

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

TWILIO INC.,
Petitioner,

v.

TELESIGN CORPORATION,
Patent Owner.

Case IPR2016-00360
Patent 7,945,034 B2

Before SALLY C. MEDLEY, JUSTIN T. ARBES, and
KIMBERLY McGRAW, *Administrative Patent Judges*.

McGRAW, *Administrative Patent Judge*.

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

I. INTRODUCTION

Petitioner, Twilio Inc., filed a Petition requesting an *inter partes* review of claims 1–4, 6, 7, 9, and 11–14 of U.S. Patent No. 7,945,034 B2 (Ex. 1001, “the ’034 patent”), which was supported by the declaration of Michael Shamos, Ph.D. (Ex. 1002). Paper 2. Following a Motion to Correct the Petition, which was granted, Petitioner filed a Corrected Petition. Paper 11 (“Corrected Pet.”). Patent Owner, TeleSign Corporation, filed a

Preliminary Response. Paper 10 (“Prelim. Resp.”). On June 28, 2016, we instituted an *inter partes* review of claims 1–4, 6, 7, 9, and 11–14. Paper 18 (“Dec. on Inst.”).

After institution, Patent Owner filed a Patent Owner Response (Paper 27, “PO Resp.”) and a Contingent Motion to Amend (Paper 28, “Mot. to Amend”), both supported by the declaration of Seth Nielson, Ph.D. (Ex. 2027).

Petitioner filed a Reply (Paper 45, “Reply”) and an Opposition to Patent Owner’s Contingent Motion to Amend (Paper 38), supported by a declaration of David H. Williams (Ex. 1039). Patent Owner filed a Reply to Petitioner’s Opposition to Patent Owner’s Contingent Motion to Amend. (Paper 45).

Objections to Evidence were filed by both Petitioner (Papers 29, 46) and Patent Owner (Papers 21, 39, 40). Transcripts of the depositions of Dr. Shamos (Ex. 2025), Dr. Nielson (Ex. 1040), and Mr. Williams (Ex. 2036) also were filed. Patent Owner filed a Motion for Observation on the cross-examination testimony of Mr. Williams. Paper 49. Petitioner filed an Opposition to Patent Owner’s Motion for Observation. Paper 51. Patent Owner also filed a Motion to Exclude certain evidence (Paper 50), to which Petitioner filed an Opposition (Paper 52), and Patent Owner filed a Reply (Paper 53).

An oral hearing was held on March 27, 2017, and a transcript of the hearing has been entered into the record of the proceeding as Paper 56.

We have jurisdiction under 35 U.S.C. § 6. This Final Written Decision is issued pursuant to 35 U.S.C. § 318(a) and 37 C.F.R. § 42.73. For the reasons that follow, we determine that Petitioner has failed to show

by a preponderance of the evidence that claims 1–4, 6, 7, 9, and 11–14 are unpatentable. We also dismiss Patent Owner’s Motion to Exclude and Patent Owner’s Contingent Motion to Amend as moot.

II. BACKGROUND

A. *Related Proceedings*

The parties state that the ’034 patent is asserted in *TeleSign Corp. v. Twilio Inc.*, No. 2:15-cv-03240, filed on April 30, 2015, currently pending in the United States District Court for the Central District of California. Corrected Pet. 2, 10; Prelim. Resp. 3.

Patent Owner states that copending petitions for *inter partes* review in IPR2016-00450, involving U.S. Patent No. 8,462,920 B2, and IPR2016-00451, involving U.S. Patent No. 8,687,038 B2, also filed by Petitioner, identified this proceeding as a related matter. Prelim. Resp. 3. The Board did not institute review in these cases. Petitioner also challenged related U.S. Patent No. 9,300,792 B2 in Case CBM2016-00099, in which the Board denied institution of a covered business method patent review, and Case IPR2016-01688, which is pending.

B. *The ’034 Patent (Ex. 1001)*

The ’034 patent, titled “Process for Determining Characteristics of a Telephone Number,” issued on May 17, 2011, based on U.S. Patent Application No. 11/163,788, filed on October 31, 2005, which claims priority as a continuation-in-part-application to U.S. Patent Application No. 11/034,421, filed on January 11, 2005. Ex. 1001, [21], [22], [45], [54], [63]. The ’034 patent is directed to methods of using a telephone connection to prevent fraudulent users from registering on an online website. *Id.*, Abstract,

1:7–11. One method includes, *inter alia*, registering a user for an online website by receiving a telephone number; electronically determining the type of phone, phone carrier, and geographic characteristics associated with the telephone number; communicating a verification message with the telephone number; and registering the user based on the type of phone, phone carrier, and geographic characteristics associated with the telephone number and the verification message. *Id.* at 2:6–3:3, 10:35–50.

The '034 patent explains that one problem with on-line registration is that fraudulent users may provide fake names, addresses, or phone numbers. *Id.* at 1:34–38. In order to verify the telephone number entered by the user during registration, the system can call the telephone number and provide a registration code to the user. *Id.* at 3:65–4:25. If the telephone number is valid and the user has access to the telephone number, the user is able to enter the registration code into the online registration form and complete the registration process. *Id.*

However, the '034 patent states that because certain telephones are not necessarily restricted to a particular geographic location (e.g., voice over internet protocol (“VOIP”) phones or mobile phones), this verification process may not be enough to prevent fraudulent users who enter a false name or address from accessing a website. *Id.* at 1:39–63, 7:17–24, 8:40–44. For example, VOIP technology allows a person to have a “310” area code telephone number (traditionally associated with telephones in Los Angeles) but actually be located in Nigeria, where many fraudulent schemes are alleged to occur. *Id.* at 1:54–61, 7:20–24. Use of such a phone could enable a potential defrauder, who is located in a foreign country, to provide a valid telephone number along with a United States address that appears to

correspond with the user's telephone number, but which in fact is a false address. *Id.* at 7:17–41.

