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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

AMAZON.COM, INC., AMAZON DIGITAL SERVICES, INC., AMAZON FULFILLMENT SERVICES, INC., HULU, LLC, and NETFLIX, INC,
Petitioner,

v.

UNILOC LUXEMBOURG S.A.,
Patent Owner.

Case IPR2017-00948
Patent 8,566,960 B2

Before DAVID C. MCKONE, BARBARA A. PARVIS, and MICHELLE N. WORMMEESTER, *Administrative Patent Judges*.

MCKONE, *Administrative Patent Judge*.

FINAL WRITTEN DECISION
35 U.S.C. § 318(a) and 37 C.F.R. § 42.73

I. INTRODUCTION

A. Background

Amazon.com, Inc., Amazon Digital Services, Inc., Amazon Fulfillment Services, Inc., Hulu, LLC, And Netflix, Inc. (collectively "Petitioner") filed a Petition (Paper 1, "Pet.") to institute an *inter partes* review of claims 1–25 of U.S. Patent No. 8,566,960 B2 (Ex. 1001, "the '960 patent"). Uniloc Luxembourg S.A. ("Patent Owner") filed a Preliminary Response (Paper 9, "Prelim. Resp.").

Pursuant to 35 U.S.C. § 314, in our Institution Decision (Paper 10, "Dec."), we instituted this proceeding as to claims 1–25. Dec. 34.

Patent Owner filed a Patent Owner's Response (Paper 15, "PO Resp."), and Petitioner filed a Reply to the Patent Owner's Response (Paper 18, "Reply").

Patent Owner also filed a Contingent Motion to Amend, seeking to replace claims 1, 22, and 25 with substitute claims 26, 27, and 28 if claims 1, 22, and 25 are ruled unpatentable. (Paper 17, "Mot. to Amend," 1). Petitioner filed an Opposition to the Motion to Amend (Paper 19, "Opp. to Mot. to Amend"), and Patent Owner filed a Reply supporting its Motion to Amend (Paper 24, "Mot. to Amend Reply").

Petitioner relies on the Declarations of Aviel Rubin, Ph.D. (Ex. 1002, "Rubin Decl."; Ex. 1031, "Supp. Rubin Decl."). Patent Owner relies on the Declaration of Val DiEuliis, Ph.D. (Ex. 2001, "DiEuliis Decl.").

We have jurisdiction under 35 U.S.C. § 6. This Decision is a final written decision under 35 U.S.C. § 318(a) as to the patentability of claims 1–25 and substitute claims 26–28. Based on the record before us, Petitioner

has proved, by a preponderance of the evidence, that claims 1–8, 18–22, and 25 are unpatentable, but not claims 9–17, 23, and 24. We deny Patent Owner's Motion to Amend as to substitute claims 26–28.

B. Related Matters

The parties indicate that the '960 patent has been asserted in several lawsuits in the United States District Court for the Eastern District of Texas. Pet. 2–3; Paper 6, 2. The '960 patent also was the subject of *Unified Patents Inc. v. Uniloc USA, Inc.*, Case IPR2016-01271 (PTAB). Pet. 3.

C. Evidence Relied Upon

Petitioner relies on the following prior art:

Ex. 1003 ("DeMello")	US 7,047,411 B1	May 16, 2006
Ex. 1004 ("Staruiala,")	IE 02/0429	Nov. 27, 2002
Ex. 1026 ("Hu")	US 7,752,139 B2	July 6, 2010

D. The Instituted Grounds

We instituted on the following grounds of unpatentability (Dec. 34) and Petitioner challenges Patent Owner's proposed substitute claims on the following grounds of unpatentability (Opp. to Mot. to Amend 11–12):

Reference(s)	Basis	Claims Challenged
DeMello	§ 102(b)	1–5, 7–10, 12–14, 16–18, and 22–25

DeMello	§ 103(a)	6, 7, 11, 12, 15, and 16[1]
DeMello and Staruiala	§ 103(a)	1–25
DeMello and Hu	§ 103(a)	26–28

E. The '960 Patent

The '960 patent describes techniques for monitoring and adjusting software usage under software licenses. Ex. 1001, 1:16–20. The '960 patent discusses problems with existing software licensing schemes, including that "consumers of software have normal patterns of use that include the installation and use of digital products on multiple devices" and that "computers are also bought, sold and replaced so over time maybe two or three times this number of computers may be used by the user over time with a legitimate need to install and use the software on every computer." *Id.* at 1:31–41. The '960 patent addresses these problems with "an improved technique for allowing for a changing number of device installations on a per license basis over time." *Id.* at 1:67–2:2.

Figure 2, reproduced below, illustrates an example:

[1] After the Supreme Court's decision in *SAS Inst., Inc. v. Iancu*, 138 S. Ct. 1348 (2018), we modified our Institution Decision to include review of claims 7, 12, and 16 as obvious over DeMello.

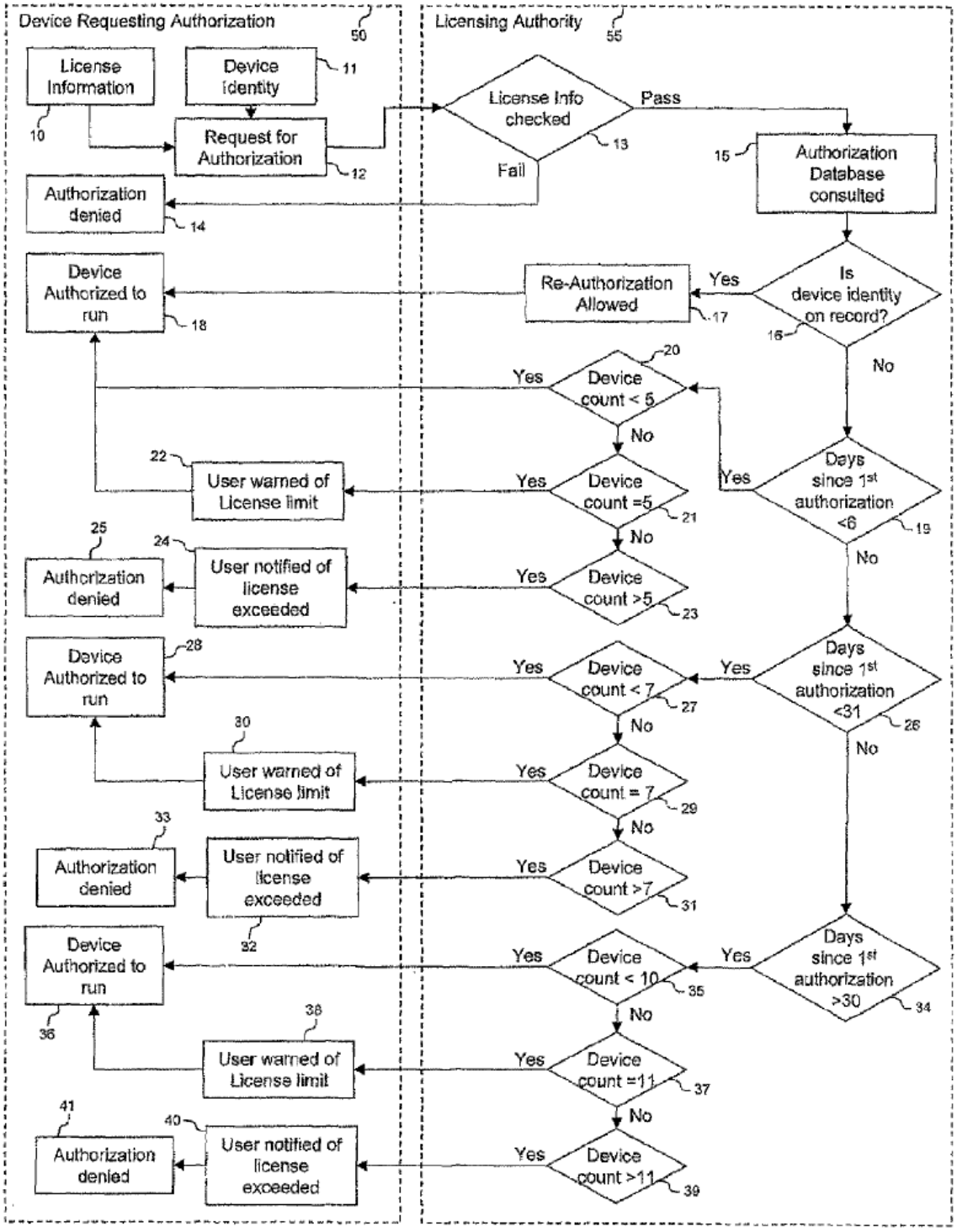


Figure 2

Figure 2 is a flowchart for an approach to adjusting a license for a digital product. *Id.* at 3:20–21. In Figure 2, device 50 requests authorization from

licensing authority 55 (e.g., a publisher or distributor) to use a copy of a software license. *Id*. at 4:50–55.

Device 50 gathers information about itself, including license related information 10 and unique device identifying information 11, and sends a request for authorization 12 to licensing authority 55. *Id*. at 4:56–59. Licensing authority 55 checks whether the requesting device's unique identifying information 11 exists in its database of prior authorizations 15 and, if so, reauthorizes device 50 and allows the software to run on the device. *Id*. at 5:1–12 (steps 13–18).

If unique identifying information 11 is not in its database of prior authorizations 15, and if the request comes within the first five days of the licensing period, licensing authority 55 determines a device count of the number of successful authorizations for new devices that have been allowed and, if the device count is fewer than a device count limit of five, licensing authority 55 sends device 50 a message allowing the software to be used. *Id*. at 5:13–26 (steps 18–19). If the device count is equal to five, licensing authority 55 can send a message to device 50 allowing the device to run, but also informing the user that the limit on available devices has been reached and that subsequent requests may be denied. *Id*. at 5:26–32 (step 22). If the device count is greater than five (step 23), licensing authority 55 sends a message to device 50 denying authorization (step 24). *Id*. at 5:33–40.

If request 12 comes between six and thirty-one days from the first successful authorization, licensing authority 55 performs similar tests, this time with a device count limit of seven. *Id*. at 5:41–60 (steps 19–33). Likewise, if request 12 comes after thirty-one days, licensing authority 55

performs similar tests with a device count limit of eleven. *Id.* at 5:61–6:7 (steps 34–41).

Claim 1, reproduced below, is illustrative of the claimed subject matter:

> 1. A system for adjusting a license for a digital product over time, the license comprising at least one allowed copy count corresponding to a maximum number of devices authorized for use with the digital product, comprising:
>
> a communication module for receiving a request for authorization to use the digital product from a given device;
>
> a processor module in operative communication with the communication module;
>
> a memory module in operative communication with the processor module and comprising executable code for the processor module to:
>
> verify that a license data associated with the digital product is valid based at least in part on a device identity generated by sampling physical parameters of the given device;
>
> in response to the device identity already being on a record, allow the digital product to be used on the given device;
>
> in response to the device identity not being on the record, set the allowed copy count to a first upper limit for a first time period, the allowed copy count corresponding to a maximum number of devices authorized to use the digital product;
>
> calculate a device count corresponding to total number of devices already authorized for use with the digital product; and

> when the calculated device count is less than the first upper limit, allow the digital product to be used on the given device.

II. ANALYSIS

A. Claim Construction

We interpret claims of an unexpired patent using the broadest reasonable construction in light of the specification of the patent in which they appear. *See* 37 C.F.R. § 42.100(b); *Cuozzo Speed Techs., LLC v. Lee*, 136 S. Ct. 2131, 2144–45 (2016). In applying a broadest reasonable construction, claim terms generally are given their ordinary and customary meaning, as would be understood by one of ordinary skill in the art in the context of the entire disclosure. *See In re Translogic Tech., Inc.*, 504 F.3d 1249, 1257 (Fed. Cir. 2007).

In the Institution Decision, we preliminarily construed "verify[ing] that a license data associated with the digital product is valid based at least in part on a device identity generated by sampling physical parameters of the [given device/computer]," as recited in claims 1, 22, and 25, as broad enough to encompass checking whether unique device information is reflected in a database as authorized for a license. Dec. 11. We also preliminarily determined that "set[ting] the allowed copy count to a first upper limit," as recited in claims 1 and 22, does not require "adjust[ing] the allowed copy count from at least one value to an upper limit." *Id.* at 16. The parties continue to dispute the constructions of these terms. PO Resp. 9–19; Reply 3–13. We address each below.

1. *"verify[ing] that a license data associated with the digital product is valid based at least in part on a device identity generated by sampling physical parameters of the [given device/computer]" (claims 1, 22, 25)*

Claim 1 recites "verify that a license data associated with the digital product is valid based at least in part on a device identity generated by sampling physical parameters of the given device" ("the 'verify' limitation"). That recitation is followed by two clauses, "in response to the device identity already being on a record, allow the digital product to be used on the given device" and "in response to the device identity not being on the record, set the allowed copy count to a first upper limit for a first time period." Independent claims 22 and 25 include similar recitations.

