

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

CISCO SYSTEMS, INC.,
Petitioner,

v.

ZILKR CLOUD TECHNOLOGIES, LLC,
Patent Owner.

IPR2023-00822
Patent 9,883,047 B2

Before KRISTEN L. DROESCH, KEVIN C. TROCK, and
MICHAEL T. CYGAN, *Administrative Patent Judges*.

CYGAN, *Administrative Patent Judge*.

JUDGMENT
Final Written Decision
Determining All Challenged Claims Unpatentable
35 U.S.C. § 318(a)

I. INTRODUCTION

A. *Background and Summary*

Cisco Systems, Inc. (“Petitioner”) filed a Petition requesting an *inter partes* review of claims 1 and 4–7 of U.S. Patent No. 9,883,047 B2 (Ex. 1001, “the ’047 patent”). Paper 2 (“Pet.”). Zilkr Cloud Technologies, LLC (“Patent Owner”) filed a Preliminary Response to the Petition. Paper 8 (“Prelim. Resp.”). The Petition is supported by a declaration from Dr. Henry Houh. Ex. 1003 (“Houh Declaration”). The Preliminary Response is supported by a declaration by Dr. Robert Akl. Ex. 2001. With our authorization, Petitioner filed a *Sotera* stipulation. Paper 9. On December 7, 2023, we instituted an *inter partes* review as to claims 1 and 4–7 of the ’047 patent on the asserted ground of unpatentability. Paper 10.

Patent Owner filed a Response (Paper 16, “PO Resp.”) to the Petition, supported by a declaration by Dr. Vijay Madiseti (“Madiseti Decl.”), and accompanied by a transcript of a deposition of Dr. Houh. Exs. 2004, 2005. Patent Owner stated that it “hereby withdraws the Declaration of Dr. Robert Akl submitted with the Preliminary Response.” PO Resp. 1 n1. Petitioner filed a Reply (Paper 19, “Pet. Reply”), supported by a supplemental declaration by Dr. Houh (“Houh Supp. Dec.”), and accompanied by a transcript of a deposition of Dr. Madiseti (“Madiseti Dep.”). Exs. 1020, 1019. Patent Owner filed a Sur-reply. Paper 22. The parties requested oral argument (Papers 20, 21), which we held by video on September 10, 2024, and a transcript of which was entered into the record of the proceeding. Paper 27 (“Tr.”).

The Board has jurisdiction under 35 U.S.C. § 6. In this Final Written Decision, after reviewing all relevant evidence and arguments, we determine

Petitioner has met its burden of showing, by a preponderance of the evidence, that claims 1 and 4–7 of the '047 patent are unpatentable.

B. Real Parties in Interest

Petitioner identifies Cisco Systems, Inc. as the real party-in-interest. Pet. 72. Patent Owner identifies Zilkr Cloud Technologies, LLC as the real party-in-interest. Paper 3, 1.

C. Related Matters

The parties represent that the '047 patent is involved in *Zilkr Cloud Technologies, LLC v. Cisco Systems, Inc.*, 2-22-cv-00166 E.D. Tex., filed May 20, 2022,¹ and *Zilkr Cloud Technologies, LLC v. RingCentral, Inc.*, 3-21-cv-02807 N.D. Tex., filed Nov. 11, 2021, and terminated on April 12, 2022. Pet. 72; Paper 3, 1.

The parties represent that the '047 patent is related to U.S. Patent No. 9,210,254, which is involved in the *Inter Partes* Review proceeding IPR2023-00553. *Id.* The '047 patent is also related to U.S. Patent No. 9,998,607, which is involved in the *Inter Partes* Review proceeding IPR2023-00663. *Id.* The '047 patent is also related to U.S. Patent No. 9,883,048, which is involved in the *Inter Partes* Review proceeding IPR2023-00809. *Id.*

D. The '047 Patent

The '047 patent is titled “Multiple Service Group Interactions and Authorizations.” Ex. 1001, code (54). The '047 patent issued from Application No. 15/094,920, filed on April 8, 2016, and claims priority, via

¹ Patent Owner represents that this case “is currently stayed.” PO Resp. 2.

continuation applications, to Provisional Application No. 61/888,856, filed on October 9, 2013. *Id.* at codes (21), (22), (60), (63).

The '047 patent relates to seamless integration of a telephony network and an internet-based network of third party applications through a unified services platform. PO Resp. 3. Customers having traditional analog telephone service may wish to add services and applications to their telephone systems. Ex. 1001, 1:23–33. However, many new services and applications are supplied by other providers, and will often use different rules, interfaces, and policies. *Id.* at 1:33–38. The '047 patent provides a unified services platform that establishes service accounts for different application service provider systems, and integrates the different application programming interfaces (APIs) of each system therein. *Id.* at 2:44–62. The unified system further provides a description of the services, and permits users to trigger actions by a policy and rules engine that operates neutrally across network providers and application developers. *Id.* at 7:41–53.

E. Illustrative Claim

Claim 1 is illustrative, and recites as follows:²

1. [1.0] A method of provisioning a service for use with a group plan, the method comprising:

[1.1] receiving, by a unified services platform system, a subscription request for a service for a group plan,

[1.2] wherein the group plan comprises a plurality of telephone numbers, wherein each telephone number of the plurality of telephone numbers is associated with a subscriber, and

[1.3] wherein the service is provided by a third party application service provider system;

² Bracketed numbering added as per the Petition.

[1.4] sending, by the unified services platform system, an activation request for the group plan to the third party application service provider system,

[1.5] receiving an activation response from the third party application service provider system;

[1.6] associating the service with each telephone number of the plurality of telephone numbers;

[1.7] providing access to the service for each telephone number based on the associating;

[1.8] receiving, by the unified services platform system, a subscription request for a second service from a subscriber associated with a first telephone number of the plurality of telephone numbers,

[1.9] wherein the second service is provided by a second third party application service provider system;

[1.10] sending, by the unified services platform system, a second activation request for the service to the second third party application service provider system;

[1.11] receiving a second activation response from the second third party application service provider system;

[1.12] associating the second service with the first telephone number; and

[1.13] providing access to the second service for the first telephone number based on the associating.

F. Evidence

Petitioner relies on the following patent publication evidence.

Name	Patent Document	Exhibit
Raleigh	US 2013/0132854 A1	1005

G. Prior Art and Asserted Grounds

Petitioner asserts that claims 1 and 4–7 would have been unpatentable on the following ground:

Claim(s) Challenged	35 U.S.C. §	Reference(s)/Basis
1, 4–7	103 ³	Raleigh

II. ANALYSIS

A. Legal Standards

A claim is unpatentable under 35 U.S.C. § 103 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].” *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007). The question of obviousness is resolved 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 ordinary skill in the art; and (4) objective evidence of non-obviousness.⁴ *See Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).