The '034 patent explains that knowing certain characteristics of the user's telephone number can help determine if the registration information provided by the user is fraudulent. *See, e.g., id.* at 1:61–2:2, 2:11–14, 7:38–41, 9:14–16, 9:23–25, 9:42–49. These characteristics include the phone type, phone carrier, and geographic characteristics, as well as other phone characteristics, such as prepaid cellular phones that do not require any form of identification, phone numbers set to automatically forward, and Direct Inward Dialing (DID) numbers. *Id.* at 2:6–14, 8:55–59, 10:39–41.

Examples of phone types include landline telephones, cellular phones, and VOIP phones. *Id.* at 2:15–18. Examples of phone carriers include Verizon, SBC, and Vonage. *Id.* at 8:17–20. Examples of geographic characteristics include the time zone, country, county, city, zip code, and metro area. *Id.* at 2:18–21.

The '034 patent describes various ways to determine phone characteristics. *Id.* at 3:37–40, Figs. 8–10. For example, in one embodiment, a database is queried to determine if the telephone number is within the database, and what characteristics are associated with the telephone number. *Id.* at 2:29–34. A “database may comprise one or more third party databases,” or the database can be “compiled with telephone number characteristics as they are determined.” *Id.* at 7:55–57. “If the database contains the exact telephone number, or certain numbers in common with the received telephone number, the database will be able to provide certain characteristics of the telephone number,” such as phone type, phone carrier, and geographic characteristics. *Id.* at 8:1–4, 8:17–20, 8:38–

40. For example, analyzing the telephone number can assist in determining whether the phone associated with the number is wireless, a landline, VOIP, toll-free, restricted, or an unknown phone type. *Id.* at 8:4–8. The database can be electronically queried as to whether the type of phone is already in the database for a particular telephone number. *Id.* at 8:9–11. If it is not, the first three digits of the telephone number can be examined to determine if the number is toll-free or restricted. *Id.* at 8:11–13.

The carrier or the phone company of the telephone number also can be determined by analyzing the ten digits of the telephone number. *Id.* at 8:17–20. “[I]f the first three digits of the telephone number do not match a toll-free or restricted number, the carrier digits are compared to the received telephone number to match a carrier to the telephone number.” *Id.* at 8:20–23. For example, if the carrier level is “Level 3,” the phone number is determined to be a VOIP number granted by XO Communications or Global Crossing. *Id.* at 8:23–28. “Analyzing the ten digits of the telephone number can also indicate the country, time zone, state, city, county, zip code, or metro area of the telephone number.” *Id.* at 8:38–40.

After the phone characteristics have been determined, a determination may be made how to use this data, such as granting or denying a potential registrant or user access to a website. *Id.* at 9:8–12, 9:26–29, Fig. 9. For example, the ’034 patent states that various phone characteristics can be “weighed” to determine if the user may be fraudulent. *Id.* at 8:40–44. The ’034 patent explains that although the ten digits of the telephone number may indicate whether geographic characteristics associated with the telephone number (e.g., the country, time zone, state, and city) are valid, the system will balance or weigh this information with other characteristics of

the telephone number that are not necessarily restricted to a particular geographic location, such as whether the phone is a landline or cell phone or whether the phone number is a VOIP telephone number. *Id.* at 8:37–44. The '034 patent also explains that distinctions can be made between fixed VOIP numbers, such as those numbers that are assigned through a cable provider, and equipment-based VOIP numbers, which require particular equipment in order to receive the phone call, such as those offered by phone carriers Lingo or Vonage. *Id.* at 8:50–55. In other examples, users may be blocked from the website if they are not using a landline, if they are from certain geographic regions, or if the information provided by the user is not consistent with information in the database. *Id.* at 9:14–25, 9:36–49.

C. Claims

Petitioner challenges independent claim 1 and dependent claims 2–4, 6, 7, 9, and 11–14, which depend directly or indirectly from claim 1. Claim 1, with bracketed material added,¹ is reproduced below:

1. A process for telephonically registering a user over one or more communication networks through determining characteristics of a telephone number, comprising the steps of:

[a] receiving a telephone number;

[b] electronically determining the type of phone, the phone carrier and geographic characteristics associated with the telephone number;

[c] connecting to a telephone associated with the telephone number through at least one of the communication networks;

¹ Although the bracketed material is not present in the text of claim 1, for clarity and consistency, this Decision will use the bracketed nomenclature as utilized by both Petitioner and Patent Owner.

[d] communicating a verification message with the telephone over at least one of the communication networks; and

[e] registering the user through at least one of the communication networks based on the type of phone, the phone carrier, the geographic characteristics associated with the telephone number and the verification message.

D. Grounds of Unpatentability at Issue

We instituted *inter partes* review of claims 1–4, 6, 7, 9, and 11–14 as unpatentable under 35 U.S.C. § 103 over (1) Nguyen,² (2) Nguyen and De Petris,³ and (3) Nguyen, De Petris, and Singhal.⁴ Dec. on Inst. 24.

