

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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TELESIGN CORPORATION,  
Petitioner,

v.

TWILIO INC.,  
Patent Owner.

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Case IPR2017-01976  
Patent 8,837,465 B2

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Before ROBERT J. WEINSCHENK, KIMBERLY McGRAW, and  
SCOTT C. MOORE, *Administrative Patent Judges*.

WEINSCHENK, *Administrative Patent Judge*.

FINAL WRITTEN DECISION  
35 U.S.C. § 318(a)

## I. INTRODUCTION

TeleSign Corporation (“Petitioner”) filed a Petition (Paper 2, “Pet.”) requesting an *inter partes* review of claims 1–6, 9, and 13 (“the challenged claims”) of U.S. Patent No. 8,837,465 B2 (Ex. 1001, “the ’465 patent”). Twilio Inc. (“Patent Owner”) filed a Preliminary Response (Paper 10, “Prelim. Resp.”) to the Petition. On March 9, 2018, an *inter partes* review of the challenged claims was instituted on the following grounds:

| Claim(s)       | Statutory Basis                 | Applied References                                                                                                                                                                                                                                    |
|----------------|---------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1–6, 9, and 13 | 35 U.S.C. § 103(a) <sup>1</sup> | Maes et al., U.S. Patent No. 6,801,604 B2 (filed June 25, 2002, issued Oct. 5, 2004) (Ex. 1003, “Maes”) and Ransom et al., U.S. Patent Application Publication No. 2003/0204756 A1 (filed Jan. 9, 2003, published Oct. 30, 2003) (Ex. 1004, “Ransom”) |
| 1, 4, 5, and 9 | 35 U.S.C. § 103(a)              | European Telecommunications Standards Institute, ETSI ES 202 391-4 V1.2.1 (2006) (Ex. 1005, “ETSI 391-4”) and European Telecommunications Standards Institute, ETSI ES 202 391-11 V1.2.1 (2006) (Ex. 1006, “ETSI 391-11”)                             |
| 2              | 35 U.S.C. § 103(a)              | ETSI 391-4, ETSI 391-11, and European Telecommunications Standards Institute, ETSI ES 202                                                                                                                                                             |

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<sup>1</sup> The Leahy-Smith America Invents Act (“AIA”), Pub. L. No. 112-29, which was enacted on September 16, 2011, made amendments to 35 U.S.C. §§ 102, 103. AIA § 3(b), (c). Those amendments became effective on March 16, 2013. *Id.* at § 3(n). Because the challenged claims of the ’465 patent have an effective filing date before March 16, 2013, any citations herein to 35 U.S.C. §§ 102, 103 are to their pre-AIA versions.

| Claim(s) | Statutory Basis    | Applied References                                                                                                                                                                     |
|----------|--------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|          |                    | 391-3 V1.2.1 (2006) (Ex. 1007, “ETSI 391-3”)                                                                                                                                           |
| 3        | 35 U.S.C. § 103(a) | ETSI 391-4, ETSI 391-11, ETSI 391-3, and Sungjune Hong et al., <i>The Semantic PARLAY for 4G Network</i> , 2nd International Conference on Mobile Technology (2005) (Ex. 1009, “Hong”) |
| 6        | 35 U.S.C. § 103(a) | ETSI 391-4, ETSI 391-11, and Hong                                                                                                                                                      |
| 13       | 35 U.S.C. § 103(a) | ETSI 391-4, ETSI 391-11, and European Telecommunications Standards Institute, ETSI ES 202 391-2 V1.2.1 (2006) (Ex. 1008, “ETSI 391-2”)                                                 |

Paper 11 (“Dec. on Inst.”), 16.

After institution, Patent Owner filed a Response (Paper 25,<sup>2</sup> “PO Resp.”) to the Petition, and Petitioner filed a Reply (Paper 29, “Pet. Reply”) to the Response. Petitioner submitted a Declaration of Dr. Seth Nielson (Ex. 1010) with the Petition. Patent Owner submitted a Declaration of Dr. Kevin Negus (Ex. 2010) with the Response. An oral hearing was held on November 15, 2018, and a transcript of the hearing is included in the record. Paper 49<sup>3</sup> (“Tr.”).

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<sup>2</sup> Paper 25 is a public version of the Response. Paper 27 is a confidential version of the Response, which remains under seal.

<sup>3</sup> Paper 49 is a public version of the transcript. Paper 47 is a confidential version of the transcript, which remains under seal.

For the reasons set forth below, Petitioner has shown by a preponderance of the evidence that claims 1–6, 9, and 13 of the ’465 patent are unpatentable.