Petitioner argues in favor of our construction, contending that the "verify" limitation sets forth a test and that the two "in response to" limitations set forth alternative actions taken depending on the result of the test. Pet. 27–28; Reply 8–9. Patent Owner argues that the "verify" limitation is "expressly distinguished" from the conditional "in response to" limitations, and argues that our Institution Decision impermissibly conflates the two. PO Resp. 14.

Patent Owner argues that the claim language itself defines the validity verification as being directed to the "license data" and that the "device identity" is expressly distinguished. PO Resp. 14. As Petitioner points out (Reply 9), however, claim 1 expressly recites that the license data is verified as valid "based at least in part on a device identity." Thus, the claim language expressly links the verification of validity to a device identity.

Patent Owner further argues that the claim language emphasizes a distinction between the validity verification ("verify" limitation) and the

record check ("in response to" limitations). PO Resp. 14–15. Petitioner responds that "the claim language recites only a single inquiry based upon the device identity" and that "[t]he subsequent two claim limitations recite what is done 'in response to' the outcome of that inquiry – allow access if the device is on the record and, if not on the record, allow access if the device count is less than the current device limit." Reply 10. We agree with Petitioner. Although the "in response to" limitations address whether "the device identity" is "on a record," and do not expressly tie a determination of validity to the presence or absence of a record, the structure of the claim strongly suggests such a relationship. As Petitioner observes, claim 1 recites only one test, verifying that a license data is valid, and that test is based at least in part on a device identity. The two immediately following "in response to" limitations specify the results of a test based on "the device identity." The most logical reading of the claim language is a test in which a license is determined to be valid or not based on the presence or absence of a record of the device identity in a database.

Patent Owner further notes that the "verify" limitation of claim 1 is based "at least in part" on a device identity and the "in response to" limitations do not recite "the same 'at least in part' qualification," and argues that "[t]his explicit distinction confirms the validity verification and the record check are not one and the same." PO Resp. 15. We agree with Petitioner (Reply 11), however, that a test that depends entirely on the device identity (Patent Owner's characterization of the "in response to" limitations) is a test based at least in part on the device identity.

Patent Owner argues that "the specification confirms that 'license data' may be verified as valid regardless whether a corresponding 'device

identity' is already on the record." PO Resp. 14. Patent Owner points to Figure 2 of the '960 patent (reproduced above), and argues that step 13 is shown as a test separate from the test of steps 15 and 16. *Id.* at 15. According to Patent Owner, if license data is found to be invalid at step 13, there would be no need to determine separately whether the device identity is on record. *Id.* (citing Ex. 1001, 4:62–64). According to Patent Owner, a contrary reading "would lead to the unreasonable conclusion that in those instances where the *license data* is not valid, ostensibly because the 'device identity' is not 'on the record,' the digital product would nevertheless be allowed to execute on that device." *Id.*

Patent Owner argues that step 13 is described as a validity check while step 15 is not. *Id.* at 16–17. Petitioner responds that the '960 patent does not describe step 13 as having an inquiry based in part on the device identity. Reply 10. According to Patent Owner, the description of step 13 does not preclude verifying license data validity based at least in part on a device identity, and, indeed, describes it. PO Resp. 17. Specifically, Patent Owner argues that the specification describes compiling identifying information 11 and license related information 10 together in request for authorization 12 and that the validity check of step 13 checks both types of information. *Id.* The '960 patent explains:

> Typically the device 50 requesting authorization collects license related information 10 and unique device identifying information 11, compiles the collected information into a communication and sends it to the authorization authority 55. Upon receipt of this communication from the device 50, the license authority 55 checks that *the license information* is valid (step 13).

Ex. 1001, 4:56–62 (emphasis added). Patent Owner argues that "the license information" in this passage, because it is not designated with reference number 10, refers to both "license related information 10" and "identifying information 11." PO Resp. 17.

Patent Owner's argument is not persuasive. We find that "the license information," although it is not followed by "10," nevertheless refers to "license related information 10." Indeed, in Figure 2, the '960 patent refers to item 10 as "License Information." Moreover, the '960 patent explains, "[i]f the request for authorization 12 includes license information/data that is valid, the license information checking process (at step 13) will pass and the requesting device[']s unique identity information 11 is checked to see if it exists in the database of prior authorizations 15." Ex. 1001, 5:1–5. Thus, the '960 patent expressly describes step 13 as checking license information 10 and steps 15 and 16 as checking device unique identity information 11. Patent Owner points to no persuasive evidence that step 13 checks device identity information.

The "verify" limitation of claim 1 expressly recites a check based "at least in part on a device identity." The specification describes such a check as occurring at steps 15 and 16, not step 13. Steps 15 and 16 check whether the device identity is on record and, in response to that check, allow a digital product to be used on a device (steps 17, 18) or start a process to authorize the device. *Id.* at 5:1–9, 5:13–18. Although steps 15 and 16 are not expressly described as a verification of validity, steps 15 and 16, not step 13, logically track and most closely align with the language of claim 1's "verify" and "in response to" limitations. Thus, the specification supports Petitioner's view that the "verify" limitation can encompass checking

whether unique device information is reflected in a database as authorized for a license.

Finally, Patent Owner contends that "[t]he specification is replete with examples of using unique device information to perform validity checks, independent of whether the device is already on record" and "identifies a myriad of ways in which 'device fingerprinting' may be performed to generate and transmit unique device identities, which then may be compared to expected results to confirm validity." PO Resp. 18 (citing Ex. 1001, 9:20–10:67). We have analyzed the portion of the specification identified by Patent Owner and agree with Petitioner (Reply 12–13) that it describes several techniques for generating a device identity, but does not describe examples of performing validity checks based on device identity. Ex. 1001, 9:20–10:67. Therefore, Patent Owner's argument is not persuasive.

In sum, upon consideration of the complete record, including the claim language itself and the description in the specification, we agree with Petitioner that "verify[ing] that a license data associated with the digital product is valid based at least in part on a device identity generated by sampling physical parameters of the [given device/computer]," as recited in claims 1, 22, and 25, can encompass checking whether unique device information is reflected in a database as authorized for a license.

2. "set[ting] the allowed copy count to a first upper limit for a first time period" (claims 1, 22)

The preamble of claim 1 recites "[a] system for adjusting a license for a digital product over time, the license comprising at least one allowed copy count corresponding to a maximum number of devices authorized for use

with the digital product." Claim 1 further recites "in response to the device identity not being on the record, set the allowed copy count to a first upper limit for a first time period, the allowed copy count corresponding to a maximum number of devices authorized to use the digital product." Claim 22 includes similar recitations.[2] The parties' dispute is whether "set the allowed copy count to a first upper limit for a first time period" requires adjusting the allowed copy count from a first value to a first upper limit (as Patent Owner proposes) or, alternatively, is broad enough to encompass setting the allowed copy count for the first time (as Petitioner proposes). In our Institution Decision, we preliminarily agreed with Petitioner. Dec. 16.

At the institution stage, the parties disputed whether the preamble of claim 1 is limiting, with Patent Owner arguing that it is and Petitioner arguing that it is not. *Id.* at 12–13. Patent Owner now argues that "[t]he preambles [of claims 1 and 22] expressly state that the claimed system and method are both directed to 'adjusting' the license in terms of its allowed copy count, which the preambles expressly define." PO Resp. 9. We explained in the Institution Decision, however, that even if the preamble is limiting (e.g., by virtue of it providing antecedent basis ("at least one allowed copy count") for "set the allowed copy count"), the language "[a] system for adjusting a license for a digital product over time" constitutes a

[2] The preamble of claim 25 is not similar to that of claims 1 and 22, and Patent Owner does not propose an "adjusting" limitation for the language "in response to the device identity not being on the record, set the allowed copy count to a first upper limit for a first time period after an initial authorization of the digital product," as recited in claim 25.

statement of intended purpose and does not purport to modify any particular claim language, such as "set the allowed copy count." Dec. 13–14.

Patent Owner argues that our preliminary construction would vitiate the purpose of the preamble language and that, instead, "the claim limitations must be understood in light of the 'adjusting' context introduced in the preamble." PO Resp. 9. However, "the mere fact that a structural term in the preamble is part of the claim does not mean that the preamble's statement of purpose or other description is also part of the claim." *Marrin v. Griffin*, 599 F.3d 1290, 1295 (Fed. Cir. 2010). Rather, the Federal Circuit has held that "a preamble is not limiting 'where a patentee defines a structurally complete invention in the claim body and uses the preamble only to state a purpose or intended use for the invention.'" *Catalina Mktg. Int'l, Inc. v. Coolsavings.com, Inc.*, 289 F.3d 801, 808 (Fed. Cir. 2002) (quoting *Rowe v. Dror*, 112 F.3d 473, 478 (Fed. Cir. 1997)). Thus, an intended purpose set forth in a claim preamble and the context that purpose might provide, without more, are not limiting. Moreover, as Petitioner points out, "the claimed invention could be used to adjust an allowed device limit, at least to a higher limit, thereby satisfying the intended purpose of the invention." Reply 4.

Patent Owner next argues that "at least one allowed copy count" in the preamble of claim 1 provides antecedent basis for "set the allowed copy count" and is recited as having "a non-zero value." PO Resp. 10. Because the "at least one allowed copy count" has a non-zero value, Patent Owner argues, "the allowed copy count," recited later in claim 1, is not merely initialized, but adjusted from the non-zero value to a new first upper limit. *Id.* We agree with Petitioner (Reply 5), however, that the "at least one

allowed copy count" in the preamble refers to the existence of a variable for the allowed copy count, rather than a recitation that the allowed copy count is set to an initial value of "one." Thus, claim 1 is consistent with a situation in which the first time a device identity is not found on record, the allowed copy count variable would be initialized, or set, to a first upper limit, but not adjusted from an existing value to the first upper limit.

Patent Owner contends that both experts testified that claims 1 and 22 require adjusting the allowed copy count. PO Resp. 10. Petitioner's expert, Dr. Rubin, testifies that "Claim 22 is a method claim that consists of the same steps along with a preamble, which states that the method is used for adjusting a license for a digital product over time." Ex. 1002 ¶ 70. Patent Owner's expert, Dr. DiEuliis, purports to "agree with Dr. Rubin's assessment that the preamble teaches that the system 'is used for adjusting a license for a digital product over time.'" Ex. 2001 ¶ 45. Nevertheless, we read Dr. Rubin's testimony as quoting the preamble of claim 22 rather than opining on the scope of claim 22. Patent Owner further argues that Dr. Rubin admitted on cross-examination that claim 1 requires "adjusting." PO Resp. 10–11 (reproducing Ex. 2003, 19:12–20:9). This testimony, however, is consistent with Petitioner's view that claim 1 encompasses adjusting the allowed copy count, but does not require it.

Patent Owner argues that dependent claims, e.g., claim 9, confirm that claim 1 requires an adjustment of the allowed copy count from one value to another. PO Resp. 11. Claim 9 depends from claim 1 and recites, inter alia, "in response to the device identity not being on the record, after the first time period has expired, set the allowed copy count to a second upper limit for a

second time period." Patent Owner argues that, because "set" in claim 9 is used to mean "adjust," it must carry that meaning in claim 1. *Id.* at 10–11.

Patent Owner further argues that the specification supports its construction by describing embodiments in which device limits of a license are temporarily and automatically adjusted. *Id.* at 12–13 (citing Ex. 1001, 3:48–4:2, 6:34–35). The passage cited by Patent Owner does not provide any meaningful discussion of setting or adjusting an allowed copy count and, thus, is not persuasive. In contrast, Petitioner cites to an example in which a "device limit is *initially set* to five." Reply 4 (quoting Ex. 1001, 4:5–9). Thus, the specification supports Petitioner's argument rather than Patent Owner's. In any case, the specification does not support limiting "set" to "adjust" as Patent Owner proposes.

Finally, Patent Owner argues that Petitioner argued in District Court that the claims require adjusting a device limit from one level to another and that this argument constitutes a binding party admission. PO Resp. 13–14 (citing Ex. 2002, 12). Exhibit 2002 is Petitioner's Motion for Attorneys' Fees, filed in District Court, following successfully obtaining dismissal on grounds that the asserted claims did not recite statutory subject matter under 35 U.S.C. § 101. In attempting to characterize Patent Owner's defense to the Motion to Dismiss as unreasonable, Petitioner argued, inter alia:

> Uniloc's primary argument in support of the patentability of its claims was baseless and intended solely to obfuscate the *Alice* analysis. Uniloc repeatedly mischaracterized its claimed invention as one that "adjusted" a device limit by "newly setting" that device limit for a "first time period." *See, e.g.*, Dkt. No. 21 at 5-6; Dkt. No. 35 at 5. No reasonable litigant would argue that a limit is "adjusted" when it is "newly set" for the first time. Instead, as disclosed in the '960 patent,

> "adjusting" in the context of the alleged invention refers to changing the device limit from one level (for example five devices for the first five days) to another level (seven devices for the next 25 days) ('960 patent at 4:27–31), which was only recited in some of the dependent claims (*see, e.g., id.* at 12:12:42—51 (claim 9)).

