderance of the evidence that the combination of Woodhill and Stefik render claims 32, 81, 82, and 86 obvious.

III. CONCLUSION

Upon reviewing the record developed during trial anew, as well as the briefings by the parties, and in light of the Federal Circuit’s guidance, we maintain that Apple has demonstrated by a preponderance of the evidence that claims 24, 32, 81, 82, and 86 of the ’310 Patent are unpatentable under § 103(a) over the combination of Woodhill and Stefik.

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IV. ORDER

In consideration of the foregoing, it is
ORDERED that claims 24, 32, 81, 82, and 86 of the '310 Patent are
held to be unpatentable;⁴

FURTHER ORDERED that, because this Decision on Remand
amounts to a Final Written Decision, the parties to the proceeding seeking
judicial review of the decision must comply with the notice and service
requirements of 37 C.F.R. § 90.2.

⁴ Claim 70 was previously held to be unpatentable.

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