A. *Related Proceedings*

The parties indicate that the ’465 patent is the subject of the following case in the United States District Court for the Northern District of California (“District Court”): *Twilio Inc. v. TeleSign Corporation*, No. 5:16-cv-06925 (N.D. Cal.). Pet. 61; Paper 4, 1. Patent Owner also indicates that the following petitions for *inter partes* review are related to this case:

| Case No.      | Involved U.S. Patent      |
|---------------|---------------------------|
| IPR2017-01977 | U.S. Patent No. 8,755,376 |
| IPR2017-01978 | U.S. Patent No. 8,306,021 |

Paper 4, 1.

B. *The ’465 Patent*

The ’465 patent relates to “making telephony application development as easy as web programming.” Ex. 1001, 1:66–2:3. The ’465 patent explains that deploying telephony services “requires developers to train in new languages, tools, and development environments,” and, thus, involves “significant upfront and ongoing investment.” *Id.* at 1:35–54. To address this problem, the ’465 patent describes a method and system for processing telephony sessions that “enables web developers to use their existing skills and tools with the esoteric world of telephony.” *Id.* at 1:61–2:3. For example, the method and system of the ’465 patent “use the familiar web site visitor model to interact with a web developer’s application, with each step of the phone call analogous to a traditional page view.” *Id.* at 2:3–6.

C. *Illustrative Claim*

Of the challenged claims, claim 1 is independent and is reproduced below.

1. A method for processing a telephony communication comprising:

associating an initial URI<sup>4</sup> with a telephony endpoint;

initiating a telephony voice session for a telephony communication to the telephony endpoint;

mapping the initial URI to the telephony session;

sending an application layer protocol request to an application resource specified by the URI and embedding state information of the telephony voice session in the request;

receiving a response to the application layer protocol request sent to the application resource, wherein the response includes a document of telephony instructions; and

executing telephony actions during the telephony voice session according to a sequential processing of at least a subset of the telephony instructions of the response.

Ex. 1001, 18:38–54.

II. ANALYSIS

A. *Level of Ordinary Skill in the Art*

Petitioner argues that a person of ordinary skill in the art would have had “a bachelor’s degree in computer science with at least two years of experience in application development.” Pet. 6–7 (citing Ex. 1010 ¶ 49). Patent Owner argues that a person of ordinary skill in the art would have had “the equivalent of a four-year degree from an accredited institution in computer science, computer engineering, electrical engineering, software

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<sup>4</sup> URI stands for Universal Resource Identifier. Ex. 1001, 2:63–64.

engineering, or the equivalent, and approximately 1–2 years of professional experience with or exposure to computer networking, telephony networking protocols, and various APIs,” but “[a]dditional graduate education could substitute for professional experience, while significant experience in the field might substitute for formal education.” PO Resp. 8–9 (citing Ex. 2010 ¶¶ 31–32).

Neither party identifies any specific instance in which the difference between the parties’ respective definitions of the level of ordinary skill in the art impacts the analysis or conclusions of either party, or either party’s declarant, in this case. Our findings and conclusions in this case would be the same under either party’s definition of the level of ordinary skill in the art. To the extent necessary, though, we adopt Petitioner’s definition, which is supported by the testimony of Petitioner’s declarant, Dr. Nielson, and is consistent with the prior art. Pet. 6–7; Ex. 1010 ¶ 49.

#### B. *Claim Construction*

The claims of an unexpired patent are interpreted using the broadest reasonable interpretation in light of the specification of the patent in which they appear.<sup>5</sup> 37 C.F.R. § 42.100(b) (2017); *Cuozzo Speed Techs., LLC v. Lee*, 136 S. Ct. 2131, 2144–45 (2016). “Under a broadest reasonable interpretation, words of the claim must be given their plain meaning, unless

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<sup>5</sup> The rule replacing the broadest reasonable interpretation standard with the standard used in federal district court does not apply in this case. Changes to the Claim Construction Standard for Interpreting Claims in Trial Proceedings Before the Patent Trial and Appeal Board, 83 Fed. Reg. 51,340 (Oct. 11, 2018) (final rule) (“This rule is effective on November 13, 2018 and applies to all IPR, PGR and CBM petitions filed on or after the effective date.”). Nonetheless, on this record, the outcome would be the same under the standard used in federal district court.

such meaning is inconsistent with the specification and prosecution history.” *TriVascular, Inc. v. Samuels*, 812 F.3d 1056, 1062 (Fed. Cir. 2016). An applicant may provide a definition of a term in the specification with reasonable clarity, deliberateness, and precision. *In re Paulsen*, 30 F.3d 1475, 1480 (Fed. Cir. 1994). In the absence of such a definition, limitations are not to be read into the claims from the specification. *In re Van Geuns*, 988 F.2d 1181, 1184 (Fed. Cir. 1993).

1. *Telephony Endpoint*

Patent Owner proposes construing the term “telephony endpoint” to mean “an end-user-device identifier, such as a telephone number or mobile device address.” PO Resp. 9. Petitioner agrees with Patent Owner’s proposed construction. Tr. 11:20–12:4.