Ex. 2002, 12.

We disagree with Patent Owner's characterization of Petitioner's arguments. Instead, Petitioner argued that Patent Owner unreasonably contended that its claims (other than dependent claims such as claim 9), required adjusting a device limit from one level to another. In any case, Petitioner's District Court arguments do not change our view of the language of claims 1 and 22 and the description in the specification.

In sum, upon consideration of the complete record, including the claim language itself, the description in the specification, and the expert testimony, we agree with Petitioner that "set[ting] the allowed copy count to a first upper limit" may encompass, but does not require, "adjust[ing] the allowed copy count from at least one value to an upper limit."

B. Anticipation by DeMello

Petitioner contends that claims 1–5, 7–10, 12–14, 16–18, and 22–25 are anticipated by DeMello. Pet. 21. To anticipate, a reference must "show all of the limitations of the claims arranged or combined in the same way as recited in the claims." *Net MoneyIN, Inc. v. VeriSign, Inc.*, 545 F.3d 1359, 1370 (Fed. Cir. 2008); *accord In re Bond*, 910 F.2d 831, 832 (Fed. Cir. 1990). As explained below, we agree that claims 1–5, 7, 8, 18, 22, and 25 are anticipated, but not claims 9, 10, 12–14, 16, 17, 23, and 24.

1. Overview of DeMello

DeMello describes a server architecture for a digital rights management system. Ex. 1003, Abstract. Figure 4, reproduced below, illustrates an example:

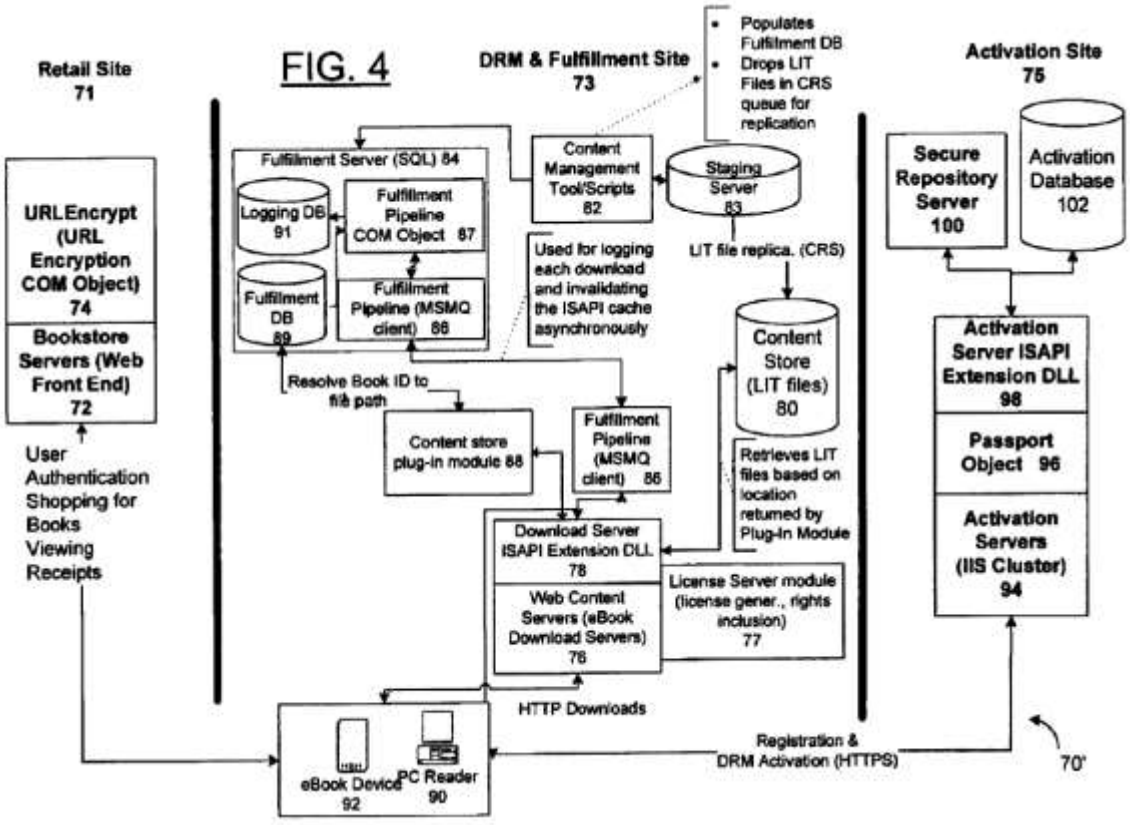


Figure 4 is a block diagram of a server architecture implementing aspects of a digital rights management system. *Id.* at 4:26–28. Bookstore servers 72 associated with retail site 71 are network servers that host a commercial website that allows users to shop for and purchase eBook titles. *Id.* at 10:66–11:8. Download server ISAPI Extension 78 and its sub-component, license server module 77, validates each download request, seals copies of eBooks, requests licenses for copies of eBooks, and returns eBook titles to end users. *Id.* at 11:26–34, 11:46–51. Activation servers 94 of activation site 75 provide each client reader (eBook device 92 and PC Reader 90) with

a secure repository and an activation certificate that associate the activated readers with an online persona, e.g., a Microsoft Passport ID. *Id.* at 13:14–29.

The process of activating a reader in Figure 4 is illustrated in Figure 8, reproduced below:

FIG. 8

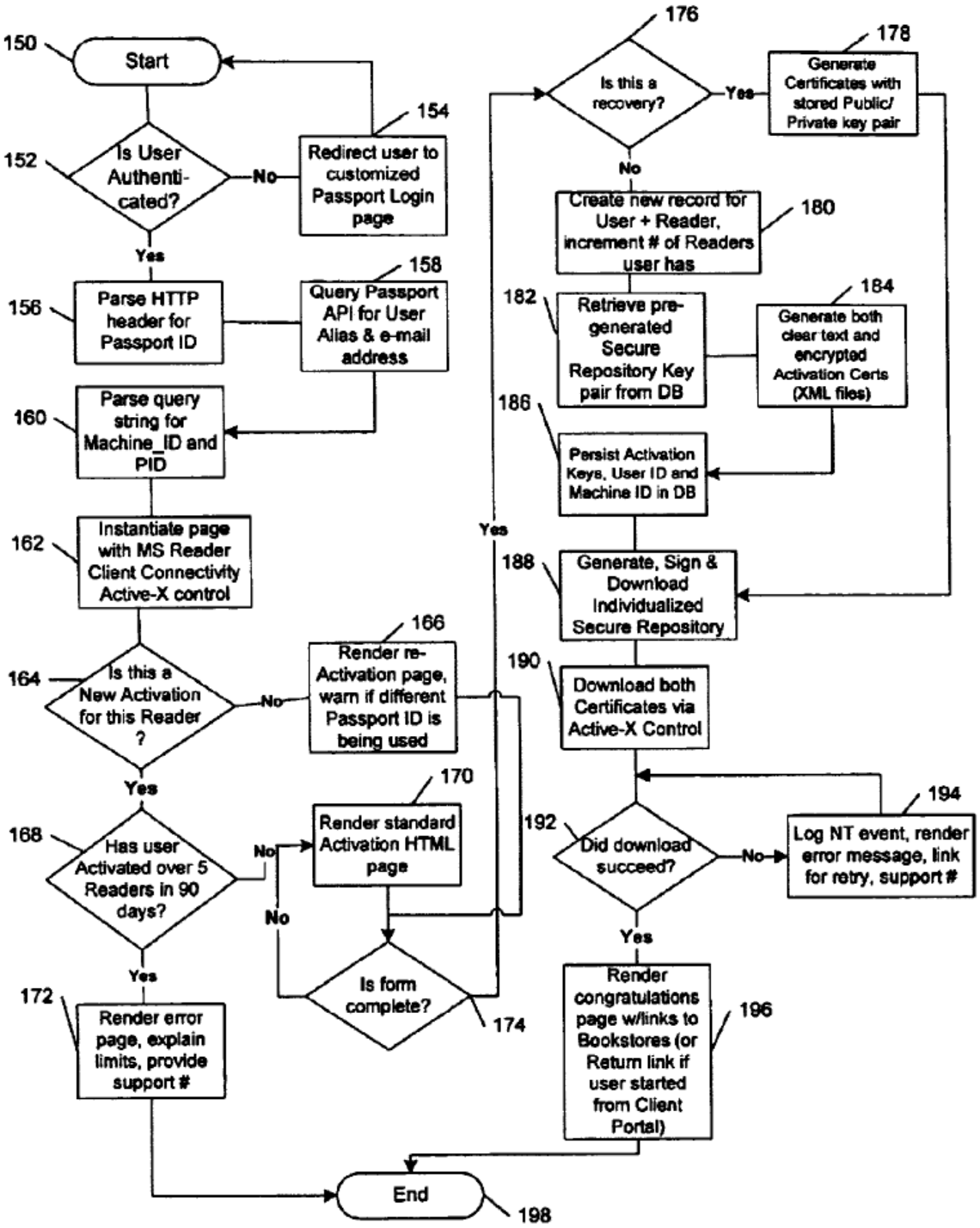


Figure 8 is a flow diagram of a client reader activation process. *Id.* at 4:39–41. To start the process, a client reader (alternately referred to as a reader

client) connects to activation servers 94, and the user of the client reader is prompted to log in using Microsoft Passport credentials. *Id.* at 22:33–39 (steps 150, 152). After the Passport credentials are authenticated, activation servers 94 upload from the client a unique hardware ID (e.g., derived from hardware components on the user's computing device that uniquely identify the device), create a unique machine ID based on the hardware ID, and determine if the client reader has been activated previously or if, instead, the user is requesting a new activation. *Id.* at 13:62–66, 22:44–53 (steps 156–164).

DeMello describes having a limit to the number of devices activated for the most secure licenses associated with a Passport ID. In Figure 8, users are limited to five activations within 90 days of the first activation of a reader. *Id.* at 22:59–66. "The limit on activations may also allow for additional activations as time passes—e.g., one additional activation for each 90 day period after the first 90 days, up to a limit of 10 total activations." *Id.* at 23:4–8.

In the case of a new activation, if the user already has activated the maximum number of readers, an error message is rendered. *Id.* at 22:54–58 (steps 168, 172). Otherwise, the user fills out and returns an activation form, a new record is created for the user and reader, the number of readers activated for the Passport account is incremented, a secure repository key pair is retrieved from a database, activation certificates are generated, and the activation keys, user ID, and machine ID are persisted in a database. *Id.* at 23:11–25 (steps 170, 174–186). Activation servers 94 then generate, digitally sign, and download to the client reader an individualized secure repository executable tied to the uploaded machine ID and an activation

certificate tied to the user's Passport ID. *Id.* at 23:49–56 (steps 188, 190). The user then is informed that activation of the client reader is complete. *Id.* at 23:66–24:2 (step 196).

2. Claims 1, 22, and 25

Claim 1 recites "[a] system for adjusting a license for a digital product over time" that includes a processor and executable code for performing various functions of activating a digital license for a device; claim 22 recites "[a] method for adjusting a license for a digital product over time," and includes steps substantially similar to the functions of claim 1's executable code; claim 25 recites "[a] computer program product" with "a non-transitory computer readable medium" with code for causing a computer to perform functions similar to those of claim 1. Petitioner's and Patent Owner's arguments regarding these three claims are largely the same. We treat claim 1 as representative except where noted below.

Claim 1 recites "[a] system for adjusting a license for a digital product over time." Petitioner contends that DeMello describes a system that adjusts an allowed copy count under a license for a digital product (e.g., an electronic book) over time (e.g., over 90 day periods). Pet. 23 (citing Ex. 1003, 2:60–67). Petitioner contends that DeMello's software content, such as electronic books, constitute digital products. *Id.* We agree that the '960 patent contemplates software, such as electronic books, as digital products. Ex. 1001, Abstract. As to "the license comprising at least one allowed copy count corresponding to a maximum number of devices authorized for use with the digital product," as recited in claim 1, DeMello describes:

> the number of devices that a particular persona may activate may be limited by rate and or by number (e.g., five activations within a first 90 day period, followed by an additional activation for every subsequent 90 day period, up to a maximum of ten activations), thereby preventing the unchecked proliferation of devices on which individualized content can be rendered.

Ex. 1003, 2:60–67. We find that DeMello's limited number of activations for a persona teaches claim 1's limitation "at least one allowed copy count corresponding to a maximum number of devices authorized for use with the digital product."