III. ANALYSIS

A. Level of Ordinary Skill in the Art

“Section 103(a) forbids issuance of a patent when ‘the differences between the subject matter sought to be patented 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.’” *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007) (quoting 35 U.S.C. § 103(a)).

Petitioner argues that a person of ordinary skill in the art at the time of the ’034 patent would have had “at least an undergraduate degree in computer science, or equivalent experience, and in addition would be familiar with Internet communications and accessing databases.” Corrected

² Nguyen (US 7,577,847 B2, filed Nov. 3, 2004, issued Aug. 18, 2009) (Ex. 1003).

³ De Petris (US 2004/0219904 A1, filed Apr. 6, 2004, pub. Nov. 4, 2004) (Ex. 1005).

⁴ Singhal (US 2004/0203595 A1, filed Aug. 12, 2002, pub. Oct. 14, 2004) (Ex. 1006).

Pet. 9–10. Patent Owner does not dispute Petitioner’s assessment. PO Resp. 10–11. Based on the current record, including our review of the ’034 patent and the types of problems and solutions described in the ’034 patent and cited prior art, we agree with Petitioner’s assessment of the level of ordinary skill in the art and apply it for purposes of this Decision.

B. Claim Construction

In an *inter partes* review, claim terms in an unexpired patent are given their broadest reasonable construction in light of the specification of the patent in which they appear. 37 C.F.R. § 42.100(b); *see Cuozzo Speed Techs., LLC v. Lee*, 136 S. Ct. 2131, 2144–46 (2016). Under the broadest reasonable construction standard, and absent any special definitions, we give claim terms their ordinary and customary meaning, as would be understood by one of ordinary skill in the art at the time of the invention. *See In re Translogic Tech., Inc.*, 504 F.3d 1249, 1257 (Fed. Cir. 2007). Any special definition for a claim term must be set forth with reasonable clarity, deliberateness, and precision. *See In re Paulsen*, 30 F.3d 1475, 1480 (Fed. Cir. 1994). We determine that only the registering step of claim element 1[e] requires explicit construction and only to the extent necessary to resolve the controversy. *See, e.g., Wellman, Inc. v. Eastman Chem. Co.*, 642 F.3d 1355, 1361 (Fed. Cir. 2011) (noting that claim terms need only be construed to the extent necessary to resolve the controversy).

“[e] registering the user through at least one of the communication networks based on the type of phone, the phone carrier, the geographic characteristics associated with the telephone number and the verification message”

With respect to the “registering the user” phrase in claim element 1[e], we note that the parties appear to agree that the phrase means “storing user-specific data.” See Corrected Pet. 22; PO Resp. 14. For the purposes of this Decision, we adopt the parties’ construction and construe “registering the user” to mean “storing user-specific data.”

With respect to the “phone carrier” phrase, prior to institution, the parties disputed the construction of “phone carrier . . . associated with the telephone number” as recited in claim elements 1[b] and 1[e]. See, e.g., Corrected Pet. 28; Prelim. Resp. 13–17. In the Decision on Institution, we interpreted “phone carrier . . . associated with the telephone number” as encompassing both the phone carrier that is the contracting carrier as well as a phone carrier that routes a telephone call for a telephone number. Dec. on Inst. 8. As our construction of the “based on” phrase in claim 1 is outcome-determinative, for the reasons explained herein, we need not readdress our construction of “phone carrier.”

With respect to the “based on” phrase, neither the Corrected Petition nor Patent Owner’s Preliminary Response provided an explicit construction of registering the user “based on” phone characteristics (i.e., the type of phone, the phone carrier, and the geographic characteristics associated with the telephone number) and the verification message as recited in claim element 1[e]. See Corrected Pet. 10–11 (stating claim terms are construed to have their plain and ordinary meaning); Prelim. Resp. 21–25 (stating

registering step of claim element 1[e] is distinct from the “electronically determining” step of claim element 1[b]). In our Decision on Institution, we determined that, other than the construction of “phone carrier . . . associated with the telephone number,” an express construction of the registering step of claim element 1[e] was not necessary. Dec. on Inst. 6–10.

In its Response, Patent Owner again reiterates that the registering step of claim element 1[e] is distinct from the determining step of claim element 1[b]. See, e.g., PO Resp. 13–14. Patent Owner also argues that the broadest reasonable interpretation of “registering the user . . . based on [the recited items]” is “using the [recited items] as criteria or factors when storing user-specific data.” *Id.* at 37 (bracketed material in original).

Petitioner then submitted, for the first time in its Reply, a proposed interpretation for the “based on” language. Specifically, Petitioner argues that the broadest reasonable interpretation “of ‘based on’ should encompass the ordinary meaning as a starting point for registration—which encompasses both directly and indirectly using [the telephone number’s] carrier in registration” (Reply 21) and that “[r]egistering ‘based on’ a characteristic means that the characteristic can be either a direct or indirect input into the registration process” (*id.* at 20). See also *id.* at 19 (stating the broadest reasonable interpretation of “‘based on’ encompasses using an input as either a direct or indirect input into the registration decision because both input types are a starting point”). Petitioner contends that the definition of “based” is “to form or make a base for, to find a basis for; establish” and that “[b]ase” is also defined as “anything from which a start is made, basis.” *Id.* (citing Ex. 1002 ¶ 141; Ex. 1043, 4).