Patent Owner’s proposed construction is supported by the specification of the ’465 patent. For example, the ’465 patent states that “the initial URI is assigned to the call via a unique identifier for the call destination, such as a DID (Direct Inbound Dial) phone number, or a VOIP SIP address.” Ex. 1001, 3:61–64. Patent Owner’s proposed construction also is consistent with the parties’ agreed construction that was adopted by the District Court in a related case. Ex. 2005, 27–29.

Therefore, the term “telephony endpoint” is construed to mean “an end-user-device identifier, such as a telephone number or mobile device address.”

2. *URI*

Patent Owner proposes construing the term “URI” to mean “a compact sequence of characters that identifies an abstract or physical

resource.” PO Resp. 10. Petitioner agrees with Patent Owner’s proposed construction. Tr. 12:5–9.

Patent Owner’s proposed construction is supported by the specification of the ’465 patent. Namely, the ’465 patent provides several examples of URIs, and each example is a compact sequence of characters. Ex. 1001, 4:5–7 (“http://demo.twilio.com/myapp/{dialed phone number}/{originating phone number}”), 4:7–9 (“http://demo.twilio.com/mpapp/foo.php?dialed\_number={dialed phone number}& originating\_number={originating phone number}”), 7:48–54 (“http://demo.twilio.com/foo.php?digits=1234”), 7:54–57 (“http://demo.twilio.com/myapp/1234.mp3”). Patent Owner’s proposed construction also is consistent with the parties’ agreed construction that was adopted by the District Court in a related case. Ex. 2005, 13–16.

Therefore, the term “URI” is construed to mean “a compact sequence of characters that identifies an abstract or physical resource.”

C. *Obviousness of Claims 1–6, 9, and 13 over Maes and Ransom*

Petitioner argues that claims 1–6, 9, and 13 would have been obvious over Maes and Ransom. Pet. 5. A claim is unpatentable as obvious under 35 U.S.C. § 103(a) if the differences between the claimed subject matter and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which the 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) any

objective indicia of non-obviousness. *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).

Based on the parties’ arguments and supporting evidence, Petitioner has shown by a preponderance of the evidence that claims 1–6, 9, and 13 would have been obvious over Maes and Ransom.

1. *Overview of Maes and Ransom*

Maes relates to “building distributed conversational applications using a Web services-based model.” Ex. 1003, 3:52–65. Maes describes a router that receives incoming call information, such as a telephone number, and assigns an application to the incoming call. *Id.* at 15:51–57. The router sends a message that includes a telephony gateway address to the assigned application over the Internet. *Id.* at 15:57–62, Fig. 1 (“IP Network”). The assigned application then sends a message to the telephony gateway to accept the incoming call. *Id.* at 15:63–65.

Ransom relates to transporting data between a mix of secure and unsecure networks. Ex. 1004 ¶ 5. Ransom explains that “there are two common web service models”—the REST and SOAP models—for use with Hypertext Transfer Protocol (“HTTP”). *Id.* ¶ 163. In the REST model, “the service being invoked is the URI being accessed through the web.” *Id.* In the SOAP model, “the content of the message is generally thought to describe the service being invoked, with the resource at the URI that the SOAP message is being sent to, as a routing mechanism.” *Id.*

2. *Claim 1*

Claim 1 recites “[a] method for processing a telephony communication.” Ex. 1001, 18:38–39. Maes teaches a method for processing an incoming call. Pet. 13; Ex. 1003, 15:42–44, Fig. 1. Patent

Owner does not dispute that the combination of Maes and Ransom teaches the preamble of claim 1.

Claim 1 recites “associating an initial URI with a telephony endpoint.” Ex. 1001, 18:40. Maes teaches a router that receives incoming call information, assigns an application to the call, and sends a message to that application. Pet. 14–15; Ex. 1003, 15:51–62; Ex. 1010 ¶ 59. Maes also teaches that the router sends the message to the application over the Internet. Pet. 14–15; Ex. 1003, 7:13–15, Fig. 1 (“IP Network”); Ex. 1010 ¶ 59. A person of ordinary skill in the art would have recognized that a message sent over the Internet, as taught by Maes, would specify a recipient using a URI. Pet. 14–15; Ex. 1010 ¶¶ 59, 62, 64–66. For example, Ransom teaches that in the two common web service models, a URI is used to send a message to an application over the Internet. Pet. 15–17; Ex. 1004 ¶¶ 162–163; Ex. 1010 ¶ 60. As a result, the combination of Maes and Ransom teaches assigning an application specified by a URI to incoming call information (i.e., a telephony endpoint), thereby associating the URI with a telephony endpoint. Pet. 17; Ex. 1010 ¶¶ 61–62.