B. Level of Ordinary Skill in the Art

Petitioner asserts that a person of ordinary skill in the art [“POSITA”] in 2013

would have had experience in and knowledge of telecommunications and networking technologies. A POSITA would have had a bachelor’s degree in electrical engineering, computer science, computer engineering, or an equivalent. A POSITA would have also had two years of experience in

³ Petitioner asserts, and we agree based on the record, that the AIA patentability scheme applies to the ’047 patent. *See* Pet. 13.

⁴ Neither party presents evidence or arguments regarding objective evidence of non-obviousness.

telecommunications and networking. Lack of education can be remedied by additional professional experience, and lack of professional experience can be remedied by additional education.

Pet. 12 (citing Ex. 1003 ¶ 21).

Patent Owner argues that the person of ordinary skill in the art would have

a bachelor's degree in electrical engineering, computer engineering, and/or computer science and one to two years of experience with computer software development, particularly for telecommunications related applications. Extensive experience and technical training may substitute for educational requirements, and advanced education may substitute for experience.

PO Resp. 11. Patent Owner adds that Dr. Madisetti's opinions apply under either set of qualifications, and thus, "the Petition is deficient independent of the proposed level of ordinary skill." *Id.*

For purposes of this Decision, we adopt Petitioner's proposed level of ordinary skill, because it appears to be consistent with the specification of the '047 patent and the prior art of record. Our analysis in this proceeding would be the same under Patent Owner's slightly different characterization.

C. Claim Construction

In an *inter partes* review, we construe a patent claim "using the same claim construction standard that would be used to construe the claim in a civil action under 35 U.S.C. § 282(b)." 37 C.F.R. § 42.100(b) (2019). Under this standard, the words of a claim generally are given their "ordinary and customary meaning," which is the meaning the term would have to a person of ordinary skill at the time of the invention, in the context of the entire patent including the specification. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312–13 (Fed. Cir. 2005) (en banc).

Here, Petitioner did not assert that any term requires specific construction to resolve the controversy. Pet. 12. Patent Owner stated that it did not assert construction of any term because “it would not be necessary to resolve the controversy.” PO Resp. 10. However, Petitioner asserted that Patent Owner provided certain statements that amounted to an implicit claim construction. Pet. Reply 5. Petitioner “maintains that no term requires specific construction (Pet. 12) but offers the following appropriate constructions if the Board determines that formal construction is necessary.” *Id.* In response to Petitioner’s Reply, Patent Owner provides its own interpretations of certain limitations in its Sur-reply, although also referring to the plain meaning of these limitations. *See* PO Sur-reply 1, 5, 8. We address these as part of the obviousness analysis, except for limitation [1.1]’s “subscription request for a service for a group plan,” for which both parties have proposed a construction (although each asserts that a full construction is unnecessary).

Patent Owner’s arguments for limitation [1.1] are based upon its interpretation requiring the claimed subscription request to “subscribe each member of a group to a service.” PO Resp. 12–21. Because Patent Owner’s interpretation goes beyond the plain language of the limitation, which recites, “subscription request for a service for a group plan,” some claim interpretation is required in order to resolve the obviousness dispute.

Patent Owner, drawing on the language of claim 1 and certain passages from the ’047 specification, argues that “the claimed ‘subscription request for a service for a group plan’ at least includes a request to subscribe each member of a group to a service.” PO Resp. 12–14. With respect to the language of claim 1, Patent Owner states,

the first subscription request (in limitation [1.1]) is “for” the group plan, requiring at least that it is a request to subscribe each member of the group to the service, and the second subscription request (in limitation [1.8]) is merely a subscriber of the group requesting a subscription to a service for that subscriber.

Id. at 14. Patent Owner points to an embodiment of the ’047 patent in support. PO Resp. 12–13 (citing Ex. 1001, 30:41–43, 30:57–62, 30:64–67, 31:1–5, 31:8–10, 31:19–22, 31:30–22, 31:35–42). In its arguments against Raleigh, Patent Owner argues that after a subscription request is made, adding a service to a master account or sharing an account is insufficient under claim 1 because “there is no single request for each member of the group, and the users are not each subscribers of a service but are merely sharing a single service.” *Id.* at 18 (citing Ex. 2004 ¶¶ 57, 63).

Petitioner argues that the plain language of claim 1 refutes Patent Owner’s construction because limitation [1.1] recites a “*subscription request for a service for a group plan.*” Pet. Reply 5–6. Petitioner argues that this language indicates that the request is made at a group level, not on an individual-by-individual basis. *Id.* at 6. Petitioner asserts that none of claim limitations [1.2], [1.6], or [1.7] further characterize the subscription request, but instead identify information to include in a group plan and set forth steps for associating and providing the requested service to each phone number in the group plan. *Id.* Petitioner argues that the embodiment of the ’047 patent discussed by Patent Owner includes a “group plan identifier” in the request that identifies the group as a group, not as individual members of the group. *Id.* at 7 (citing Ex. 1001, 30:59–63). Petitioner argues that Figure 12 requires that a subscription request may “identify a group plan identifier,” which is distinct from the Figure 13 embodiment in which “a request may

identify each subscriber telephone number.” *Id.* (citing Ex. 1001, 31:50–66). Petitioner argues that Patent Owner’s implied construction “would essentially exclude the embodiment of Figure 12.”

Petitioner further argues that Patent Owner’s suggestion that the subscription request must result in subscribing each member of a group, or at least multiple subscribers thereof, is erroneous because claim 1 does not address the “result” of the subscription. *Id.* at 6–7. Petitioner relies on Dr. Houh’s testimony that it is sufficient for the group members to be provided with “*access to the service.*” *Id.* at 8 (quoting Ex. 1020 ¶¶ 14–15). Petitioner acknowledges the ’047 patent’s discussion of generating activation data and associating the service with the existing telephone numbers of the subscribers in the group plan, followed by generating necessary configuration data to activate the new service for each subscriber in the group plan. *Id.* However, Petitioner characterizes this discussion as describing, using permissive language, what may happen after a service has been added to a group plan. *Id.* at 8–9. Petitioner argues that nothing in Patent Owner’s cited embodiment requires that the claimed subscription request identify the individual members of the group. *Id.* at 9 (citing Ex. 1020 ¶¶ 14–15).