Based on the record before us, we conclude that Petitioner’s interpretation of the “registering . . . based on” language in claim 1 is an overly broad construction that is not reasonable in light of the Specification. Instead, we agree with Patent Owner and interpret the phrase “registering the user . . . based on the type of phone, the phone carrier, [and] the geographic characteristics associated with the telephone number” as recited in claim element 1[e] to mean using the recited items (i.e., phone type, phone carrier, and geographic characteristics) as criteria or factors when storing user-specific data. Under this construction, the phone carrier is one of the criteria or factors that are used when storing user-specific data.

As an initial matter, we agree with Patent Owner that “registering the user . . . based on” the phone characteristics as recited in claim element 1[e] is not satisfied by merely determining those characteristics. *See, e.g.*, PO Resp. 14–15. The claim language itself recites the determining step as claim element 1[b] and the registering step as claim element 1[e]. Thus, registering the user based on the phone carrier (step 1[e]) cannot be satisfied by merely determining the phone carrier (step 1[b]), as Petitioner’s proposed interpretation would appear to permit. Where a claim lists elements separately, the clear implication of the claim language is that those elements are distinct components of the patented invention. *See, e.g., CAE Screenplates Inc. v. Heinrich Fiedler GmbH & Co. KG*, 224 F.3d 1308, 1317 (Fed. Cir. 2000) (stating that absent evidence to the contrary, “we must presume that the use of these different terms in the claims connotes different meanings”).

Our construction that each of the phone characteristics recited in claim element 1[e] be used as a criterion or factor when storing user-specific data

is supported by the plain meaning of the phrase as understood by one of ordinary skill in the art in light of the Specification. We agree with Patent Owner's declarant, Dr. Nielson, who testified that "based on" is used in the Specification of the '034 patent the same way it is used in common parlance, namely that "based on" means "in view of," "considering," or "using." Ex. 2027 ¶ 7.8. As Dr. Nielson explained, an ordinarily skilled artisan would appreciate that the Specification and claims of the '034 patent indicate that "registering 'based on' the recited items (phone type, phone carrier, geographic characteristics, and the verification message) means in view of, or using, those recited items as criteria or factors when storing user-specific data." *Id.* ¶ 7.9. "These items affect or influence the 'registering' step" of claim element 1[e]. *Id.* This reading is consistent with the dictionary definition of "based" submitted by Petitioner: "To find a basis for; establish: *based her conclusions on the report.*" Ex. 1023, 3.⁵ Petitioner's newly proposed interpretation, which would permit a characteristic to be merely an "input" into a process, rather than a criterion or factor when registering the user, is an unreasonably broad reading of the "based on" claim language. As Patent Owner points out, "[m]erely determining something during a process does not mean a related decision was *based on* the thing determined." PO Resp. 15. "For example, a prospective employer might determine an applicant's eye color or hair color

⁵ We are not persuaded by Petitioner's arguments regarding the dictionary definitions of "base," as the terminology of the claim is "based on," not "base." See Reply 19.

during a hiring process, but that does not mean a proper hiring decision would be *based on* those characteristics.” *Id.*

Our construction that each of the phone characteristics recited in claim element 1[e] be used as a criterion or factor when storing user-specific data also is supported by the '034 patent Specification. The Specification states that “the present invention is directed to determining the characteristics of telephone numbers to assist in *making a determination* whether the telephone number owner is a potential defrauder.” Ex. 1001, 7:37–41 (emphasis added). The Specification explains that there is a need “to obtain information and characteristics of the telephone number to determine if the information provided [by the user] is fraudulent.” *Id.* at 1:66–2:1. The telephone characteristics can be “used” to determine whether or not to register a user or grant a user access to a website. *Id.* at 2:44–53. For example, the '034 patent states that various “characteristics of the telephone number are determined. If the telephone number is of a type which is restricted, or if it is suspected that the telephone number is fraudulent, access to the website or system is denied.” *Id.* at 2:58–60. Importantly, in the paragraphs immediately preceding this disclosure, the Specification discloses what those “characteristics” are: “the type of phone associated with the phone number, the phone carrier of the phone number, and the geographic characteristics of the phone number.” *Id.* at 2:11–14. It is these characteristics that are used to determine whether to register the user.

In another example, the Specification states that the determined phone characteristics can be compared with previously provided verification information and if the information provided by the registrant is not consistent with the previously stored information, the user can be flagged as

potentially fraudulent. *Id.* at 9:46–49. In another example, users who are not using landline telephone lines may be blocked. *Id.* at 9:14–16. In another example, the Specification states that certain phone characteristics can be used during the registration process to identify risks of fraudulent activity. *Id.* at 1:51–61. In each of these examples, the phone characteristics themselves are used to determine whether to register the user. See PO Resp. 39 (“The entire point of determining the phone-number characteristics in the ’034 patent is to consider them when registering to help detect fraud. User information is stored differently based on the recited characteristics, for example, some are not flagged as fraudulent, some are.”).

In its Reply, Petitioner argues that because the “[S]pecification never describes using ‘carrier’ directly in the registration process” and “never limits ‘carrier’ to being a direct input into the registration process,” the claim must be construed as encompassing “indirect” inputs.⁶ Reply 21. To support this argument, Petitioner asserts that the Specification describes using the phone carrier identity as a “starting point” to determine that a call within the Los Angeles area code originated from a VOIP phone. *Id.* at 20 (citing Ex. 1001, 8:1–59⁷). Petitioner contends that in this example, carrier

⁶ The Specification does not use the term “input”—“direct,” “indirect,” or otherwise—when referring to registering the user.