Claim 1 further recites "a communication module for receiving a request for authorization to use the digital product from a given device." Petitioner contends that DeMello's client reader 90 or 92 is "a given device" and that activation servers 94 receive a request for authorization to use an eBook, a digital product, from the client reader. Pet. 23–24 (citing Ex. 1003, 13:13–35). Petitioner notes that, as part of the activation process, activation servers 94 receive a hardware ID uploaded by the client reader 90/92. *Id.* at 24 (citing Ex. 1003, 13:62–65). Petitioner argues that, because the client reader communicates a request to activation servers 94, as indicated by the captioned arrow in Figure 4 connecting client reader 90/92 with activation servers 94, activation servers 94 include "a communication module" for receiving the requests. *Id.* at 24–25. Based on this evidence, we find that DeMello discloses "a communication module for receiving a request for authorization to use the digital product from a given device."

As to "a processor module in operative communication with the communication module," as recited in claim 1, Petitioner points to DeMello's processing unit 21 (shown in Figure 2 as part of a "general

purpose computing device in the form of a conventional personal computer or network server") and activation servers 94, which Petitioner contends necessarily include a processor in communication with a communication module. *Id.* at 25 (citing Ex. 1003, 7:16–28, 7:55–60, 13:14–29, 13:62–65). Dr. Rubin testifies that "[i]n order for DeMello's activation servers to service the requests from the user devices for access to the protected digital content, it is inherent that processors on the activation servers must be in operative communication with [a] communication [] module that receives such requests." Ex. 1002 ¶ 106. Figure 2 and its accompanying description provide a general description of the system that implements DeMello's invention and include an express disclosure of a processor. Figure 4 and its description provide a more specific description of such a system, but do not expressly recite a processor. In light of Figure 2, however, as well as Dr. Rubin's uncontroverted testimony that the more specific system of Figure 4 would have had such a server in communication with a communication module, we find that DeMello discloses this limitation.

Regarding "a memory module in operative communication with the processor module and comprising executable code for the processor module," as recited in claim 1, Petitioner argues that processing unit 21 communicates with memory such as hard drive 27 and RAM 25 and further argues that, for activation servers 94 to perform the steps shown in Figure 8, their processor must be in active communication with a memory containing code that the processor can execute. *Id.* at 26 (citing Ex. 1003, 7:16–28, 7:55–60, 13:14–26). Dr. Rubin testifies that "[i]t is inherent in such a process that the processor in the activation servers would be in operative communication with a memory module that contains executable code (i.e.,

an application program) that enables the processor in the activation servers to carry out those functions." Ex. 1002 ¶ 108. In light of the descriptions of Figures 2 and 4 of DeMello, when viewed together, and along with Dr. Rubin's uncontroverted testimony, we find that DeMello discloses this limitation.

The parties dispute whether DeMello discloses executable code for the processor to "verify that a license data associated with the digital product is valid based at least in part on a device identity generated by sampling physical parameters of the given device," as recited in claim 1. Petitioner contends that DeMello describes a client reader associated with a user ID seeking activation uploading, to activation servers 94, a unique hardware ID derived from hardware components on the client reader, and the activation servers 94 checking, when the activation request is made, whether a machine ID derived from the unique hardware ID is on a list of activations for the user ID. Pet. 27–28.

DeMello describes authenticating a user's Microsoft Passport credentials and a unique hardware ID of a device during the process of activating that device for the licenses associated with the Passport credentials:

> Once user's PASSPORT™ credentials are authenticated (step 156), a PASSPORT™ API is queried for the user alias and e-mail address (step 58). Thereafter, at steps 160–162, the activation servers 94 will request that the client (via the ActiveX control) upload a unique hardware ID (e.g., which, as noted above, may be derived from hardware components on the user's computing device which substantially uniquely identify the user's computing device). Next, it is determined at step 164 if this is a new activation for the reader (as opposed to a "recovery" of a prior activation).

> If it is determined that this is a new activation at step 164, then the process proceeds to step 168 to determine whether an activation limit has been reached.

Ex. 1003, 22:44–56, Fig. 8. DeMello describes its authentication process as including checking records to determine if a device has already been authenticated:

> If it is not a recovery, then a new record is created for the user and reader and the number of readers activated to that user is incremented (step 180). A pre-generated secure repository key pair is retrieved from a database (step 182) and activation certificates are also generated (step 184). The activation keys, user ID, and machine ID are persisted in a database at step 186.
> . . .
> If, at step 176, it is determined that this activation is a recovery, then (at step 178) activation certificates are generated with the information that was stored at step 186, and processing continues at step 188.

Ex. 1003, 23:19–25, 23:45–48, Fig. 8.

Petitioner argues that the Passport ID and the unique hardware ID are "license data associated with the digital product" that are verified to be valid in DeMello's authentication process. Pet. 27–28. Reply 13–14. Petitioner further contends that the unique hardware ID is generated by sampling physical parameters of the device to be authenticated. Pet. 27–28. As shown above, DeMello describes the unique hardware ID as "derived from hardware components on the user's computing device." Ex. 1003, 22:48–50. Specifically, DeMello's device receives the hardware ID and creates from it a unique machine ID: "The activation server ISAPI Extension DLL 98 carries out tasks associated with the activation process on the front-end activation servers, including receiving a hardware ID uploaded by the reader client, creating a unique machine ID based on the hardware ID." 13:62–66.

Citing Dr. Rubin's declaration testimony, Petitioner argues that DeMello's use of descriptors such as "unique hardware ID" and "unique machine ID" signify generating device identifiers by sampling physical parameters. Pet. 28 (citing Ex. 1002 ¶¶ 113–116). On this evidence, we find that the machine ID and hardware ID are "generated by sampling physical parameters of the given device," as recited in claim 1.

Patent Owner contends that DeMello's Passport ID is not a device identity generated by sampling physical parameters of a given device. PO Resp. 21. DeMello describes the Passport ID as follows:

> The secure repository and activation certificate associates the activated reader with an online persona (e.g., a MICROSOFT® PASSPORT™ ID) to ensure that users will be able read their rightfully acquired titles on all instances of readers that they own or have activated to their persona (but not on non-activated readers, or readers not activated for that persona)—assuming they activate their readers using the same user ID and password every time.

Ex. 1003, 13:21–29. Although the Passport ID itself is not generated based on parameters of a device, Petitioner does not rely on the Passport ID alone as license data associated with the digital product. Rather, Petitioner cites both the Passport ID and hardware ID/machine ID. Reply 21–22.

Relying on its proposed claim construction, Patent Owner next argues that Petitioner improperly conflates the claimed verification of validity with a separately claimed check on whether the device identity is on record. PO Resp. 21–22. As explained in Section II.A.1 above, however, the "verify" limitation is broad enough to encompass checking whether unique device information is reflected in a database as authorized for a license. Thus, Patent Owner's argument is not persuasive.

On the complete record, we find that DeMello's authentication, which checks a Passport ID and machine ID against stored records to authenticate a device, discloses executable code for the processor to "verify that a license data associated with the digital product is valid based at least in part on a device identity generated by sampling physical parameters of the given device," as recited in claim 1 and similarly recited in claim 22.

Patent Owner makes an additional argument for the similar limitation of claim 25. PO Resp. 22–23. Claim 25 recites "code for causing a computer to, in response to the device identity not being on the record, set the allowed copy count to a first upper limit for a first time period *after an initial authorization of the digital product*" (italics emphasizing a difference between claim 25 and claims 1 and 22). In IPR2016-01271, we preliminarily construed this term to mean "a time period that begins at an initial authorization of the digital product and extending for a duration thereafter," a construction neither party contests here. Pet. 16; PO Resp. 20. Patent Owner argues that, under Petitioner's construction of the "verify" limitation, it would be impossible for DeMello's initial authorization attempt to succeed because "[i]t is axiomatic that a list of *previously activated* devices will be empty for the first authorization attempt under a given license" and "no initial authorization could pass as valid because there would be no previously activated device and, consequently, the list would remain empty." PO Resp. 23.

We do not understand Petitioner to argue that DeMello only deems license data valid upon confirmation that a machine ID is included within a list of previously activated devices, nor is that what DeMello describes. Rather, if a machine ID is not in the database, DeMello authenticates the

machine ID and adds it to the database if the user has not already activated a maximum number of devices. Ex. 1003, 23:11–25. Patent Owner does not explain persuasively why this would be different for DeMello's initial activation. For the reasons given for claims 1 and 22, above, we find that DeMello discloses "code for causing a computer to verify that a license data associated with the digital product is valid based at least in part on a device identity generated by sampling physical parameters of the computer," as recited in claim 25.

Regarding executable code for the processor module to, "in response to the device identity already being on a record, allow the digital product to be used on the given device," as recited in claim 1, Petitioner argues that this is disclosed by DeMello's description of a recovery process that involves reactivating a client reader when the client reader is on the list of previous activations corresponding to the user ID. Pet. 28–29. We agree. As DeMello explains, with reference to Figure 8, "[t]he activation keys, user ID, and machine ID are persisted in a database at step 186." Ex. 1003, 23:23–25. In the case of a "recovery," "(at step 178) activation certificates are generated with the information that was stored at step 186," "[a]t step 188, the activation servers generate and digitally sign an individualized secure repository executable (tied to the uploaded machined ID) and an activation certificate (tied to the user's PASSPORT™ ID)," and the executable and certificate are downloaded to the client (steps 188, 190). *Id.* at 23:45–54. If the download to the client is successful, the user is informed that the device is activated. *Id.* at 23:64–24:2. Thus, if the device identity is on record (e.g., user ID and machine ID persisted in the database), the device is activated and the user is informed as such.

The parties dispute whether DeMello discloses "in response to the device identity not being on the record, set the allowed copy count to a first upper limit for a first time period, the allowed copy count corresponding to a maximum number of devices authorized to use the digital product," recited in claim 1 and similarly recited in claim 22. Petitioner points to DeMello's description of handling a request for a new activation. *Id.* at 30–31. In particular, if activation servers 94 determine that the client reader is not on the list of activated devices (step 164), the process of Figure 8 proceeds to step 168 ("Has user Activated over 5 Readers in 90 days?"). Ex. 1003, 22:51–56. According to DeMello, "[i]n the example of FIG. 8, users are limited to five activations within 90 days after the first activation of the reader." *Id.* at 22:64–66. Focusing on the language of step 168 "after the first activation of the reader," Petitioner argues that "[a]s the date of first activation is unknown until it occurs, DeMello's teaching that the first time period begins on the date of first activation requires the device limit to be set for the first time period at the time of first activation" and that "[t]he determination that the first device is not on record is the event that triggers the initial setting of the device authorization limit to five devices (i.e., the upper limit of the allowed copy count) for an initial time period." Pet. 30–31.

Patent Owner argues that, in light of claim 1's preamble, this "setting" limitation requires adjusting the allowed copy count from an existing value to a first upper limit. PO Resp. 25–26. Patent Owner argues that "the Petition applies the same erroneous construction by arguing the independent claims do not comprehend *any* conditional 'adjusting' whatsoever." *Id.* at 26. Here, Patent Owner essentially reiterates its claim construction

argument, discussed in Section II.A.2 above. As explained in Section II.A.2 above, however, we construe "set[ting] the allowed copy count to a first upper limit" to not require adjusting the allowed copy count from at least one value to an upper limit. Rather, setting the allowed copy count to an upper limit in the first instance would satisfy this limitation. Thus, we find that DeMello's description of setting a number of activations within 90 days after the first activation of a reader to five activations discloses "in response to the device identity not being on the record, set the allowed copy count to a first upper limit for a first time period, the allowed copy count corresponding to a maximum number of devices authorized to use the digital product," as recited in claim 1 and similarly recited in claim 22.

Patent Owner further argues that "[t]he conditional nature of the 'adjusting' was successfully emphasized as a point of novelty during prosecution." PO Resp. 27. During prosecution, the applicant argued

> The first sub-element (*in response to the device identity not being on the record*) sets up a condition that is required for the execution of the second sub-element (*set the allowed copy count to a first upper limit for a first time period*). The cause-and-effect relationship of these two sub-elements cannot be ignored in the obviousness inquiry.

Ex. 1005, 32. Patent Owner argues that the applicant distinguished art such as DeMello, which Patent Owner characterizes as "only adjusts limits according to a present schedule." PO Resp. 27.

In reply, Petitioner argues that, consistent with claim 5 ("wherein the first time period comprises a defined number of days after an initial authorization of the digital product"), claim 1 is broad enough to encompass setting the first limit at the time of the initial authorization. Reply 18. Reading claims 1 and 5 together, we agree with Petitioner. As Petitioner

points out (Reply 17–18), DeMello's first upper limit is set upon the first activation ("In the example of FIG. 8, users are limited to five activations within 90 days after the first activation of the reader."). Ex. 1003, 22:64–66. Thus, Patent Owner's argument is not persuasive.

As noted above, claim 25 differs from claims 1 and 22 in that it recites "in response to the device identity not being on the record, set the allowed copy count to a first upper limit *for a first time period after an initial authorization of the digital product*." As to this aspect of claim 25, Petitioner cites to DeMello's description of a limit on activations for a time period of the first 90 days following a first activation. Pet. 47–48 (citing Ex. 1003, 2:60–67, 14:33–40, 24:55–63). As noted above, DeMello describes limiting users to five activations within 90 days after the first activation of a reader, Ex. 1003, 22:64–66, which is a time period after an initial authorization of a digital product. Thus, we find that DeMello discloses this additional recitation of claim 25. We note that Patent Owner does not contest this limitation of claim 25. PO Resp. 25 (presenting its "set the allowed copy count" argument for claims 1 and 22, but not claim 25).