Petitioner argues that no construction is necessary, but that if construction is performed, a “*subscription request for a service for a group plan*” should include “a request to subscribe a group to a service,” in which “the members to be included in the group plan may be identified via a group plan identifier.” *Id.* at 9–10.

In its Sur-reply, Patent Owner clarifies that it does not argue that the claimed subscription request “must list each member of a group, or that the request may not use a group identifier to identify the group.” PO Sur-

reply 1. Patent Owner further clarifies its position, that “[t]he request must, however, be interpreted at least as a request to subscribe each member of the group to the requested service.” *Id.* Patent Owner argues that “[a] request resulting in activating the service for a single subscriber or no subscribers is not a subscription request for a service for a group plan.” *Id.* at 2.

Patent Owner points to the context provided by limitations [1.6] and [1.7], which associate the service with, and provide access to the service for, each telephone number associated with the group plan. *Id.* at 3. Patent Owner argues that these limitations are not consistent with Petitioner’s construction that permits a subscription request to generally relate to a group plan, with members of the group plan later gaining access to the service. *Id.* (citing PO Resp. 12–13 (quoting Ex. 1001, 30:41–31:42)). Patent Owner further contrasts limitations [1.8]–[1.13] as regarding a subscriber, a member of the group, requesting a subscription for a service. *Id.* Patent Owner argues that under Petitioner’s reading, the subscription request for a second service in limitation [1.8] would “also be for a group plan” despite the claim only requiring that the second service be associated with the first telephone number. *Id.* at 3–4.

We agree with Petitioner’s proposed construction that a “*subscription request for a service for a group plan*” should include “a request to subscribe a group to a service,” in which “the members to be included in the group plan may be identified via a group plan identifier.” In responding to this proposed construction, Patent Owner does not disagree that the request may identify members in the group plan using a group plan identifier. PO Sur-reply 5. We do not agree with Patent Owner that the proper construction is “a request to subscribe each member of the group to the requested service.”

Petitioner's construction is supported by the plain language of the claim, which clearly states that the request is "for a group plan," not for individual members of that group plan. Patent Owner has not pointed to any disclosure in the specification that requires the request to specify any particular membership of that group. Patent Owner admits that the request itself does not necessarily need to have any particular structure, content or syntax. Tr. 27:17–28:4 ("the claim does not limit the specific structure or content of the request. There's no particular syntax that's spelled out, certainly, in the claim."); PO Sur-reply 1 (stating that there is no requirement that the request "must list each member of a group, or that the request may not use a group identifier to identify the group."). Thus, the plain language of the claim requires the group plan, not its members individually, to be subscribed.

Patent Owner argues that some type of association of individual members with the request is needed because the identity of those members is necessary to subscribe the individual members. PO Resp. 15–18 ("None of these figures show that adding a service to a master service account results in subscribing each member of a group to a service"). During oral argument, Patent Owner posited that, in the request, "it seems like [the members of the group] would have to be identified in some way for the system to know what to do with [the request]." Tr. 27:17–24.

In fact, the '047 patent explains that the members of the group may be identified to the system separately from the request. Patent Owner acknowledges that step 1204 is a request for services sent to the provider, and that request may include a group plan identifier. PO Resp. 4–6 (quoting Ex. 1001, 30:43–31:22), 12 (identifying step 1204 as the claimed request); Ex. 1001, 30:57–30:62. In a separate step, step 1206, "[e]ach subscriber

identifier such as the telephone number can be associated with the group plan identifier.” PO Resp. 5; Ex. 1001, 30:62–30:64. Patent Owner relies only on step 1204, not 1206, as the claimed request. PO Resp. 5. Thus, associating individual subscribers with the group plan identifier may be performed in a separate step (1206) from the step (1204) that describes the claimed request. Consequently, the claimed request does not necessarily include information that associates the individual members (e.g., subscribers or telephone numbers), even though that information may be necessary for later actions, because it may be separately presented.

Moreover, as Patent Owner admits, claim 1 presents “group aspects claimed in limitations [1.1]–[1.2] and [1.4–1.7]” as contrasted with subscriber-specific limitations in limitations [1.8]–[1.13]. PO Resp. 14. Thus, the context of the claim is consistent with group subscription in limitations [1.1]–[1.7] and subscriber subscription in limitation [1.8]–[1.13].

Therefore, we determine that a “*subscription request for a service for a group plan*” should include Petitioner’s construction of “a request to subscribe a group to a service,” and not Patent Owner’s construction of “a request to subscribe each member of the group to the requested service.” We further agree with both parties that we need not construe the claim further than this determination, because that is all that is required to resolve the dispute.

For the remainder of the terms for which no controversy exists, no construction is needed, and those terms are given their ordinary and customary meaning. *See Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co.*, 868 F.3d 1013, 1017 (Fed. Cir. 2017) (noting that “we need only construe terms ‘that are in controversy, and only to the extent necessary to

resolve the controversy” (quoting *Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999))).

D. Obviousness over Raleigh

Petitioner asserts that claims 1 and 4–7 are unpatentable under 35 U.S.C. § 103 as obvious over Raleigh. Pet. 13–66. Patent Owner provides arguments and evidence against these assertions. PO Resp. 12–32.

Upon consideration of Petitioner’s explanations and the totality of evidence in this current record, we are persuaded that Petitioner has shown, by a preponderance of the evidence, that claims 1 and 4–7 are unpatentable under § 103 as obvious over Raleigh.

1. Raleigh

Raleigh is titled “Service Plan Design, User Interfaces, Application Programming Interfaces, and Device Management.” Ex. 1005, code (54). Raleigh relates to enabling mobile wireless subscribers to “view, research, select and customize service plans for one or more mobile wireless communication devices.” *Id.* ¶ 53. Raleigh describes allowing subscribers “to create and manage a group of two or more devices . . . without service provider involvement.” *Id.* Subscribers may “fully or partially assign a service plan” and “manage sharing, assigning, and restricting use of service plans by devices within a device group,” where managing includes “adding, deleting, or modifying devices or properties of devices, service plans, service accounts.” *Id.* ¶¶ 53–54. Services may include “voice, messaging, and data services offered by wireless service providers (e.g., carriers).” *Id.* ¶ 50.