⁷ The Specification states that “[t]he carrier [can] be determined given the ten digits, and the received telephone number can be analyzed to determine the carrier [I]f the first three digits do not match a toll-free or restricted number, the carrier digits are compared to the received telephone number to match a carrier to the telephone number. For example, if the carrier level is 3, . . . the phone number is determined to be a VOIP number . . . granted, currently, by XO CommunicationsTM or Global CrossingTM.” Ex. 1001, 8:17–28.

identity is not a “direct” input, but rather a “starting point” to determine geographic characteristics. *Id.* Petitioner further argues that “geographic characteristic is the only direct input into the registration process.” *Id.*

This argument is not persuasive, as there is no requirement that a patent must provide examples of every embodiment encompassed by the claim. Moreover, we disagree with Petitioner that the '034 patent does not disclose using the phone carrier in the registration process. The Specification states that the phone “characteristics” (which it defines as the phone type, phone carrier, and geographic characteristics) are “determined” and then “used” in making a decision to register the user. Ex. 1001, 2:11–14, 2:44–46, 8:45–59 (explaining how “distinctions can be made between different types of telephone numbers” to determine whether to register a user), 9:26–49. As noted above, the Specification further states that the geographic characteristics of the telephone number (determined by analyzing the ten digit phone number) are “weighed” with other characteristics, including the phone type and whether the telephone number is not necessarily restricted to a particular geographic location. *Id.* at 8:38–44.

Moreover, Petitioner’s argument that the broadest reasonable interpretation of “based on” should encompass “indirect” inputs that are a “starting point” necessary to completing the registration process is belied by the deposition testimony of Petitioner’s own declarant, Dr. Shamos. *See* Reply 21. During his deposition, Dr. Shamos disagreed that registration is “based on” something merely because that thing is necessary or “required” to the registration process. Ex. 2025, 51:21–52:4. Dr. Shamos stated that even though some steps may be “necessary” to a registration process, it is

not “logically correct” to say that registration is *based on* those steps. *Id.* For example, even if electric power to a gaming server is required in order for the gaming server to make the decision whether or not to register the user, the user is not registered “based on” electrical power. *Id.* Thus, Petitioner’s own declarant disagrees with Petitioner’s argument that “based on” includes anything from which a start is made or anything which is a first and “necessary” step to registering a user. *See, e.g.,* Reply 19–21.

Finally, we note that Petitioner’s proposed interpretation, which would allow a characteristic to be merely an “indirect” input into the registration process, is impermissibly vague. The Specification of the ’034 patent does not refer to “direct” or “indirect” inputs, and Petitioner does not explain sufficiently what it means to be an “indirect” input such that we could determine the exact scope of its proposed interpretation. *See, e.g.,* Paper 56, 7:20–8:24, 18:16–20:16, 30:23–31:10. For that reason as well, we are not persuaded that Petitioner’s proposal is the broadest reasonable interpretation.

Accordingly, based on the complete record before us, under the broadest reasonable interpretation consistent with the Specification of the ’034 patent, we construe “registering the user . . . based on the type of phone, the phone carrier, [and] the geographic characteristics associated with the telephone number” to mean using the recited items (i.e., phone type, phone carrier, and geographic characteristics) as criteria or factors when storing user-specific data.

C. Priority Date of the '034 Patent

Petitioner asserts that the '034 patent is not entitled to claim priority back to the January 11, 2005 filing date of parent U.S. Patent Application No. 11/034,421, to which the '034 patent claims priority as a continuation-in-part application. Corrected Pet. 7–9. However, as each of the asserted references was filed before the October 31, 2005 filing date of the application that gave rise to the '034 patent, each of the asserted references is prior art to the '034 patent regardless of whether or not the '034 patent is entitled to claim priority to the January 11, 2005 date. As such, we need not, and do not, reach this issue.

D. Asserted Obviousness of Claims 1–4, 6, 7, 9, and 11–14 over Nguyen

Petitioner contends claims 1–4, 6, 7, 9, and 11–14 are unpatentable under 35 U.S.C. § 103 over Nguyen. Corrected Pet. 21–57. To support its contentions, Petitioner provides explanations as to how the prior art allegedly teaches each claim limitation and also relies on the Declaration of Dr. Shamos (Ex. 1002). Patent Owner opposes. For the reasons set forth below, we determine that Petitioner has not shown by a preponderance of the evidence that claims 1–4, 6, 7, 9, and 11–14 are unpatentable under 35 U.S.C. § 103 over Nguyen.

Obviousness under 35 U.S.C. § 103 requires an assessment of (1) the “level of ordinary skill in the pertinent art,” (2) the “scope and content of the prior art,” (3) the “differences between the prior art and the claims at issue,” and (4) “secondary considerations” of nonobviousness, such as “commercial success, long-felt but unsolved needs, failure of others, etc.” *KSR*, 550 U.S. at 406 (quoting *Graham v. John Deere Co.*, 383 U.S. 1, 17-18 (1966)). A

party who petitions the Board for a determination of obviousness must show that “‘a skilled artisan would have been motivated to combine the teachings of the prior art references to achieve the claimed invention, and that the skilled artisan would have had a reasonable expectation of success in doing so.’” *Procter & Gamble Co. v. Teva Pharms. USA, Inc.*, 566 F.3d 989, 994 (Fed. Cir. 2009) (citation omitted). We address the parties’ arguments and evidence according to the articulated standard.

1. Nguyen

Nguyen, titled “Location and User Identification for Online Gaming,” is directed to methods for determining the identity, location, and age of a user/player who wants to participate in Internet gambling. Ex. 1003, 1:45–54. Figure 2 of Nguyen, shown below, illustrates an online player registration process.