As to the limitations "calculate a device count corresponding to total number of devices already authorized for use with the digital product" and "when the calculated device count is less than the first upper limit, allow the digital product to be used on the given device," as recited in claim 1, Petitioner points to DeMello's description of determining whether an activation is new for the client reader, checking whether the user ID has already activated more than five readers in 90 days and, if not, beginning the activation process. Pet. 32 (citing DeMello's Figure 8, steps 164, 168, 170,

180, 182 and corresponding description). As to these steps, DeMello, in describing an activation of a new device, explains:

> If it is determined that this is a new activation at step 164, then the process proceeds to step 168 to determine whether an activation limit has been reached. . . . In accordance with a feature of the present invention, users may be limited as to the number of activations they can perform, and/or the rate at which they can perform them (i.e., how many different readers they can activate to read level 5 titles purchased under a given persona). In the example of FIG. 8, users are limited to five activations within 90 days after the first activation of the reader. . . .
>
> If the user has not activated over five readers within the first 90 days (or reached a different applicable activation limit), an activation page is rendered on the user's device (step 170). . . . If it is not a recovery, then a new record is created for the user and reader and the number of readers activated to that user is incremented (step 180).

Ex. 1003, 22:54–66, 23:11–21. We find that this example discloses "calculate a device count corresponding to total number of devices already authorized for use with the digital product" and "when the calculated device count is less than the first upper limit, allow the digital product to be used on the given device," as recited in claim 1, and the corresponding limitations of claims 22 and 25. We note that Patent Owner does not contest these limitations of claims 1, 22, and 25.

For the foregoing reasons, on the complete record, we find that DeMello discloses each limitation of claims 1, 22, and 25, arranged as in those claims. Thus, Petitioner has proved, by a preponderance of the evidence, that DeMello anticipates claims 1, 22, and 25.

3. Claims 2–5, 8, and 18

Claim 2 depends from claim 1 and recites "wherein the digital product comprises software." DeMello lists "software executables" as an example of a digital product. Ex. 1003, 4:52–56. We find that DeMello discloses this limitation.

Claim 3 depends from claim 1 and recites "wherein the license data comprises information that may be used to verify whether the license for the digital product is valid." As noted above, DeMello describes a Passport ID as part of the information authenticated when a device is activated for a license. Ex. 1003, 16:32–35 ("PASSPORT ID—The persona ID associated with the user, which is provided by the user during activation. This field is later used by the content server to compare with the activation ID in the activation certificate."), 23:49–52 ("At step 188, the activation servers generate and digitally sign an individualized secure repository executable (tied to the uploaded machine ID) and an activation certificate (tied to the user's PASSPORT™ ID)."). Based on this evidence, we find that DeMello discloses the additional limitation of claim 3.

Claim 4 depends from claim 1 and recites "wherein the record comprises an authorization database." DeMello describes storing device activations in activation database 102, which we find is an authorization database. Ex. 1003, 25:1– 4 ("The activation servers 94 enforce the limit on activations by storing, in the activation database 102, a list of all activations that a given PASSPORT™ ID has requested, along with their date stamps."). Based on this evidence, we find that DeMello discloses the additional limitation of claim 4.

Claim 5 depends from claim 1 and recites "wherein the first time period comprises a defined number of days after an initial authorization of the digital product." As explained above, DeMello describes an example in which a limit of five activations is set for a period of 90 days following the date of the first activation. Ex. 1003, 14:33–40. Based on this evidence, we find that DeMello discloses the additional limitation of claim 5.

Claim 8 depends from claim 1 and recites "wherein the processor module is adapted to, in response to the calculated device count exceeding the first upper limit, deny the request for authorization." We find this disclosed in steps 168 and 172 of DeMello's Figure 8, in which, when an activation limit is reached, the user is presented with an error message. Ex. 1003, 22:54–59.

Claim 18 depends from claim 1 and recites "wherein the device identity comprises unique device identifying information." As noted above, DeMello describes a "unique machine ID based on the hardware ID" that "may be derived from hardware components on the user's computing device which substantially uniquely identify the user's computing device," which we find to be unique device identifying information. Ex. 1003, 13:64–66, 22:48–51.

We note that Patent Owner does not present separate argument as to these claims.

On the complete record, Petitioner has proved, by a preponderance of the evidence, that claims 2–5, 8, and 18 are anticipated by DeMello.

4. Claims 9, 10, 12–14, 16, 17, 23, and 24

Claim 9 depends from claim 1 and adds, inter alia, "in response to the device identity not being on the record, after the first time period has expired, set the allowed copy count to a second upper limit for a second time period." Claim 23 depends from claim 22 and adds a substantially similar limitation. Claim 14 depends from claim 9 and adds, inter alia, "in response to the device identity not being on the record, after the second time period has expired, set the allowed copy count to a third upper limit." Claim 24 depends from claim 23 and adds a substantially similar limitation.

As to claim 9, Petitioner contends "DeMello teaches that, after the first time period has expired and a device requests access but is not on record, the system determines and applies a second device limit for second time period." Pet. 39 (citing Ex. 1003, 24:60–63). In this description, DeMello states that, "[a]s time passes, the number is increased, at a suggested rate of, e.g., one additional activation every 90 days (from the date of the first Activation) until the number reaches 10." Ex. 1003, 24:60–63. Petitioner also points to the description corresponding to step 170 of Figure 8, discussed above. Pet. 39–40 (citing Ex. 1003, 23:11–14). Here, DeMello describes a test in which, "[i]f the user has not activated over five readers within the first 90 days (or reached a different applicable activation limit), an activation page is rendered on the user's device (step 170)." Petitioner cites the same two passages in DeMello for claims 14, 23, and 24. *Id.* at 41, 45.

Patent Owner does not challenge the allegations regarding claim 9 directly. Nevertheless, for claim 1, Patent Owner argues that DeMello describes changing activation limits on a fixed schedule and does not

disclose adjusting a copy count from one value to another in response to a device identity not being on a record. PO Resp. 26–27. Here, Patent Owner explained that, during prosecution, the applicant distinguished prior art in which an allowed copy count is established prior to determining whether a device identity is on record. *Id.* (citing Ex. 1005, 32). Rather, the applicant stressed "[t]he cause-and-effect relationship" of determining that a device identity is not on record and setting the allowed copy count. Ex. 1005, 32. As explained above, Petitioner demonstrated such a cause-and-effect relationship between DeMello's initial device activation and setting the copy count for the first 90 day period. Thus, Patent Owner's argument is not persuasive as to claim 1. It is pertinent to claims 9, 14, 23, and 24, however.

Claim 9 recites setting the allowed copy count to a second upper limit "in response to the device identity not being on the record." As the applicant argued during prosecution, this "in response to" language establishes a cause-and-effect relationship. The effect, "set the allowed copy count to a second upper limit," is caused by a determination of "the device identity not being on the record."

To show DeMello's copy count changing, Petitioner (Pet. 39) points to DeMello's description that, "[a]s time passes, the number is increased, at a suggested rate of, e.g., one additional activation every 90 days (from the date of the first Activation) until the number reaches 10." Ex. 1003, 24:60–63. The Petition attempts to equate this description to setting a copy count at the time a device requests access. Pet. 39. DeMello, however, includes no such statement explaining precisely when the copy count is set or what causes it to be set. Patent Owner's reading (PO Resp. 26–27), that

DeMello's copy count is adjusted according to a schedule independent of a device requesting access, is as plausible as Petitioner's.

In reply, Petitioner takes issue with Patent Owner's characterization of DeMello. Specifically, Petitioner argues that, in step 164 of Figure 8, DeMello's system first checks if the device identity is on record and only then proceeds to step 168, where Petitioner contends the system determines and applies the appropriate copy count. Reply 17–18 (citing Ex. 1003, 22:54–23:8, Fig. 8). According to Petitioner, "[b]ecause the determination of what device limit to apply in step 168 is only reached if the device identity is not on record, that device limit is set in response to the device identity not being on record." *Id.* at 18. This argument is not supported by DeMello's disclosure. Rather, DeMello describes a transition from step 164 to 168 in which it is determined whether an activation limit has been reached without any description of how or when the limit is set. Ex. 1003, 22:51–23:10.

Petitioner further argues that, by virtue of claims 5, 6, 10, and 11, the '960 patent describes a "static schedule" of "fixed intervals" at which copy counts are measured. Reply 18; Tr. 13:5–14:13. These dependent claims specify that the time periods of claims 1 and 9 comprise defined numbers of days. They do not, however, address what causes the copy count to be set. Thus, Petitioner's argument is not persuasive.

We have analyzed the portions of DeMello cited by Petitioner and considered Petitioner's corresponding arguments. Nevertheless, we find that DeMello does not disclose setting the allowed copy count to a second upper limit "in response to the device identity not being on the record," as recited in claim 9 and similarly recited in claim 23. For the same reasons, we find

that DeMello does not disclose setting the copy count to a third upper limit "in response to the device identity not being on the record," as recited in claim 14 and similarly recited in claim 24. Claims 10, 12, and 13 depend from claim 9 and claims 16 and 17 depend from claim 14. Petitioner's arguments for these dependent claims do not overcome the deficiencies noted above for claims 9 and 14.

On the complete record, Petitioner has not shown, by a preponderance of the evidence, that claims 9, 10, 12–14, 16, 17, 23, and 24 are anticipated by DeMello.

5. Claim 7

Claim 7 depends from claim 1 and recites "wherein the processor module is adapted to, in response to the calculated device count equaling the first upper limit, send a warning regarding the allowed copy count to the given device."

Claim 1 recites (brackets added to reflect Petitioner's annotations of the claim):

> [1g] calculate a device count corresponding to total number of devices already authorized for use with the digital product; and
>
> [1h] when the calculated device count is less than the first upper limit, allow the digital product to be used on the given device.

As can be seen from this language, Petitioner is correct that "[i]n Claim 1, from which Claim 7 depends, step 1[g], calculating the device count (corresponding to the total number of devices ***already*** authorized), occurs ***before*** a new device (i.e., a device whose device identity is not already on

the record) is allowed access at the final step, 1[h]." Pet. 37. Read in the context of claim 1, the condition of claim 7 "the calculated device count equaling the first upper limit" refers to the device count calculated before the newly authorized device is authorized. Thus, as Petitioner notes, the newly authorized device equaling the first upper limit is not the condition that triggers the warning of claim 7. Rather, it is the device count caused by the previously authorized device. We set forth our understanding of claim 7 in the Institution Decision (Dec. 27–28) and Patent Owner does not contest it in the Patent Owner Response.

DeMello describes the following, relied upon by Petitioner (Pet. 36–37):

> If it is determined that this is a new activation at step 164, then the process proceeds to step 168 to determine whether an activation limit has been reached. If the limit has been reached, then an error message is rendered at step 172, preferably including a support telephone number.

Ex. 1003, 22:54–58. Petitioner characterizes DeMello as disclosing that "the error message issues in response to two conditions being satisfied: (1) the calculated device count equaling the first upper limit; and (2) a request arriving from a new device that is not on record and would cause the limit to be exceeded." Pet. 37. We agree with Petitioner's characterization of DeMello and find that DeMello discloses the additional limitation of claim 7.

Patent Owner argues that "the cited passage merely teaches that an 'error' message is sent informing the user that activation will not be allowed because the user has exceeded the limit," and that this disclosure "does not anticipate the specific warning message recited in Claim 7, let alone the

particular condition upon which the warning message is sent." PO Resp. 29–30 n.10. Claim 7's "warning," however, is simply recited as "regarding the allowed copy count." As shown above, DeMello sends an error message notifying a user that an activation limit has been reached, which we find is regarding an allowed copy count. As to the particular condition upon which the warning message is sent, as shown above, DeMello describes that its error message is sent upon a determination that an activation limit has been reached, which we find discloses "in response to the calculated device count equaling the first upper limit," as recited in claim 7.

On the complete record, Petitioner has proved, by a preponderance of the evidence, that DeMello anticipates claim 7.

C. Alleged Obviousness of Claims 6, 7, 11, 12, 15, and 16 over DeMello

Petitioner contends that claims 6, 7, 11, 12, 15, and 16 would have been obvious over DeMello. Pet. 48. A claim is unpatentable under 35 U.S.C. § 103(a) if the differences between the claimed subject matter and the prior art are "such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains." We resolve the question of obviousness on the basis of underlying factual determinations, including: (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; (3) the level of skill in the art; and

(4) objective evidence of nonobviousness, i.e., secondary considerations.[3] *See Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).