Raleigh describes a “service account” as that which permits mobile user to communicate over a particular wireless communication network to access a service offered by a service provider. Ex. 1005 ¶ 381. Raleigh

describes a “service provider” in a variety of manners, depending on the context. Raleigh describes that a service provider may be one of an operator of a wireless communication network, retail partner, or a third party service partner. *Id.* ¶¶ 381, 643, 1011, 1610, 1700. In some embodiments, the service provider may be a carrier. *Id.* ¶¶ 428, 442, 643, 826, 1010, 1238. Other embodiments refers to a “network operator/carrier/service provider” or “e.g., a wireless network operator or a third party service provider.” *Id.* ¶¶ 463, 477. Raleigh describes the “service provider network” as “the network that includes the control plane servers,” that, “in some embodiments, the service provider (e.g., service owner) is defined by the entity that maintains and/or manages the service controller 125 associated with and controlling the service processors 115 that are inside the devices 105 using the service.” *Id.* ¶¶ 1302, 1305 (emphasis omitted).

Raleigh describes a service plan as that which allows access to services (voice, text, VOIP, chat) offered by a service provider. *Id.* ¶ 381. Raleigh describes a third party service partner system as, for example, iTunes or Application Store or iCloud. *Id.* ¶¶ 467, 741. Raleigh describes that a third party service partner system may be an alternative to a service provider to “participate in processes to select service providers and/or services (and activate service accounts and/or services for service providers).” *Id.* ¶ 1832.

2. *Analysis of Claim 1*

We begin our analysis of Petitioner’s obviousness contentions with Petitioner’s assertions as to claim 1.

a) *Limitations [1.0]–[1.3]*

Limitation [1.0] recites, “[a] method of provisioning a service for use with a group plan, the method comprising.” Petitioner points to Raleigh’s

description of “service plan provisioning,” where services may include voice, messaging, data, Internet access, voice over IP, video chat, and a story-reading service referred to as “iStoryBooks,” as teaching the claimed provisioning of services. Pet. 20 (citing Ex. 1005 ¶¶ 57, 381; Ex. 1003 ¶¶ 55–56), 25 (citing Ex. 1005 ¶¶ 841–842), 27 (citing Ex. 1005, Fig. 15I; Ex. 1003 ¶ 76). Petitioner points to Raleigh’s description of the “iStoryBooks” service plan as being available to both master and child devices on a single plan. *Id.* at 28–29 (citing Ex. 1005, Figs. 11A, 11D, ¶¶ 841–842; Ex. 1003 ¶ 78).

Petitioner further points to Raleigh’s description of device groups in which a single “master service account” is associated with several phones. *Id.* at 20–21 (citing Ex. 1005 ¶¶ 53, 382), 25–27 (citing Ex. 1005 ¶¶ 818 (“service plans can be shared among multiple devices in a device group”), 383 (“[f]or example, a parent might want to purchase a single service plan that is shared among all members of the family”), 927–929, Fig. 15I; Ex. 1003 ¶ 75). Petitioner asserts that, in this manner, Raleigh’s master service account teaches the claimed group plan.

Limitation [1.1] recites, “receiving, by a unified services platform system, a subscription request for a service for a group plan.” Petitioner points to Raleigh’s “third party service partner system” as teaching the claimed “unified services platform system.” Pet. 23 (citing Ex. 1005 ¶ 1848; Ex. 1003 ¶ 66). Raleigh describes its third party service partner system as an “application store” or “‘marketplace’ similar to Apple’s App Store,” maintained by a third party service partner. *Id.* (citing Ex. 1005 ¶¶ 1832, 1605, 1610, 1711). Because the third party service partner system provides communication service plan purchase and management to users of mobile devices for different service providers, Dr. Houh declares that a person

having ordinary skill in the art would have understood it to be a “unified services platform system.” Ex. 1003 ¶¶ 66–67; Pet. 23.

Petitioner asserts that the third party service partner system receives a service plan selection; i.e., subscription, from a user’s wireless communication device. Pet. 23–24 (citing Ex. 1005, Fig. 36A; Ex. 1003 ¶ 69). With respect to the service being for a group plan, Petitioner points to Raleigh’s description of service plan selection and activation features used for a service account, and asserts a person having ordinary skill would understand, or find it obvious, that Raleigh’s master service plan, which is a group plan as described above, is one type of service plan contemplated by Raleigh. *Id.* at 21 (citing Ex. 1003 ¶¶ 62–63); 25–26 (citing Ex. 1005 ¶¶ 1840, 1846). In this manner, Petitioner asserts that Raleigh’s third party service partner system receives a subscription request for a group plan, thereby teaching limitation [1.1].

Limitation [1.2] recites, “wherein the group plan comprises a plurality of telephone numbers, wherein each telephone number of the plurality of telephone numbers is associated with a subscriber.” Petitioner points to Raleigh’s depiction of multiple telephone numbers in a single master service account. *Id.* at 30–31 (citing Ex. 1005 ¶¶ 558–559, 737, 789, Figs. 8A, 9G; Ex. 1003 ¶¶ 80–81).

Patent Owner argues that Raleigh does not teach limitations [1.1] and [1.2] because Raleigh does not teach a request to subscribe each member of a group to a service. PO Resp. 12. Patent Owner argues that Raleigh’s service plan selection adds the service for a single user, and that user may share the service plan with other devices in the master account. *Id.* at 14–15 (citing Ex. 1005 ¶ 802; Ex. 2004 ¶ 59). Patent Owner argues that Raleigh lacks “a single request for each member of the group,” and that Raleigh’s

teaching of adding a service to a master account does not “subscribe each device in the master service account to the service.” *Id.* at 15 (citing Ex. 2004 ¶ 57). Patent Owner argues that none of Raleigh’s Figures 15I, 11A, 11D, 12A, and 12B “result[] in subscribing each member of a group to a service.” *Id.* at 15–18. Patent Owner further argues that “even if Raleigh’s service plan is later shared, there is no single request for each member of the group, and the users are not each subscribers of a service but are merely sharing a single service.” *Id.* at 18 (citing Ex. 2004 ¶ 63).

We have determined that limitation [1.1] does not require subscribing each member of a group to a service. *Supra* § II(C)(1). Therefore, Patent Owner’s arguments to the contrary are unavailing. We further determine that Raleigh’s master service account is a group plan under limitation [1.1] because it may be, for example, a family account. *See* Ex. 1005 ¶ 818 (“a single service plan that is shared among all members of the family”), Fig. 11D (“Share Plan” with “Jeff Child” and “Jeff Master”). This is consistent with the description in the ’047 patent that “the group may also apply to a family group (e.g., a family account).” Ex. 1001, 30:26–38. To the extent that Dr. Madisetti disagrees that a family plan is a group plan, or provides no opinion comparing the two, Dr. Madisetti’s statements are contrary to the clear text of the ’047 patent. Ex. 1019, 23:25–25:1 (“I don’t believe that a family plan is a group plan”), 24:13–15 (“I don’t wish to compare the group plan to a family plan. I have not offered such an opinion.”). We further determine that Raleigh teaches that its third party service partner system receives a service plan selection; i.e., a subscription, from a user’s wireless communication device. Ex. 1005, Fig. 36A. Consequently, we determine that Raleigh teaches limitations [1.1] and [1.2].