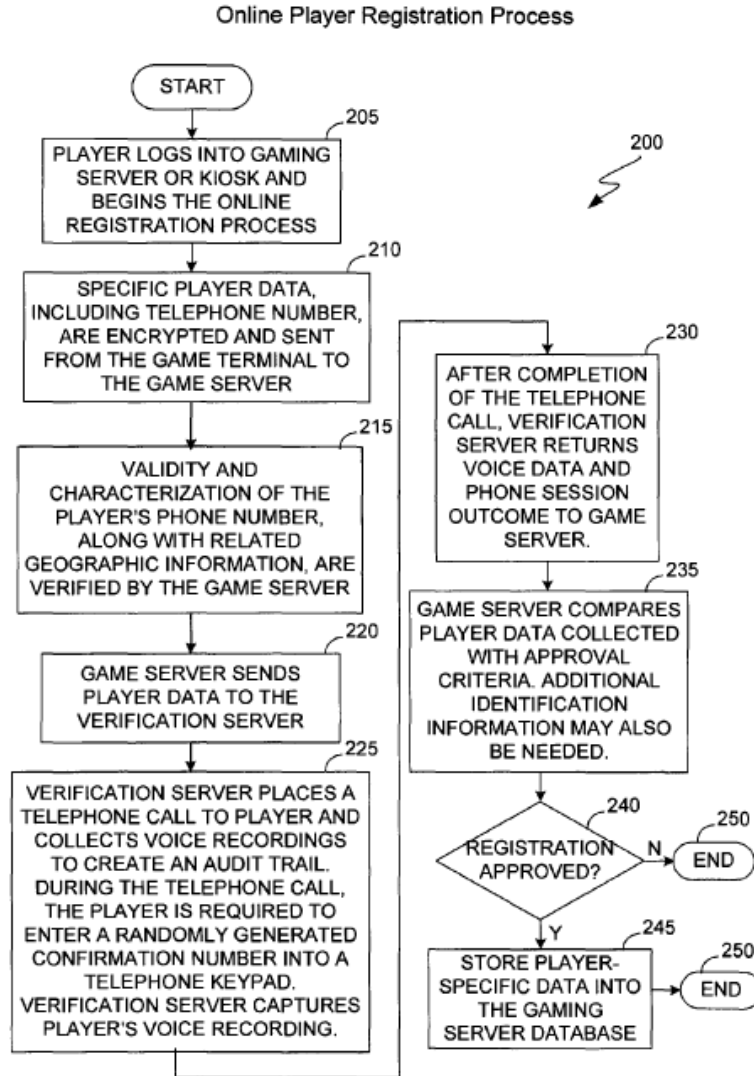


FIG. 2

Figure 2 of Nguyen, shown above, illustrates a registration process in which a player logs into a game server and provides player-specific information, such as the player's telephone number and address. *Id.* at 8:1–9, Fig. 2, steps 205, 210. The validity and characterizations of the player's phone number, along with related geographic information, are verified by the game server. *Id.* at 9:1–2, Fig. 2, step 215. “For example, a database of telephone numbers and associated addresses (such as a database maintained

by a telephone company) may be referenced to verify a telephone number and compare the associated address with one provided by the player.” *Id.* at 9:2–7. The telephone number may be checked to determine if it is a valid number. *Id.* at 9:7–9. The telephone number also may be characterized to determine “whether the associated telephone is connected to a land line, a wireless/cellular network, etc.” *Id.* at 9:9–13, Fig. 2, step 215. The game server then sends player data to the verification server. *Id.*, Fig. 2, step 220.

The verification server places a telephone call to the player and collects voice recordings to create an audit trail. *Id.* at 9:25–41, Fig. 2, step 225. During the telephone call, the player is required to enter a randomly generated confirmation number into a telephone keypad. *Id.* at 9:42–44, Fig. 2, step 225. After completing the call, the verification server returns a voice data and phone session outcome back to the game server. *Id.*, Fig. 2, step 230.

The game server then compares the collected player data with approval criteria. *Id.*, Fig. 2, step 235. Examples of approval criteria include the laws of the jurisdiction within which the player is located, the player’s credit rating, and the player’s relationship to owners/operators of the Internet casino. *Id.* at 9:54–59. Additional information may be collected if required to make a decision to approve or reject the registration. *Id.* at 9:58–59. Based on the comparison performed in step 235, the registration is either approved or rejected. *Id.* at 9:13–18, 9:53–10:2, Fig. 2, step 240. If approved, the player-specific data is stored in the gaming server database. *Id.* at Fig. 2, step 245.

2. Analysis

Claim element 1[b] of the '034 patent requires determining certain phone characteristics (i.e., the type of phone, the phone carrier, and geographic characteristics associated with the telephone number) and claim element 1[e] requires “registering the user . . . based on” those characteristics.

Regarding claim element 1[b], Petitioner argues Nguyen teaches determining each of the recited phone characteristics. Corrected Pet. 23–31. For example, Petitioner argues, *inter alia*, Nguyen teaches determining (1) the type of phone by determining whether the phone associated with the telephone number is a landline or cellular phone, (2) geographic characteristics by referencing a phone carrier database to compare the address provided by the player with the address in the database or by prompting the player to make oral statements verifying his or her location, and (3) the phone carrier by referencing the phone carrier’s database to verify the phone number and address received from the player or by sending a location request to the phone carrier in order to retrieve the location information of the phone. *Id.* at 23–31.