Claims 11, 12, 15, and 16 depend, directly or indirectly, from claim 9, which we find not anticipated by DeMello. Petitioner's obviousness arguments as to these claims merely address the added limitations of these claims and do not remedy the deficiencies noted above for claim 9. Accordingly, Petitioner has not proved, by a preponderance of the evidence, that claims 11, 12, 15, and 16 would have been obvious over DeMello. As explained below, however, Petitioner has proved that claim 6 would have been obvious over DeMello. Petitioner's challenge to claim 7 as obvious is not persuasive, as it depends on an alternative construction of claim 7 that we do not adopt.

1. Level of Ordinary Skill

Citing Dr. Rubin's testimony, Petitioner contends that a person of ordinary skill in the art "generally had [a] bachelor's degree in computer science and/or electrical engineering or comparable experience, plus at least two years of experience using DRM [digital rights management], cryptography, and content distribution or related software technology." Pet. 14 (citing Ex. 1002 ¶ 38).

Citing Dr. DiEuliis's testimony, Patent Owner argues that a skilled artisan would have had only one to two years of experience, rather than at

[3] The complete record does not include allegations or evidence of objective indicia of non-obviousness.

least two years, but concedes that "the difference is inconsequential to the dispute before the Board." PO Resp. 7 (citing Ex. 2001 ¶ 38–39).

Patent Owner also argues that a skilled artisan need not have work experience using DRM, cryptography, and content distribution. *Id.* (citing Ex. 2001 ¶ 40). Dr. DiEuliis bases his opinion on Dr. Rubin's testimony that the claims do not require extensive technical knowledge to implement and that no specific techniques of DRM or encryption are disclosed or claimed. Ex. 2001 ¶ 40. This testimony of Dr. DiEuliis is contradicted by Patent Owner, who relies on other testimony from Dr. DiEuliis to argue that "[e]ven a cursory review of the multiple figures confirms that the '960 patent teaches sophisticated algorithmic structure for practicing the claimed invention according to certain disclosed embodiments." PO Resp. 6 (citing Ex. 2001 ¶¶ 20–32).

The '960 patent describes its field of invention as "relat[ing] generally to managing software use, and more specifically to systems and methods to enable the monitoring and adjusting software usage under a software license." Ex. 1001, 1:16–19. Similarly, DeMello "relates generally to the field of computing, and more particularly to the use of a server to distribute content in accordance with a digital rights management system." Ex. 1003, 1:13–16. The disclosure of the '960 patent and the prior art reflect a level of skill more consistent with Dr. Rubin's testimony. Accordingly, we credit his testimony and adopt Petitioner's proposed level of skill. Nevertheless, the parties do not argue that any issue in the case is affected by our resolution of this dispute.

2. Differences Between the Claimed Subject Matter and the Prior Art, and Reasons to Modify

a. Claim 6

Claim 6 depends from claim 5 and recites "wherein the defined number of days comprises six days since the initial authorization, and wherein the first upper limit comprises five authorized devices."

Petitioner contends that the '960 patent describes specific device limits and time periods as merely exemplary and does not attach any particular utility to the device limits and time periods recited in claims 6, 11, and 15. Pet. 48–49, 51. According to the '960 patent,

> It is noted that the various numbers used to describe the embodiments herein, such as, for example, the allowed copy counts, the maximum number of devices authorized for use, the upper limit on the number of devices for a given time period, or the like, are *purely exemplary*, and that *other numbers, data, values, or algorithms may be used in lieu of the exemplary numbers herein*.

Ex. 1001, 4:4:35–41 (emphasis added).

As Petitioner points out (Pet. 49), DeMello also describes its particular time periods and device limits as "merely exemplary," and that "any limit on activations may be used without departing from the spirit and scope of the invention." Ex. 1003, 23:8–10.

Patent Owner responds that Petitioner improperly relies on conclusory statements of common knowledge rather than a printed publication stating the precise number of days recited in claim 6. PO Resp. 28–29.

The Federal Circuit has cautioned that "references to 'common sense'—whether to supply a motivation to combine or a missing limitation—cannot be used as a wholesale substitute for reasoned analysis

and evidentiary support, especially when dealing with a limitation missing from the prior art references specified." *Arendi S.A.R.L. v. Apple Inc.*, 832 F.3d 1355, 1362 (Fed. Cir. 2016). That is not the case here. As explained above, both the '960 patent and DeMello describe precise numbers of days as arbitrary and that their respective inventions contemplate other numbers. We find that it would have been reasonable for the skilled artisan to have selected six days, as recited in claim 6, in light of DeMello's disclosure.

b. Claim 7

Petitioner advances an obviousness challenge to claim 7, based on DeMello, "[t]o the extent that the Board finds that Claim 7 requires sending a warning immediately when the number of authorized devices equals the device limit." Pet. 50. As explained in the Institution Decision, we do not understand claim 7 to have such a limitation. Dec. 27–28. Accordingly, in the Institution Decision, we did not institute as to claim 7 as obvious over DeMello. Dec. 30, 34.

Nevertheless, on April 24, 2018, the Supreme Court held that a decision to institute under 35 U.S.C. § 314 may not institute on fewer than all claims challenged in the petition. *SAS Inst., Inc. v. Iancu*, 138 S. Ct. 1348, 1369–60 (2018). Subsequently, we modified our institution decision to include review of all challenged claims and all grounds presented in the Petition. Paper 29, 2.

Petitioner's obviousness challenge to claim 7 over DeMello is based on only an alternative construction of claim 7 that we do not adopt. *See* Section II.B.5 above. Thus, Petitioner has not shown, by a preponderance of

the evidence, that claim 7 would have been obvious over DeMello under the correct construction.

3. Conclusion of Obviousness

As explained above, DeMello teaches each limitation of claim 6 except the precise defined number of days. Petitioner has introduced persuasive evidence that selecting six days would have been trivial and obvious. Patent Owner does not introduce objective indicia of nonobviousness. In sum, upon consideration of all the evidence, we conclude that Petitioner has proved by a preponderance of the evidence that the subject matter of claim 6 would have been obvious over DeMello.

D. Alleged Obviousness of Claims 1–25 over DeMello and Staruiala

Petitioner contends that claims 1–25 would have been obvious over DeMello and Staruiala. Pet. 52. As to claims 1–18 and 22–25, Petitioner relies on Staruiala "[s]hould Patent Owner assert, and the Board find, that 'sampling physical parameters of the given device' [recited in claims 1 and 22] is not taught by DeMello." Pet. 52. As explained above, we find that DeMello discloses this limitation. Nevertheless, we evaluate below whether Staruiala also teaches this limitation (and the similar limitation of claim 25).

Petitioner does not cite to Staruiala for any other aspect of claims 1–18 and 22–25. Specifically, Petitioner does not contend that Staruiala would have remedied the deficiencies noted above for claims 9–17, 23, and 24. Thus, Petitioner has not shown, by a preponderance of the evidence, that DeMello and Staruiala would have rendered obvious claims 9–17, 23, and 24.

Petitioner also relies on Staruiala for aspects of claims 19–21. As explained below, we agree with Petitioner that these claims would have been obvious over DeMello and Staruiala.

1. Scope and Content of the Prior Art—Overview of Staruiala

Staruiala describes a system for obtaining unique fingerprints from computer equipment. Ex. 1004, Abstract. According to Staruiala, "in the manufacturing process of any device, there are tolerable imperfections introduced. These are differences that do not compromise the functionality of the device so long as component performance lies within certain bounds." *Id.* at 4. Staruiala explains that "[i]t is possible, in principle, to differentiate between systems through the analysis of their individual responses to identical stimuli." *Id.* at 5. Staruiala describes various techniques for creating fingerprints based on the unique responses individual components and systems of computer hardware give to known stimuli. *Id.* at 8–11.

Staruiala also describes a "challenge-response system" in which a system sends a log-on request to another system, which responds with a token. The first system hashes a user's password with the challenge and includes it in a response to the second system. *Id.* at 11–12. "To individualize a specific user, explicit and intrinsic private uniqueness can be combined with a user's password or passphrase for a hash-based challenge-response or zero knowledge system. The combination of the user's passphrase and the computer's identification will suffice to track and identify a particular user." *Id.* at 12. According to Staruiala, "[t]he concept can be applied to scaled down (or minimal) devices and be used in copyright protection schemes," and "can be extended up to identify and authenticate

networks (Figure 4) of computers or to device copyright protection schemes for software." *Id.* at 13.

2. Differences Between the Claimed Subject Matter and the Prior Art, and Reasons to Modify or Combine

a. Claims 1–8, 18, 22, and 25

As to claims 1–8, 18, 22, and 25, Petitioner proposes combining DeMello with Staruiala if we should find that DeMello does not, by itself, disclose "verify that a license data associated with the digital product is valid based at least in part on a device identity generated *by sampling physical parameters of the given device*," as recited in claims 1 and 22 (emphasis added) and similarly recited in claim 25. As explained above, Petitioner's evidence supports a finding that DeMello alone discloses this limitation. Nevertheless, as the Federal Circuit has stated, "[i]t is well settled that anticipation is the epitome of obviousness." *In re McDaniel*, 293 F.3d 1379, 1385 (Fed. Cir. 2002) (internal quotation marks and citations omitted).

Petitioner has articulated reasons to combine the teachings of DeMello and Staruiala. Specifically, relying on the Rubin Declaration, Petitioner argues that Staruiala provides a detailed teaching of how to generate a unique hardware ID, such as that described in DeMello. Pet. 55 (citing Ex. 1002 ¶¶ 194–195). We credit Dr. Rubin's uncontroverted testimony. We also find that Staruiala provides express reasons to combine with digital rights management systems such as DeMello, including that

> Such an identification method is highly desirable for authenticating remote access providers. Copyright infringement could be prevented by authenticating the system on which music is being played, videos are being displayed, and software is being executed using a unique identifier based

> on the physical characteristics of the system. *Any system providing use on a restricted basis can benefit from the security provided by unique identifiers based on physical device properties*.

Id. at 55–56 (quoting Ex. 1004, 1 (emphasis Petitioner's)). As we note above, Staruiala states that its "concept can be applied to scaled down (or minimal) devices and be used in copyright protection schemes," and "can be extended up to identify and authenticate networks (Figure 4) of computers or to device copyright protection schemes for software." Ex. 1004, 13. On this evidence, we find that a skilled artisan would have had reasons to combine the teachings of DeMello and Staruiala. We note that Patent Owner does not present separate argument for Petitioner's allegations based on Staruiala.

Thus, because Petitioner has demonstrated that claims 1–5, 7, 8, 18, 22, and 25 are anticipated by DeMello and claim 6 would have been obvious over DeMello, and also that a skilled artisan would have had reasons to combine DeMello and Staruiala, Petitioner has demonstrated by a preponderance of the evidence that these claims would have been obvious over DeMello and Staruiala.

b. Claims 19, 20, and 21

Claims 19, 20, and 21 each depend from claim 18.

Claim 19 adds "wherein the unique device identifying information comprises at least one user-configurable parameter and at least one non-user-configurable parameter of the given device." Petitioner argues that Staruiala teaches that unique identifiers based on non-user configurable information, such as latency and imperfections in system components, can

be combined with user-configurable information such as user passwords. Pet. 58–59. For example, Staruiala explains that

> In principle, no two components possess exactly the same tolerable imperfections, therefore they should not respond in exactly the same way to the same request. However, once a response is established, e.g. propagation time, the response must be consistent, at least in a statistical sense, from trial to trial in order to be usable as an identifier.

Ex. 1004, 4. We find that this response is non-user configurable information. We further find that Staruiala describes combining this information with user configurable information (a password) to form a unique device identifying information: "To individualize a specific user, explicit and intrinsic private uniqueness can be combined with a user's password or passphrase for a hash-based challenge-response or zero knowledge system. *The combination of the user's passphrase and the computer's identification will suffice to track and identify a particular user*." *Id.* at 12 (emphasis added).

Claim 20 adds "wherein the device identity is generated by utilizing at least one irreversible transformation of the at least one user-configurable and the at least one non-user-configurable parameters of the given device." Petitioner contends that Staruiala teaches subjecting the user-configurable information and non-user-configurable information to a secure hash function, which Dr. Rubin testifies is an irreversible transformation. Pet. 59–60 (citing Ex. 1002 ¶ 211; Ex. 1004, 11–12, 16). For example, Staruiala describes that

> a unique identification for a system can be readily obtained and input to a fingerprint creation process. For device to device authentication, this explicit unique identity can be combined with intrinsic and private identity in a typical authentication

> scheme such as a hash based challenge-response or a zero knowledge proof system.

Ex. 1004, 11; *accord id.* at 12 ("To individualize a specific user, explicit and intrinsic private uniqueness can be combined with a user's password or passphrase for a hash-based challenge-response or zero knowledge system."). According to Dr. Rubin, "Its irreversibility—the impossibility of recreating the original message from the hashed value—is precisely what makes a secure hash function secure, and therefore useful in a cryptographic setting. A secure hash assures the recipient that no one has tampered with the device fingerprint." Ex. 1002 ¶ 211. We credit Dr. Rubin's uncontroverted testimony and find that Staruiala teaches the additional limitation of claim 20.