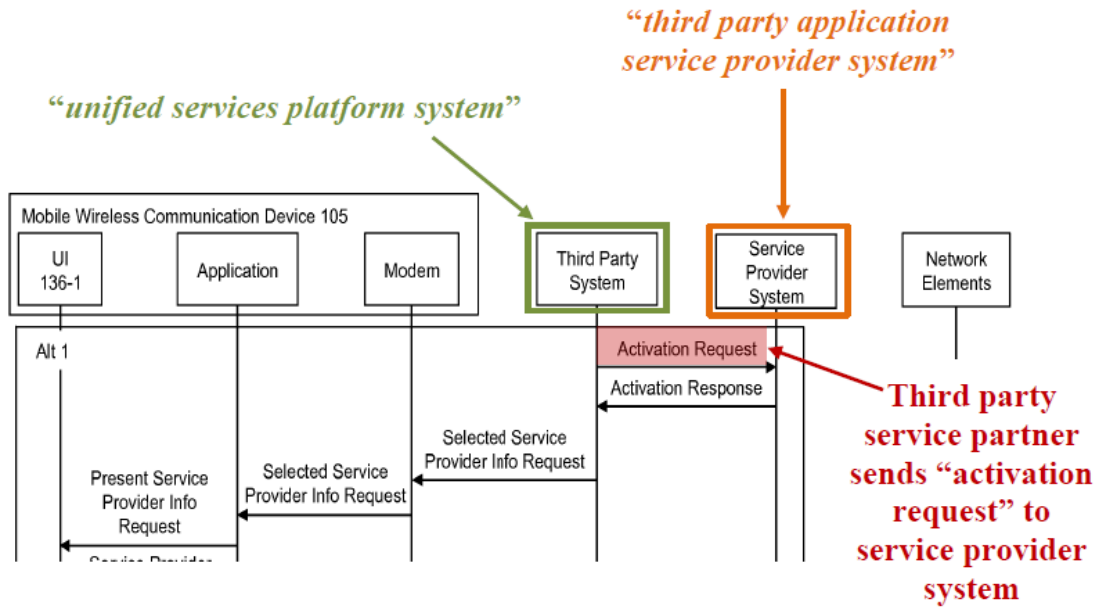
Limitation [1.3] recites, “wherein the service is provided by a third party application service provider system.” Petitioner points to Raleigh’s service plan as being provided by a service provider system, which may be a “third party service provider.” *Id.* at 32 (citing Ex. 1005 ¶ 477; Ex. 1003 ¶ 85). Patent Owner does not specifically contest Petitioner’s assertions for limitation [1.3]. PO Resp.

We find Petitioner’s assertions persuasive for limitations [1.0]–[1.3]. On the current record, as detailed above, Petitioner has persuasively shown Raleigh to teach a group plan comprised of a plurality of subscriber-associated telephone numbers in a service account, in which a subscription request is received for that plan by a unified services platform system (Raleigh’s “third party service partner system,” which may be an “application store”) and provided by a third party application service provider system (Raleigh’s “service provider”).

b) Limitations [1.4]–[1.5]

Limitation [1.4] recites, “sending, by the unified services platform system, an activation request for the group plan to the third party application service provider system.” Limitation [1.5] recites, “receiving an activation response from the third party application service provider system.”

As discussed above, Petitioner maps the claimed unified services platform system to Raleigh’s third party service partner system. Petitioner maps the claimed third party application service provider system to Raleigh’s service provider system, illustrated in Figure 35A. Pet. 34. Petitioner provides an annotated, partial reproduction of Figure 35A to illustrate its assertion:



Annotated Figure 35A depicts an activation request sent from a “third party system” to a “service provider system,” and an activation response sent from the service provider system to the third party system, with the third party system sending a “Selected Service Provider Info Request” to Mobile Wireless Communication Device 105. *Id.*

Relying on Dr. Houh’s testimony, Petitioner asserts that one having ordinary skill in the art would combine the service provider selection process of Figure 35 with the service plan selection process of Figure 36. Pet. 18–19, 22, 33–35. Dr. Houh further testifies that the software changes required for such a combination would have been within the skill level of a person of ordinary skill in the art, with a reasonable expectation of success. Ex. 1005 ¶ 54.

Relying on its discussion of Raleigh’s group plan for limitation [1.1], Petitioner asserts that a person having ordinary skill in the art would have found it obvious that Raleigh’s activation request would be for a group plan. *Id.* at 35 (citing Ex. 1003 ¶ 93).

On the complete trial record, we determine that Petitioner has shown that Raleigh teaches limitations [1.4] and [1.5]. Patent Owner first argues that Raleigh does not teach limitations [1.4] and [1.5] because Raleigh's activation request is "not for a service." PO Resp. 25–29. Specifically, Patent Owner argues that Raleigh activates an association between a service provider and a wireless device in Figure 35A, and only afterwards selects services in Figures 36A–B. *Id.* at 25–26 (citing Ex. 1004 ¶ 77). As evidence, Patent Owner points to "an alternative in which selection of a service is prompted at a later time." *Id.* at 26 (citing Ex. 1005 ¶ 1846; Ex. 2004 ¶ 77). Patent Owner argues that the activation request and response in Raleigh relate to the "prerequisite process of selecting a service provider." *Id.* at 27 (citing Ex. 2004 ¶ 78).

However, the claimed activation request and response for the group plan, communicated between the unified services platform system and the third party application service provider system, is asserted by Petitioner to be taught by a combination of Raleigh's service provider application process (Figure 35) and Raleigh's service selection process (Figure 36). Pet. 18–19, 22, 33–35. Thus, Patent Owner's arguments related to Figures 35 and 36 individually, rather than in their asserted combination, are unavailing.

Patent Owner next argues that Petitioner has not explained how and why the processes of Figures 35 and 36 would be combined to result in an activation request/response being sent to correspond with the service rather than with the service provider. Prelim. Resp. 27 (citing Ex. 2004 ¶ 79).