Regarding claim element 1[e], Petitioner contends that Nguyen teaches a registration process through which a player is registered for an online gaming site. *Id.* at 45–47 (citing Ex. 1003, Fig. 2, 7:53–10:13). Petitioner contends Nguyen’s game server approves registration and access to the gambling site and stores player-specific data in the game server database. *Id.* at 45 (citing Ex. 1003, 7:53–67, 9:53–10:4, Fig. 2, step 245; Corrected Pet. Part X.A.3). Petitioner asserts that “[t]his registration is based on the type of phone, the phone carrier, and the geographic

characteristics associated with the telephone number.” *Id.* at 46 (citing Ex. 1003, Fig. 2, 7:53–10:13). Petitioner states that Nguyen’s gaming server determines the type of phone associated with the telephone number (i.e., determines that the phone is a non-GPS-enabled cellular phone), determines the phone carrier in order to request location information, and then determines the geographic characteristics by requesting the location of the cell site number from the phone carrier. *Id.* at 46–47 (citing Corrected Pet. Part X.A.3(3)–(4)). According to Petitioner, “[o]nly after the gaming server has determined the phone type, the phone carrier, and the geographic characteristics, does the gaming server ‘register’ the user” by storing player-specific data in the game server’s database. *Id.* at 47.

Patent Owner responds that Petitioner has not shown that Nguyen teaches or suggests registering a user based on the phone carrier as recited in element 1[e], as an element distinct from electronically determining the phone carrier as recited in element 1[b]. PO Resp. 18–27, 38–49, 50, 54–74.

Upon review of a fully developed record, we determine that Petitioner has not demonstrated that Nguyen teaches or suggests “registering the user . . . based on . . . the phone carrier.” Petitioner has not shown that Nguyen teaches or suggests that the phone carrier itself is used as a criterion or factor when storing user-specific data. We understand Petitioner to argue in the Corrected Petition that because Nguyen teaches determining each of the recited phone characteristics, and only registers the user after those characteristics are determined, Nguyen teaches registering a user based on those phone characteristics. *See* Corrected Pet. 45–47. Petitioner also states that Nguyen teaches that a player’s registration is either approved or rejected based on comparison step 235, which requires that collected player data is

compared with “approval criteria.” Reply 18 (citing Ex. 1003, Fig. 2, 9:63–67); *see also* Corrected Pet. 56 (stating that “[d]uring the registration process in Figure 2, Nguyen discloses approving or denying access to its gaming site or system upon determining characteristics of the received telephone number”).

However, these allegations are not sufficient to establish that Nguyen teaches registering a user based on a phone carrier. Petitioner has not shown that the phone carrier itself is used as a criterion or factor when storing user-specific data. Although Nguyen teaches using “approval criteria” in determining whether or not to register the user, Nguyen does not disclose that the phone carrier is an approval criterion. Rather, Nguyen states that the approval criteria can include the laws of the jurisdiction where the player is located, the player’s credit rating, and the player’s relationship to owners/operators of the Internet casino. Ex. 1002, 9:54–57, Fig. 2, step 235. The gaming system determines whether to approve or reject the player’s registration “based on the comparison in step 235.” *Id.* at 9:63–64. The “registration approved” step 240 does not discuss a phone carrier; instead, approval requires (1) verification of whether or not the player’s registered location/address is within a jurisdiction that allows gaming, and (2) verification that the player is old enough to participate in gaming according to the rules of the jurisdiction. *Id.* at 9:63–10:2. Thus, Petitioner has not shown that Nguyen teaches using the “phone carrier” as a criterion or factor when storing user-specific data.

In its Reply, Petitioner presents two additional arguments as to why Nguyen allegedly teaches registering a user based on the phone carrier. First, citing to testimony by Patent Owner’s declarant, Dr. Nielson,

Petitioner argues that even if “registering . . . based on” is construed as “using the [recited criteria] as criteria or factors when storing user-specific data,” Nguyen teaches registering the user based on the phone carrier because Nguyen’s phone carrier “influences” registration of the user. Reply 17–19 (stating that according to Patent Owner’s declarant, a factor “influences” registration) (citing Ex. 1040, 88:9–21). Petitioner argues that Nguyen’s system determines geographic characteristics (e.g., address and location information) by first determining the carrier and then by asking the carrier for the geographic information. *Id.* at 18. Petitioner argues that because determining the carrier is a “first and a necessary step” to determining address and location information, and registration approval is based on at least the player’s “registered location/address,” the carrier determination “influences” the final registration decision. *Id.* at 18–19. Petitioner contends that because the phone carrier influences the final registration process, the user is registered “based on” the phone carrier. *Id.* at 17–19.

However, Petitioner’s argument overstates Dr. Nielson’s testimony as to when registration is “based on” a factor that “influences” a decision. Dr. Nielson testified that a criteria is a “piece of information used in making a decision” and a factor is a “piece of information that influences a decision.” Ex. 1040, 88:9–14. When asked what is the difference between a criterion and a factor as those terms are used in Patent Owner’s proposed claim construction, Dr. Nielson testified that “they’re mostly overlapping and it’s clarification, but factor especially emphasizes that it’s influencing as opposed to rendering a final decision.” *Id.* at 88:15–21. Dr. Nielson further explained “if you’re absolutely requiring something, I would call that [] a

criteria.” *Id.* at 94:17–19. For example, “if you do not allow any voice over IP phones from, say, [Vonage], then [Vonage] is a criteria for registration.” *Id.* at 94:19–21. “On the other hand, if [Vonage] indicates that you’re going to flag the [user], I’d say that’s more like a factor.” *Id.* at 94:22–24. Dr. Nielson further testified that “[y]ou could also think of a factor as being something where there were other decisions that you used to decide whether or not to allow them, but the type of phone influenced it. I would say that’s more of a factor.” *Id.* at 91:10–14. We understand Dr. Nielson to state a “factor” is one input into the decision process that must be considered; a factor influences, but does not necessarily control, the outcome of the decision. In contrast, a criterion can dictate the outcome of the decision.