Claim 21 adds "wherein the device identity is generated by utilizing a cryptographic hash function on the at least one user-configurable and the at least one non-user configurable parameters of the given device." Petitioner similarly points to Staruiala's description of subjecting the information to a secure hash function (Ex. 1004, 16), which Petitioner contends corresponds to the "cryptographic hash function" of claim 21. Pet. 61. Dr. Rubin testifies that "[t]he particular irreversible transformation Staruiala teaches to use is a secure hash function, which is simply another term for a 'cryptographic hash function.'" Ex. 1002 ¶ 216. We credit Dr. Rubin's uncontroverted testimony. On this evidence, we find that Staruiala teaches the additional limitation of claim 21.

As explained above, Petitioner has provided reasons, with rational underpinning, to combine the teachings of DeMello and Staruiala. *See, e.g.*, Ex. 1004, 13 ("The concept can be applied to scaled down (or minimal)

devices and be used in copyright protection schemes. Also it can be extended up to identify and authenticate networks (Figure 4) of computers or to device copyright protection schemes for software.").

3. Conclusion of Obviousness

As explained above, DeMello and Staruiala teach each limitation of claims 1–8, 18–22, and 25. Petitioner has introduced persuasive evidence that a skilled artisan would have had reasons to combine DeMello and Staruiala. Patent Owner does not introduce objective indicia of nonobviousness. In sum, upon consideration of all the evidence, we conclude that Petitioner has proved by a preponderance of the evidence that the subject matter of claims 1–8, 18–22, and 25 would have been obvious over DeMello and Staruiala.

III. PATENT OWNER'S CONTINGENT MOTION TO AMEND

Patent Owner files a Contingent Motion to Amend claims 1, 22, and 25, seeking to replace these claims with substitute claims 26–28, respectively, should we determine that claims 1, 22, and 25 are unpatentable. Mot. to Amend 1. As explained above, we determine that claims 1, 22, and 25 are unpatentable and, accordingly, address Patent Owner's Contingent Motion to Amend.

"During an inter partes review instituted under this chapter, the patent owner may file 1 motion to amend the patent," to, "[f]or each challenged claim, propose a reasonable number of substitute claims." 35 U.S.C. § 316(d)(1); *see also* 37 C.F.R. § 42.121(a)(3). "An amendment under this subsection may not enlarge the scope of the claims of the patent or introduce

new matter." 35 U.S.C. § 316(d)(3); *see also* 37 C.F.R. § 42.121(a)(2)(ii). The amendment also must "respond to a ground of unpatentability involved in the trial." 37 C.F.R. § 42.121(a)(2)(i).

Claim 26 is a proposed substitute for claim 1 and is illustrative of the amendments proposed in the Motion to Amend (underlining indicating material added to claim 1 and strikethrough indicating deleted material):

> 26. A system for adjusting a license for a digital product over time, the license comprising at least one allowed copy count corresponding to a maximum number of devices authorized for use with the digital product, comprising:
>
> a communication module for receiving a request for authorization to use the digital product from a given device, the request comprising:
>
> license data associated with the digital product; and
>
> a device identity generated at the given device at least in part by sampling physical parameters of the given device;
>
> a processor module in operative communication with the communication module;
>
> a memory module in operative communication with the processor module and comprising executable code for the processor module to:
>
> verify that the license data ~~a license data~~ associated with the digital product is valid ~~based at least in part on a device identity generated by sampling physical parameters of the given device~~;
>
> in response to the license data being verified as valid, determine whether the device identity is currently on a record;

in response to the device identity already being on the record ~~a record~~, allow the digital product to be used on the given device;

in response to the device identity not currently being on the record, temporarily adjust the allowed copy count from its current number to a different number by setting the allowed copy count to a first upper limit for a first time period, the first upper limit corresponding to the maximum number of devices authorized to use the digital product during the first time period ~~the allowed copy count corresponding to a maximum number of devices authorized to use the digital product~~;

calculate a device count corresponding to total number of devices currently ~~already~~ authorized for use with the digital product; and

when the calculated device count is less than the first upper limit, allow the digital product to be used on the given device.

Claims 27 and 28 propose similar changes to claims 22 and 25, respectively.

At a high level, Patent Owner amends the independent claims to 1) recite two separate tests for verifying license data and determining whether a device identity is on record; and 2) recite adjusting an allowed copy count from its current number to a different upper limit, rather than simply setting the allowed copy count to the upper limit.

Patent Owner provides an identification of written description support for the substitute claims in the original application that resulted in the '960 patent (Ex. 2004). Mot. to Amend 4–8, Appx. B. Petitioner does not

challenge these assertions of support. Based on Patent Owner's evidence, we find that the substitute claims are supported by the original application.

Petitioner contends that the substitute claims constitute non-statutory subject matter under 35 U.S.C. § 101, would have been obvious over DeMello and Hu, enlarge the scope of the invention, and are indefinite. Opp. to Mot. to Amend 1–25. We address these arguments in turn.

A. Substitute Claims 26–28 Are Non-Statutory Subject Matter

35 U.S.C. § 101 establishes that patent protection may be obtained for "new and useful process[es], machine[s], manufacture[s], or composition[s] of matter." A "process" is defined as a "process, art or method, and includes a new use of a known process, machine, manufacture, composition of matter, or material." 35 U.S.C. § 100(b). The Supreme Court has long held that § 101 contains an implicit exception for "[l]aws of nature, natural phenomena, and abstract ideas." *Ass'n for Molecular Pathology v. Myriad Genetics, Inc.*, 133 S. Ct. 2107, 2116 (2013).

In *Alice Corp. Pty. Ltd. v. CLS Bank International*, 134 S. Ct. 2347 (2014), the Supreme Court set forth a framework for distinguishing claims directed to abstract ideas from those directed to patent-eligible applications of those abstract ideas. According to that framework, we first determine whether a claim is directed to an abstract idea. 134 S. Ct. at 2355. Second, "we consider the elements of each claim both individually and 'as an ordered combination' to determine whether the additional elements 'transform the nature of the claim' into a patent-eligible application." *Id.* (quoting *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 132 S. Ct. 1289, 1297–98 (2012)).

As Petitioner points out (Opp. to Mot. to Amend 1–2), in the related District Court actions, the District Court determined that all claims of the '960 patent, including claims 1, 22, and 25, are directed to non-statutory subject matter. *See Uniloc USA, Inc. v. Amazon.com, Inc.*, 243 F. Supp. 3d 797, 811 (E.D. Tex. 2017) ("For the reasons listed above, the Court finds that all claims of the '960 Patent are drawn to ineligible subject matter under 35 U.S.C. § 101.").[4] Petitioner contends that the substitute claims suffer from the same deficiencies and are non-statutory for the same reasons. Opp. to Mot. to Amend 1. Petitioner then provides specific arguments as to claims 26–28. *Id.* at 2–11.

Patent Owner does not respond to the substance of Petitioner's arguments. Instead, Patent Owner contends that Petitioner could not have challenged claims 1, 22, and 25 under § 101 in the Petition and, therefore, should not be permitted to challenge narrower substitute claims on that basis in opposing the Motion to Amend. Mot. to Amend Reply 12–13. Patent Owner confirmed at the oral argument that it does not raise any substantive arguments to Petitioner's contention that the substitute claims are non-statutory. Tr. 50:13–17 ("So if we decide that we can consider the Section 101 issue, you have not put forward any arguments on the merits as to Section 101. Is that correct? MR. MANGRUM: That is correct. Our position is strictly that it's outside the scope of this proceeding.").

Patent Owner acknowledges that several Board decisions have allowed Petitioners to challenge amended claims on the basis of § 101.

[4] In District Court, the '960 patent enjoyed the presumption of validity, *see* 35 U.S.C. § 282, and was evaluated under the higher clear and convincing evidence standard.

Id. at 13. For example, in *Ariosa Diagnostics v. Isis Innovation Limited*, Case IPR2012-00022 (PTAB Sept. 2, 2014) (Paper 166), slip op. at 51–52, a panel explained "[a]ltough we agree with Isis that an *inter partes* review cannot be instituted using 35 U.S.C. § 101 as the basis for a challenge brought by a petitioner, . . . in a motion to amend, the patent owner has the burden of demonstrating the patentability of the claims." In *Ariosa*, the claims to be amended were found by a district court and the Federal Circuit to be ineligible under § 101 and the patent owner did not explain sufficiently how the proposed amendments addressed the eligibility concerns. *Id.* at 52.

Patent Owner contends that cases such as *Ariosa* have been overruled by the Federal Circuit's *en banc* determination in *Aqua Products, Inc. v. Matal*, 872 F.3d 1290 (Fed. Cir. 2017). Mot. to Amend Reply 12–13. However, the passage in *Aqua Products* to which Patent Owner cites states that a patent owner may not inject new issues of patentability into the case by proposing amendments that are not responsive to an instituted ground of unpatentability. 872 F.3d at 1306. Even if this analysis from the plurality opinion in *Aqua Products* is controlling,[5] it does not foreclose an analysis of

[5] The lead opinion acknowledges that "very little said over the course of the many pages that form the five opinions in this case has precedential weight" and that "[t]he only legal conclusions that support and define the judgment of the court are: (1) the PTO has not adopted a rule placing the burden of persuasion with respect to the patentability of amended claims on the patent owner that is entitled to deference; and (2) in the absence of anything that might be entitled deference, the PTO may not place that burden on the patentee. All the rest of our cogitations, whatever label we have placed on them, are just that—cogitations. Even our discussions on whether the statute is ambiguous are mere academic exercises." *Aqua Prods.*, 872 F.3d at 1327–28.

whether substitute claims comply with statutory provisions beyond Sections 102 and 103. Indeed, after *Aqua Products*, the Board has determined that a patent owner may include amendments to address potential § 101 or § 112 issues. *See Western Digital Corp. v. SPEX Techs., Inc.*, Case IPR2018-00082 (PTAB Apr. 25, 2018) (Paper 13) (informative), slip op. at 6. Thus, we are not persuaded that the Federal Circuit has prohibited us from considering whether Patent Owner's substitute claims recite statutory subject matter. Nevertheless, we do not place the burden of proving patentability of the substitute claims on Patent Owner. *See Bosch Auto. Serv. Sols., LLC v. Matal*, 878 F.3d 1027, 1040 (Fed. Cir. 2017), as amended on reh'g in part (Mar. 15, 2018).

1. Alice *Step One*

The District Court characterized the claims of the '960 patent as directed to time-adjustable licenses and found that "[t]he time-adjustable license is an abstract idea because licensing is a fundamental economic practice and because licenses are abstract exchanges of intangible contractual obligations." *Uniloc*, 243 F. Supp. 3d at 804 (citing *buySAFE, Inc. v. Google, Inc.*, 765 F.3d 1350, 1353 (Fed. Cir. 2014)). The District Court further found that the claims are not directed to specific improvements in the functioning of a computer. *Id.*

Petitioner contends that "[t]he substitute claims recite only basic steps for implementing the abstract idea of time-adjustable licensing, described at a high level of generality" and that "[t]he recited limitations neither describe nor require specialized technology, and any even arguably computer-related limitations at most involve the mere collection and manipulation of data."

Opp. to Mot. to Amend 6–7. Petitioner argues that the substitute claims are directed to the types of financial transactions and regulating of economic relationships that the Federal Circuit and Supreme Court repeatedly have found to be abstract. *Id.* at 5 (citing *Alice*; *Bilski v. Kappos*, 561 U.S. 593 (2010); *Mortgage Grader, Inc. v. First Choice Loan Servs., Inc.*, 811 F.3d 1314 (Fed. Cir. 2016); *Versata Dev. Grp., Inc. v. SAP Am., Inc.*, 793 F.3d 1306 (Fed. Cir. 2015); *Intellectual Ventures I LLC v. Capital One Bank (USA)*, 792 F.3d 1363 (Fed. Cir. 2015); and *OIP Techs., Inc. v. Amazon.com, Inc.*, 788 F.3d 1359 (Fed. Cir. 2015)).

We agree with Petitioner and follow the findings of the District Court. Specifically, the District Court found that a time-adjustable license is an abstract idea. Patent Owner's proposed amendments do not change the character of the claims such that they are not abstract. As explained above, the amendments essentially 1) make clear that the claims are directed to a two stage test of verifying license data and determining whether a device identity is on record, and 2) make clear that the claims are directed to a time-adjustable license, the concept the District Court found to be abstract. We find that time-adjustable license is an abstract idea, like that of the various other financial, business, and contractual practices found by the Federal Circuit and Supreme Court to be abstract. Patent Owner does not argue otherwise. Tr. 50:13–17.