We determine that Petitioner has persuasively shown how and why these processes would be combined. In Petitioner's combination, the "Service Selection" step in Figure 36A provides the claimed subscription request for a service to a unified services platform system (Raleigh's "Third

Party System”). Pet. 24 (citing Ex. 1005, Fig. 36A). That “Service Selection,” including user credentials, is then communicated from the Third Party System to a Service Provider System. *Id.* To provide the claimed activation request/response to the third party service provider system, Petitioner relies upon Raleigh’s “Activation Request”/“Activation Response” transmitted between its Third Party System and Service Provider System, which occurs during the service provider activation process shown in Figure 35A. Pet. 34 (citing Ex. 1005, Fig. 35A); Pet. Reply 21. Petitioner relies on Raleigh’s teaching that provider activation may be conducted in conjunction with service selection to result in the claimed activation/response for the service. Pet. 33 (citing Ex. 1005 ¶ 1846).

Such a combination finds support in the record. Raleigh describes “some embodiments” in which the Service Provider System provides information both to establish a new service account and to configure the user’s device to use services. Ex. 1005 ¶ 1844 (cited at Pet. Reply 22). During oral argument, Petitioner was asked why a service request would not merely use the channel shown in Figure 36A for service requests; i.e., its “Service Selection,” including user credentials. Tr. 12:22–13:5. Petitioner responded that Raleigh’s selection of both the service and the service provider may occur “before the exchange of the first credential.” Tr. 14:4–12 (citing Ex. 1005 ¶ 1822). Petitioner further pointed to Raleigh’s exchange of credentials in the service provider selection process as the exchange of the first credential, thus placing selection of the service at the same point as the selection of the service provider in that situation. *Id.* at 14:13–21.

Petitioner’s cited section of Raleigh discusses different ways in which services and service providers may be selected. Ex. 1005 ¶ 1822. Services

may be selected “in conjunction with,” “together with,” or “followed by” selection of a service provider. *Id.* Although Patent Owner argued that service selection could simply follow provider selection before credentialing (Tr. 29:8–14), that appears as merely one of the possible options in Raleigh. The description of other options in Raleigh supports Petitioner’s characterization of “in conjunction with,” in which the service and provider may be selected together at the pre-credential point, using Figure 35A’s Activation Request/Response in place of Figure 36A’s credential-containing Service Selection.

Further providing support to Petitioner’s characterization is Dr. Houh’s testimony supporting Petitioner’s rationale for combining the teachings of Raleigh. Dr. Houh testifies that the service selection process of Figures 36A and 36B may be conducted in conjunction with the selection of a service provider as described in Figures 35A and 35B. Ex. 1003 ¶ 90.

Dr. Houh further testifies that Raleigh describes a comprehensive architecture that would suggest to a person having ordinary skill in the art that the service selection and activation procedures of Figures 35 and 36 are interrelated and combinable. *Id.* ¶¶ 51–52. Dr. Houh points to statements in Raleigh that the teachings of numerous Figures, including those describing managing services for a master service account, “can apply equally” to the teachings of Figures 35 and 36. *Id.* ¶ 51 (citing Ex. 1005 ¶¶ 1841, 1847, 1851, 1853, 1855, 1856). Dr. Houh testifies that, in view of these statements, a person having ordinary skill in the art would have been motivated to combine Raleigh’s service selection processes with Raleigh’s service plan management processes. *Id.* ¶ 54.

Dr. Madisetti agrees that the procedures are combinable, but only in the sense that “a user can be prompted to select services immediately after

selecting the service provider.” Ex. 2004 ¶ 77 (citing Ex. 1005 ¶ 1846). Dr. Madisetti relies on a statement in Raleigh that “[i]n some embodiments,” selection of services may be prompted by a trigger condition; “e.g., detection of no service plans.” *Id.* (quoting Ex. 1005 ¶ 1846). However, Raleigh’s statement does not fully support Dr. Madisetti’s conclusion because Dr. Madisetti does not address whether other embodiments, not premised on a trigger condition, might support selection of services in the manner asserted by Petitioner. Moreover, a “no service plan” situation would appear to exist where a user has neither service plan nor provider, a situation that Petitioner relies upon in its assertions. *See* Pet. Reply 21 (quoting Pet. 34 “establishing a new service account with the selected service provider” (citing Ex. 1004 ¶ 1840)). In such a situation, Dr. Madisetti does not establish that such a trigger would necessarily result in a sequential selection of provider and plan. Nor does Dr. Madisetti account for Raleigh’s description of embodiments in which the service and provider may be selected together. Ex. 1005 ¶ 1822.

Patent Owner further asserts that Dr. Houh’s testimony fails to provide a satisfactory explanation of whether the “activation request” in element [1.4] is for the service requested in element [1.1]. PO Resp. 28–29. Patent Owner argues that this is relevant because his “inability to answer this question undermines his credibility.” *Id.* at 28. Petitioner argues that Dr. Houh “testified—correctly—that limitation [1.4] recites only a ‘*group* plan,’ as in [1.1]” because limitation [1.4] “doesn’t use the word ‘service.’” Pet. Reply 22 (citing Ex. 2005, 86:11–87:8, 90:11–91:2). We note that Dr. Madisetti agreed that the words “for a service” do not appear in limitation [1.4]. Ex. 1019, 39:20–22. Dr. Madisetti’s disagreement with Dr. Houh is that limitation [1.4] refers to the third party application service provider

system in its recitation of the group plan, which references back to limitation [1.1]. *Id.* at 39:22–40:6. Because this appears to be a disagreement between the declarants, rather than an inability of Dr. Houh to address the claimed subject matter, we do not find Dr. Houh’s statements to impact his credibility. Moreover, we do not rely on an interpretation that the activation request in limitation [1.4] is not for a service, thereby rendering moot Patent Owner’s objections to Dr. Houh’s opinion to the contrary.

For the above-stated reasons, we are persuaded by Petitioner that Raleigh teaches limitations [1.4] and [1.5].

c) Limitations [1.6]–[1.7]

Limitation [1.6] recites, “associating the service with each telephone number of the plurality of telephone numbers. Limitation [1.7] recites, “providing access to the service for each telephone number based on the associating.”

Petitioner asserts that these limitations are taught by Figure 6B of Raleigh, which depicts a service provider system adding a selected service to a device or subscriber account(s). Pet. 36 (citing Ex. 1005, Fig. 36B; Ex. 1003 ¶ 96). Petitioner asserts that a person having ordinary skill in the art would have understood this to be “associating the service” with the service account. *Id.* at 37 (citing Ex. 1003 ¶¶ 97–98). Petitioner, referring back to its discussion of limitations [1.0]–[1.3], further asserts that the service would therefore be associated with the telephone numbers of the service account. Pet. 38, 40. Petitioner further asserts that Raleigh teaches providing access based on the associating, because its messages provide for provisioning of the selected service plans as a result of adding the selected service plan to the service account. *Id.* at 38–40 (citing Ex. 1005, Fig. 36B, ¶ 1852; Ex. 1003 ¶¶ 103–105).