As such, we disagree with Petitioner’s first argument that Nguyen teaches registering a user based on the phone carrier because the phone carrier is a first and a necessary step in the registration process and is therefore a “factor” that “influences” registration. Reply 17–19. Petitioner has not shown that the phone carrier itself is used as a criterion or factor when storing user-specific data, or that the phone carrier itself influences the decision to register the user. Indeed, Petitioner admits that, under its view of the claim language, “[c]arrier identity is not needed as a direct input into the registration decision.” *Id.* at 19–20.

Additionally, testimony from Petitioner’s own declarant, Dr. Shamos, belies Petitioner’s argument that Nguyen teaches registering a user based on the phone carrier because the phone carrier is a “first and a necessary step” in the registration process. As explained above, during his deposition, Dr. Shamos disagreed that in Nguyen a user is registered “based on” something merely because that thing is necessary or “required” to the registration

process. Ex. 2025, 51:21–52:4. For example, Dr. Shamos testified that although electric power to Nguyen’s gaming server may be required or necessary in order to make the decision whether or not to register the user, the user is not registered “based on” electrical power. *Id.* Thus, even though providing electrical power to power up the gaming server is a first and necessary step to electronically registering a user on the gaming server, registration is not *based on* electrical power. *Id.* at 50:11–52:4.

Second, in its Reply, Petitioner also argues Nguyen teaches registering a user based on the phone carrier because under the broadest reasonable interpretation, “based on” encompasses using a characteristic either as a “direct” or “indirect” input into the registration decision “because both input types are a starting point.” Reply 19. This argument is not persuasive, as it is based on Petitioner’s proposed claim construction, which, as noted above, we do not adopt. *See supra* Section III.B.

For the reasons stated above, we determine that Petitioner has not shown that Nguyen teaches registering the user in Nguyen’s gaming system based on the phone carrier.

For the foregoing reasons, we determine Petitioner has not shown by a preponderance of the evidence that independent claim 1, or claims 2–4, 6, 7, 9, and 11–14, which depend from claim 1, are unpatentable over Nguyen. *See In re Fine*, 837 F.2d 1071, 1076 (Fed. Cir. 1988) (“Dependent claims are nonobvious under section 103 if the independent claims from which they depend are nonobvious.”).

*E. Asserted Obviousness of Claims 1–4, 6, 7, 9, and 11–14
over Nguyen and De Petris or over Nguyen, De Petris, and Singhal*

Petitioner does not rely upon De Petris or Singhal to remedy the deficiencies noted above with respect to the registering step of claim element 1[e]. See Corrected Pet. 16–19, 45–48, 59–60. Rather, Petitioner relies upon De Petris for allegedly teaching use of the phone carrier to determine geographic characteristics associated with the telephone number as required by claim element 1[b] and upon Singhal for allegedly teaching communicating a verification message with a telephone over a communications network as required by claim element 1[d]. *Id.* As such, we determine Petitioner has not shown by a preponderance of the evidence that claims 1–4, 6, 7, 9, and 11–14 are unpatentable over Nguyen and De Petris or over Nguyen, De Petris, and Singhal.

F. Patent Owner’s Motion to Exclude

Patent Owner filed a Motion to Exclude certain evidence (Paper 50), to which Petitioner filed an Opposition (Paper 52) and Patent Owner filed a Reply (Paper 53). Because we have not relied upon any of the exhibits or testimony sought to be excluded in a manner adverse to Patent Owner, we dismiss Patent Owner’s Motion to Exclude as moot.

G. Patent Owner's Motion for Observation

Patent Owner filed a Motion for Observation on the cross-examination testimony of Mr. Williams (Paper 49), to which Petitioner filed an Opposition (Paper 51). Because Mr. Williams' testimony is not pertinent to the dispositive issues in this proceeding discussed above, we need not address Patent Owner's observations and Petitioner's responses in rendering this Final Written Decision.

H. Motion to Amend

Patent Owner's Motion to Amend is contingent on claim 1 of the '034 patent being held unpatentable. Mot. to Amend 1 ("should claim 1 be found unpatentable, Patent Owner moves to cancel claim 3 and substitute claims 35–47 for claims 1, 2, and 4–14"). Because claim 1 is not held to be unpatentable, there is no occasion to reach or decide the Motion to Amend.

IV. CONCLUSION

For the foregoing reasons, we determine that Petitioner has not shown, by a preponderance of the evidence, that claims 1–4, 6, 7, 9, and 11–14 of the '034 patent are unpatentable over (1) Nguyen, (2) Nguyen and De Petris, or (3) Nguyen, De Petris, and Singhal.

V. ORDER

For the reasons given, it is:

ORDERED that Patent Owner's Motion to Exclude (Paper 50) is dismissed;

FURTHER ORDERED that claims 1–4, 6, 7, 9, and 11–14 of the '034 patent have not been shown to be unpatentable;

FURTHER ORDERED that Patent Owner's Contingent Motion to Amend (Paper 28) is dismissed as moot; and

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

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