2. Alice *Step Two*

"The question of whether a claim element or combination of elements is well-understood, routine and conventional to a skilled artisan in the relevant field is a question of fact." *Berkheimer v. HP Inc.*, 881 F.3d 1360,

1368 (Fed. Cir. 2018). "Whether a particular technology is well-understood, routine, and conventional goes beyond what was simply known in the prior art. The mere fact that something is disclosed in a piece of prior art, for example, does not mean it was well-understood, routine, and conventional." *Id.* at 1369.

As to step two of *Alice* as it pertained to the original independent claims of the '960 patent, the District Court made detailed findings regarding each of the limitations, focusing on claim 22 as representative, concluding that the limitations were routine, conventional, and performed using generic computer equipment. *See Uniloc*, 243 F. Supp. 3d, at 806–08. Although we do not repeat those findings here in their entirety, we provide the following highlights:

> "Because the time-adjustable license is the abstract concept to be limited by the remaining limitations, the preamble does not limit, but rather announces, the abstract concept." *Id.* at 806;
>
> "Verifying the validity of the license does not meaningfully limit the implementation of a time-adjustable license; rather, it asks only whether there is a valid license before the method determines how many devices may access the content under that license." *Id.* at 807;
>
> "[U]sing a device identity generated in part by sampling the physical characteristics of a device was well-known at the time the '960 Patent was filed." *Id.*;
>
> "'[A]llowing the digital product to be used on the given device' . . . is routine." *Id.*;
>
> "[T]he sub-elements are all generic; 'digital product' and 'given device' have already been addressed, and 'a record' is a generic record. Nor does the combination of a 'digital product,' a 'device' and a 'record' contain an inventive concept." *Id.*;

> "'Setting the allowed copy count to a first upper limit for a first time period' does not provide a meaningful limitation on the concept of time-adjustable licenses because a time-adjustable license, which by definition has more than one copy count in more than one time period, necessarily has a 'first upper limit for a first time period.'" *Id.*; and
>
> "'calculating a device count,' is an information-gathering step, which does not provide an inventive concept." *Id.*

Patent Owner does not contest any of the findings of the District Court. We have analyzed the District Court's findings, agree with them, and adopt them herein.

Petitioner argues that "[t]he substitute claims likewise recite high-level, generalized steps directed to the abstract idea of a time-adjustable license using, at most, generic and conventional computer technology that falls well short of supplying an inventive concept." Opp. to Mot. to Amend 9. We agree with Petitioner (*id.* at 9–10), that claims 26–28 refer to structure, if at all, in terms of generic modules, devices, and computers executing software code. Dr. Rubin testifies that added features of the substitute claims, including a request that contains a device identity generated at a given device at least in part by sampling physical parameters (Ex. 1031 ¶¶ 21–24) and communicating license data and device identity together (*id.* ¶¶ 25–26) were well-known and conventional, citing examples in his testimony. Patent Owner provides no response to Petitioner's allegations and provides no reasons for us to second guess the District Court's finding on the aspects of the substitute claims present in the original independent claims.

Upon consideration of the complete record, including the District Court decision and Dr. Rubin's testimony, we find that the additional

elements of the substitute claims beyond the abstract idea of a time-adjustable license are recited as no more than generic computer modules and code, are well-understood, routine, and conventional, and do not transform the nature of the claims into patent-eligible applications of the abstract idea.

Accordingly, we conclude that substitute claims 26–28 recite patent ineligible subject matter under § 101.

B. Petitioner Has Not Shown that Substitute Claims 26–28 Would Have Been Obvious

Petitioner contends that claims 26–28 would have been obvious over DeMello and Hu. Opp. to Mot. to Amend 13–20. As explained below, we disagree.

1. Scope and Content of the Prior Art—Overview of Hu

Hu describes a system and method for moving a software license from one computer to another. Ex. 1026, Abstract. When a user installs licensed software on a computer and runs it, as part of an initialization process, software on the computer asks the user to enter account authentication information, such as a user ID and password. *Id.* at 6:20–26. The software then sends the authentication information to a server along with "a computer_id (computer identification information) which is information that uniquely identifies the computer on which the software is run," for example, "the MAC address of the Ethernet card," or "a basket of hardware identifiers such as motherboard and hard drive serial numbers as the computer_id." *Id.* at 6:33–39. "After receiving the account authentication information and the computer_id, the server authenticates the user by his account

authentication information, and makes a policy decision whether to enable or disable the software based on that computer_id and the user's acquired license agreement." *Id.* at 6:55–59.

2. Differences Between Claims 26–28 and the Prior Art, and Reasons to Modify

Petitioner relies on the arguments and evidence for original claims 1, 22, and 25 for the aspects of claims 26–28 that overlap, and concentrates its motion to amend arguments on the differences. Opp. to Mot. to Amend 12.

Claim 26 recites a request comprising both "license data associated with the digital product; and a device identity *generated at the given device* at least in part by sampling physical parameters of the given device." This differs from claim 1 in that claim 1 does not recite that license data and device identity are received together and does not specify precisely where the device identity is generated. Patent Owner distinguishes claim 26 from DeMello on the basis that DeMello does not teach a request that includes both a Passport ID and a hardware ID. Mot. to Amend 16. Patent Owner also argues that DeMello's machine ID, which is generated by the server receiving the hardware ID from a device being activated, is not generated at the given device. *Id.* at 17–18.

Petitioner cites Hu as teaching a system that transmits license information together with device identifying information in a single request. Opp. to Mot. to Amend. 13–14 (citing Ex. 1026, 6:31–39). Hu describes that "[u]pon receiving the account authentication information, the software sends it to the server, together with a computer_id." Ex. 1026, 6:31–35. Petitioner also argues that Hu's computer id is generated at the computer

seeking to be activated, rather than the server. Opp. to Mot. to Amend 14 (citing Ex. 1026, 6:31–39). Hu's computer id is described as sent to the server (Ex. 1026, 6:31–35), implying that it is first generated at the computer. Dr. Rubin testifies that a skilled artisan "would have recognized that combining that information into a consolidated request for authorization, as disclosed by Hu, rather than sending the license and device identifying information separately would have streamlined and simplified the authentication procedure in the DeMello system." Ex. 1031 ¶ 43.

Claim 26 also recites "in response to the device identity not currently being on the record, temporarily adjust the allowed copy count from its current number to a different number by setting the allowed copy count to a first upper limit for a first time period." Here, claim 26 expressly recites changing a copy count from a current number to a different number, in contrast to claim 1 which, we explain above, is broad enough to encompass initially setting the copy count. In that regard, claim 26 is similar to claim 9, which, we also explain above, Petitioner has not proved to be anticipated by or obvious over DeMello.

Regarding this limitation of claim 26, Petitioner relies exclusively on DeMello. Opp. to Mot. to Amend 17–18 (citing Ex. 1003, 23:4–10). DeMello describes:

> The limit on activations may also allow for additional activations as time passes—e.g., one additional activation for each 90 day period after the first 90 days, up to a limit of 10 total activations. It will be appreciated that these limits are merely exemplary, and any limit on activations may be used without departing from the spirit and scope of the invention.

Ex. 1003, 23:4–10. Here, DeMello's general description does not specify when activation limits are set. Similar to claim 9, claim 26 recites adjusting

the allowed copy count "in response to the device identity not currently being on the record." Patent Owner argues that

> [i]ncreasing the activation limit according to a predetermined, fixed schedule is distinguishable from conditionally and temporarily adjusting the allowed copy count from its current number to a different number *in response to a determination of whether a device identity is on a record*, which is an event that may randomly, if ever, occur.

Mot. to Amend 14. We agree with Patent Owner that Petitioner's citation to DeMello does not show increasing an activation limit from one value to another in response to a determination that a device identity is not on record.

Relying on Dr. Rubin's testimony, Petitioner attempts to argue that DeMello changes its device limit in response to a request for access from a device:

> if 95 days had passed since the first user device was activated, and the user requested access from another device that was not on record, the DeMello activation servers would respond by changing the device limit from five to six (five devices for the first 90 days, plus one additional device because the request arrived in the second 90-day period).

Opp. to Mot. to Amend 17 (citing Ex. 1031 ¶ 56). Dr. Rubin repeats this argument in his testimony, nearly verbatim, but does not explain the basis for it. Ex. 1031 ¶ 56. Dr. Rubin further testifies that "whenever a requesting device is not in the record, the limit to be applied at that time must be determined, applied, and enforced, exactly as described in the '960 Patent." *Id.* ¶ 57. Dr. Rubin does not cite to any basis in DeMello to draw that conclusion and we find none.

In Section II.B.4 above we find that DeMello does not teach setting an allowed copy count from a first upper limit to a second upper limit "in

response to the device identity not being on the record." For the same reasons, DeMello does not teach "in response to the device identity not currently being on the record, temporarily adjust the allowed copy count from its current number to a different number by setting the allowed copy count to a first upper limit for a first time period," as recited in substitute claim 26 (and similarly recited in claims 27 and 28). We have considered the additional evidence Petitioner cites to in responding to the Motion to Amend, including Dr. Rubin's testimony, and find it unpersuasive.

Based on the complete record, we conclude, on a preponderance of the evidence, that claims 26–28 would not have been obvious over DeMello and Hu.

C. The Substitute Claims Do Not Enlarge Claim Scope

Petitioner argues that "substitute claims 26–28 remove claim language from the 'verify' limitations of original claims 1, 22, and 25, respectively, that required verifying license validity *based in at least in part on a device identity generated by sampling physical parameters of the device*" and, as amended, "would cover verifying license data *in any manner*, with no requirement that verification be based on a device identity or any other factor." Opp. to Mot. to Amend 22. Petitioner argues that "the substitute claims separate the license verification and record check into distinct steps, such that license verification occurs separate and apart from use of the device identity during the recited record check" and that, "[u]nlike the original claims, the substitute claims would require using the device identity *only* during the record check, which would occur 'in response to' (i.e., after) completing license data verification." *Id.* at 23. Petitioner concludes that

the amendments enlarge the scope of the claims "in at least one respect because license verification in the substitute claims need not be based in part on a device identity generated by sampling physical parameters of the device." *Id.* at 23–24.

We are not persuaded by Petitioner's argument. Patent Owner correctly observes that the Petition treated the original verifying limitations as a test that encompasses determining whether a device identity is on a record. Mot. to Amend Reply 1. As explained in Section II.A.1 above, we agree with Petitioner in that regard. As Patent Owner argues, the substitute claims maintain this test (e.g., "determine whether the device identity is currently on a record," as recited in claim 26) and add "an additional and explicit requirement" of verifying that the license data is valid. Mot. to Amend Reply 1–2. Thus, the substitute claims do not enlarge claim scope in the manner alleged by Petitioner.

D. The Substitute Claims Are Not Indefinite

The original independent claims recited verifying that a license data associated with the digital product is valid "based at least in part on a device identity generated by sampling physical parameters of the given device," while the "verify[ing]" limitations of the substitute claims do not recite the device identity. Rather, the device identity is evaluated in a separate determination of whether the device identity is on record.

Petitioner argues that the amended "verify[ing]" limitations "reflect an undefined operation devoid of boundaries or structure, leaving the public with no guidance regarding what must be verified or how verification must take place to satisfy the substitute claims." Opp. to Mot. to Amend 24.

According to Petitioner, the substitute claims lack the "guidance or specificity regarding license data verification." *Id.* at 25. Patent Owner responds that Petitioner's expert provides substantial testimony applying the claim language without expressing any difficulty. Mot. to Amend Reply 14 (citing Ex. 1031 ¶ 51; *Sonix Tech. Co., Ltd. v. Publications Int'l, Ltd.*, 844 F.3d 1370, 1380 (Fed. Cir. 2017) ("The parties' experts also had no difficulty in applying 'visually negligible.' Dr. Ashok and Dr. Engels repeatedly applied the term to the references and the accused products. Although Appellees again argue that this does not establish an objective standard, continued application by the experts in this case further supports the conclusion that a skilled artisan did understand the term with reasonable certainty.").

Petitioner's argument is conclusory and lacks meaningful evidentiary support and is, therefore, unpersuasive. We do not find the claim language to be ambiguous or vague and Petitioner does not provide a cogent explanation as to why it believes the language is indefinite. A preponderance of the evidence does not show that claims 26–28 are indefinite.

E. Conclusion—Motion to Amend

Petitioner has shown by a preponderance of the evidence that substitute claims 26–28 are directed to non-statutory subject matter under 35 U.S.C. § 101. Accordingly, we deny Patent Owner's Motion to Amend.

IV. CONCLUSION

Petitioner has proved by a preponderance of the evidence that claims 1–8, 18–22, and 25 are unpatentable, but not claims 9–17, 23, and 24.

We deny Patent Owner's Motion to Amend to replace claims 1, 22, and 25 with substitute claims 26–28.

V. ORDER

For the reasons given, it is:

ORDERED, based on a preponderance of the evidence, that claims 1–8, 18–22, and 25 are unpatentable;

FURTHER ORDERED, based on a preponderance of the evidence, that claims 9–17, 23, and 24 are not unpatentable;

FURTHER ORDERED, Patent Owner's Motion to Amend is denied as to substitute claims 26–28; and

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

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