Patent Owner does not specifically contest Petitioner's assertions for limitations [1.6] and [1.7]. PO Resp.

We determine that Petitioner has sufficiently shown Raleigh's addition of a selected service, followed by provisioning of the selected service, to a service account comprised of multiple telephone numbers, teaches limitations [1.6] and [1.7], in the manner described by Petitioner.

d) Limitations [1.8]–[1.13]

Limitation [1.8] recites, “receiving, by the unified services platform system, a subscription request for a second service from a subscriber associated with a first telephone number of the plurality of telephone numbers.” Limitation [1.9] recites “wherein the second service is provided by a second third party application service provider system.” Limitation [1.10] recites, “sending, by the unified services platform system, a second activation request for the service to the second third party application service provider system.” Limitation [1.11] recites, “receiving a second activation response from the second third party application service provider system.” Limitation [1.12] recites, “associating the second service with the first telephone number.” Limitation [1.13] recites, “providing access to the second service for the first telephone number based on the associating.”

Petitioner asserts that limitations [1.8]–[1.13] are identical to the respective claim limitations of [1.1]–[1.7], except for the following differences. Pet. 41. First, that the subscription request is “for a second service.” Regarding the subscription request being “for a second service,” Petitioner points to Raleigh's description of multiple types of services. *Id.* Petitioner argues that it would have been obvious that Raleigh's third party services partner system would receive subscription requests for a first service, such as a messaging service, and for a second service, such as a

voice over IP service. *Id.* at 41–42 (citing Ex. 1005 ¶ 381; Ex. 1003 ¶¶ 111–112).

The second difference asserted by Petitioner is that the subscription request is “from a subscriber associated with a first telephone number,” because [1.1] does not specify who the request is from. Regarding the subscription request being “from a subscriber,” Petitioner asserts that, because Raleigh refers to the user who manages the master service account as a subscriber, it would have been obvious for the service plan selection to have been sent by the user (subscriber) who is responsible for managing the master service account. *Id.* at 42 (citing Ex. 1005 ¶ 53; Ex. 1003 ¶ 114).

The third difference asserted by Petitioner is that the claimed second service is “provided by a second third party application service provider system.” Pet. 41. Regarding the second service being provided by a “second third party” application service provider system, Petitioner asserts that Raleigh teaches that its communication service management, including service plan selection, purchase, modification, and control, is with multiple service partners. *Id.* at 42–43 (citing Ex. 1005 ¶ 1438; Ex. 1003 ¶ 115). As with limitation [1.3], Petitioner asserts that Raleigh describes that a service provider may be a third party service provider. *Id.* at 43 (citing Ex. 1005, Fig. 25H, ¶¶ 477, 1711; Ex. 1003 ¶ 115). Petitioner further points to Raleigh’s description of a master device and secondary device being in communication with multiple service operators, each having a subscriber management system. *Id.* at 44–45 (citing Ex. 1005, Fig. 15I, ¶¶ 927–929; Ex. 1003 ¶ 118). Petitioner further points to statements of Dr. Houh asserting that a person having ordinary skill in the art would have known

that messaging, data, and voice over IP services were commonly provided by different third party service providers. *Id.* at 45 (citing Ex. 1003 ¶ 120).

Patent Owner makes two arguments against Petitioner’s assertions. First, Patent Owner argues that Petitioner’s assertions are grounded in the same flawed reasoning present in its assertions for limitations [1.4] and [1.5]. PO Resp. 30. Second, Patent Owner argues that Petitioner’s assertions fail because limitation [1.10] “explicitly recites sending ‘a second activation request *for the service*,’ emphasizing that the activation request refers back to the service and is not met by an activation related to selecting a service provider as alleged in the Petition.” PO Resp. 30.

However, as discussed in our analysis of limitations [1.4] and [1.5], Raleigh’s activation request and response teachings would have been obvious to use in a selection of a service. Thus, Petitioner has sufficiently shown that it would have been obvious to use Raleigh’s activation and request teachings in a second activation request for the service.

e) Determination

We are persuaded by Petitioner’s arguments and find they are supported by cited evidence. We find Patent Owner’s arguments unavailing for the reasons discussed above. As such, we determine that Petitioner has shown by a preponderance of the evidence that claim 1 is unpatentable as obvious over Raleigh.

3. Claims 4–7

Petitioner provides a detailed analysis of the limitations of claims 4–7, and points to teachings in Raleigh as meeting each limitation. Pet. 49–66. Patent Owner does not provide any additional reasons why Petitioner’s assertions are unpersuasive for claims 4, 6, and 7. PO Resp. 30–31 We have reviewed Petitioner’s assertions for claims 4–7, and Patent Owner’s

arguments with respect to claim 5, and determine that Petitioner shown, by a preponderance of the evidence, that Raleigh teaches each limitation of claims 4–7.

Claim 4 depends from claim 1 and further recites, “wherein an API of the third party application service provider system is incompatible with an API of the network provider system.” Petitioner asserts that Raleigh’s service providers have APIs, that those service providers may be carriers that use network APIs to facilitate service provider communication, and that each service provider has an API specification specific to that provider. Pet. 49–52 (citing Ex. 1005 ¶¶ 381, 428, 826, 926, 929, 1001, 1238, 1366, 1381, 1393, 1610, 1690, 1693, 1709; Ex. 1003 ¶¶ 131–138). We determine that Petitioner’s assertions are supported by the cited record, and teach the claimed limitations.

Claim 5 depends from claim 4, and further recites, “wherein the API of the third party application service provider system is integrated with the unified services platform system, and wherein API of the network provider system is integrated with the unified services platform system, and wherein the third party application communicates with the network provider system through the unified services platform system.”

Petitioner argues that Raleigh describes its third party service partner (the claimed “unified services platform system”) may use APIs for service plan purchase and that the service provider’s APIs “provide an indirect communication path between a server [of a service provider] and the mobile device.” Pet. 54 (citing Ex. 1005 ¶¶ 1366, 1711; Ex. 1003 ¶ 140). Petitioner further asserts that Raleigh also teaches that a network API can provide an interface for an application provider, network/service provider, and/or a third party to communicate with a network server. *Id.* at 54–55 (citing Ex. 1005

¶ 1393). Petitioner asserts that it would have been obvious to a person having ordinary skill in the art to integrate a service provider's APIs and a network provider's APIs with a unified services platform system because this would serve Raleigh's goal of using APIs for "a uniform and consistent user experience in communication service management." *Id.* at 54–55 (citing Ex. 1005 ¶¶ 1438, 1711; Ex. 1003 ¶¶ 141–142, 145; Ex. 1006, 5:37–58; Ex. 1007, 2:64–3:6; Ex. 1009, 723–727, 195; Ex. 1008, 461). We credit these uncontested assertions as they are supported by the record.

With respect to the limitation, "the third party application communicates with the network provider system through the unified services platform system," Petitioner points to Raleigh's Application Service Provider Interface ("ASPI") engine 2404, which provides an interface into the carrier network. Pet. 55–56 (citing Ex. 1005 ¶¶ 1456, 1511, 1646, Fig. 1AH; Ex. 1003 ¶ 147). Petitioner points to Raleigh's description of the ASPI as providing third party service distribution and control, including providing information and reports to the network provider system from the application service provider. *Id.* at 56–58 (citing Ex. 1005, Fig. 1AH Ex. 1003 ¶¶ 149–151). Petitioner argues that it would have been obvious to a person having ordinary skill in the art "to implement the ASPI engine 2[4]04 with the third party service partner ('*unified services platform system*') to operate as the intermediary between the application service providers and the carrier ('*network provider system*')." *Id.* at 58 (citing Ex. 1003 ¶ 151).

Petitioner provides a second interpretation in which "the third party application" is interpreted as the "service" provided by the third party application service provider system. *Id.* at 59. Petitioner asserts that it would have been obvious to a person having ordinary skill in the art for

Raleigh’s ASPI to link the ASP’s application, i.e., the third party application, with the carrier services and resources, which Raleigh describes as the function of an ASPI. *Id.* at 59–60 (citing Ex. 1005 ¶¶ 1493, 1511, 1605, 1646; Ex. 1003 ¶¶ 153–156).

Patent Owner argues that Petitioner has not provided reason to combine teachings of Raleigh; specifically, why Raleigh’s ASPI is relied upon for the unified services platform for element [5.2] despite Raleigh’s third party service partner system being relied upon for element [1.1]. PO Resp. 30–31. Patent Owner argues that Petitioner fails to provide a reason why such a substitution would have been obvious. *Id.* at 31. Patent Owner characterizes Dr. Houh’s testimony as merely repeating Petitioner’s conclusion without adding evidence or reasoning in support. *Id.* at 31–32.

We are persuaded by Petitioner’s assertions. Petitioner relies on Raleigh’s third party service platform as the unified services platform system for both limitation [1.1] and [5.2], and relies upon Raleigh to teach that the ASPI is implemented therein. Pet. 23, 58 (“Raleigh describes systems and architectures where an ASPI is implemented by a third party service partner system . . . (“*unified services platform system*”), 59 (“Raleigh’s ASPI is implemented in the “*unified services platform system*”); Pet. Reply 27. Petitioner cites Raleigh’s stated advantages of providing “Credit and Status” information, “Usage Reports, Billing Reports, Analytics, Transaction Reports, [and] Fraud Alerts,” as information that may be communicated through the ASPI. *Id.* at 57–58. Consequently, we are persuaded that Petitioner persuasively shows that Raleigh teaches limitation [5.2] and provides persuasive reasons for its asserted combination.

Claim 6 depends from claim 1, and further recites,

receiving, by the unified services platform system, a second subscription request for a second service for the group plan, wherein the second service is provided by a second third party application service provider system,

wherein an API of the third party application service provider system is incompatible with an API of the second third party application service provider system;

sending, by the unified services platform system, a second activation request for the group plan to the third party application service provider system,

receiving a second activation response from the third party application service provider system;

associating the second service with each telephone number of the plurality of telephone numbers; and providing access to the second service for each telephone number based on the associating.

Petitioner asserts that claim 6 is taught by Raleigh for the reasons given for limitations [1.1] and [1.3]–[1.13]. Pet. 60–65 (citing Ex. 1003 ¶ 158). Petitioner adds additional analysis to address an interpretation where the “second subscription request,” “second service,” and “second third party application service provider system” are intended to be distinct from the corresponding features of [1.8]–[1.13]. For that interpretation, Petitioner points to Raleigh’s descriptions of multiple, different service providers. Pet. 61 (citing Ex. 1005 ¶¶ 381, 1438, 1711; Ex. 1003 ¶ 161). We determine that Petitioner’s uncontested assertions are supported by the cited record, and teach the claimed limitations.

Claim 7 depends from claim 1, and further recites, “invoking the service in response to a triggering event associated with a first telephone number of the plurality of telephone numbers.” Petitioner points to Raleigh

offering a service plan in response to an incoming text message. Pet. 65–66 (citing Ex. 1005 ¶¶ 381, 781; Ex. 1003 ¶¶ 172–173). Petitioner asserts that an incoming text message would have been addressed to the user’s telephone number. *Id.* at 66 (citing Ex. 1003 ¶ 174). We determine that Petitioner’s uncontested assertions are supported by the cited record, and teach the claimed limitations.

For the foregoing reasons, we determine that Petitioner has shown, by a preponderance of the evidence, that claims 4–7 of the ’047 patent would have been obvious over Raleigh.

III. CONCLUSION⁵

For the reasons discussed above, we conclude Petitioner has shown by a preponderance of the evidence that claims 1 and 4–7 of the ’047 patent are unpatentable as obvious over Raleigh.

In summary:

Claim(s)	35 U.S.C. §	Reference(s)/Basis	Claim(s) Shown Unpatentable	Claim(s) Not Shown Unpatentable
1, 4–7	103	Raleigh	1, 4–7	

⁵ Should Patent Owner wish to pursue amendment of the challenged claims in a reissue or reexamination proceeding subsequent to the issuance of this decision, we draw Patent Owner’s attention to the April 2019 *Notice Regarding Options for Amendments by Patent Owner Through Reissue or Reexamination During a Pending AIA Trial Proceeding*, 84 Fed. Reg. 16,654 (Apr. 22, 2019). If Patent Owner chooses to file a reissue application or a request for reexamination of the challenged patent, we remind Patent Owner of its continuing obligation to notify the Board of any such related matters in updated mandatory notices. *See* 37 C.F.R. § 42.8(a)(3), (b)(2).

IV. ORDER

ORDERED that claims 1 and 4–7 of the '047 patent are held unpatentable;

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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