Patent Owner responds that Maes’s application is not a telephony endpoint because an application is not an end-user-device identifier, such as a telephone number or mobile device address. PO Resp. 18–21. Patent Owner’s argument is not persuasive. Petitioner asserts that

Maes discloses that client voice response system 11 receives an incoming call from a telephony network, such as the PSTN, which it then sends along with incoming call information (e.g., Call ID, IP address) to router 21. EX1003 at 15:44-56. Router 21 then “**assigns an application that can take the call**” (e.g., associates an application with a telephony endpoint) and sends a request to application 14 over the Internet (i.e. IP network 13).

EX1003 at 15:51-57 (emphasis added). . . . Indeed, a POSA at the time of the invention of the '465 Patent would know that in order for router 21 to send the request to application 14 over the Internet, router 21 would know application 14's URI, and thus would associate not only an application but an application's *URI* with the telephony endpoint. Ex. 1010 at [0059]-[0062].

Pet. 14–15. In other words, Petitioner identifies a URI specifying the assigned application as the recited “URI” and identifies the incoming call information (e.g., Call ID, IP address) as the recited “telephony endpoint.”<sup>6</sup> *Id.* Thus, Petitioner does not assert that Maes's application is a telephony endpoint.

Patent Owner responds that Maes does not teach a URI specifying an application, and that Ransom does not teach a telephony endpoint. PO Resp. 21–23. Patent Owner's argument is not persuasive because it addresses Maes and Ransom individually, not the combination of Maes and Ransom proposed by Petitioner. *See In re Keller*, 642 F.2d 413, 426 (CCPA 1981) (“[O]ne cannot show non-obviousness by attacking references individually where, as here, the rejections are based on combinations of references.”). As discussed, Maes teaches assigning an application to incoming call information (i.e., a telephony endpoint) (Pet. 14–15; Ex. 1003, 15:51–62; Ex. 1010 ¶ 59), and Ransom teaches that it was well-known to use a URI to send a message to an application over the Internet (Pet. 15–17; Ex. 1004 ¶¶ 162–163; Ex. 1010 ¶ 60).

Patent Owner responds that Ransom “describes a ‘URI’ as identifying a ‘resource’ on a server rather than the server itself.” PO Resp. 23. Patent

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<sup>6</sup> Patent Owner does not dispute that Maes's incoming call information, such as a Call ID or IP address, is a telephony endpoint. *See* PO Resp. 18–20.

Owner's argument is not persuasive. Petitioner relies on Ransom as teaching that it was well-known to use a URI to send a message to an application resource over the Internet. Pet. 15–17 (providing reasons why a person of ordinary skill in the art would have been motivated to add the teachings of Ransom to the system of Maes “such that by adding Ransom’s teachings to the system of Maes, router 21 of Maes would know the URI of the application assigned to take the call”); Ex. 1004 ¶¶ 162–163; Ex. 1010 ¶¶ 60–62. Thus, Ransom’s teaching that a URI specifies a resource on a server supports Petitioner’s assertion that it would have been obvious to use a URI to specify Maes’s application resource.

Patent Owner responds that the combination of Maes and Ransom does not teach associating an initial URI with a telephony endpoint. PO Resp. 23–24. Patent Owner contends that “the combination at most discloses that ‘router 21 of Maes would know the URI of the application,’” but “[n]othing in the combination meets the requirement that a **telephony endpoint** be associated with the URI of application 14.” *Id.* at 24. Patent Owner’s argument is not persuasive. As discussed, the combination of Maes and Ransom teaches assigning an application specified by a URI to incoming call information (i.e., a telephony endpoint), thereby associating a URI with a telephony endpoint. Pet. 14–17; Ex. 1003, 15:51–62; Ex. 1004 ¶¶ 162–163; Ex. 1010 ¶¶ 59–62.

Claim 1 also recites “initiating a telephony voice session for a telephony communication to the telephony endpoint.” Ex. 1001, 18:41–42. Maes teaches receiving an incoming call. Pet. 13–14; Ex. 1003, 15:44–48. Patent Owner does not dispute that the combination of Maes and Ransom teaches this limitation of claim 1.

Claim 1 also recites “mapping the initial URI to the telephony session.” Ex. 1001, 18:43. As discussed, Maes teaches a router that assigns an application to incoming call information and sends a message to that application over the Internet. Pet. 14–15; Ex. 1003, 7:13–15, 15:51–62, Fig. 1 (“IP Network”); Ex. 1010 ¶ 59. Maes also teaches that the message sent to the assigned application includes information relating to the telephony session, such as the telephony gateway address for the duration of the session-based call. Pet. 17–18; Ex. 1003, 9:5–9, 15:58–62; Ex. 1010 ¶ 64. A person of ordinary skill in the art would have recognized that Maes’s application is specified by a URI because, for example, Ransom teaches that it was well-known to use a URI to send a message to an application over the Internet. Pet. 19–20; Ex. 1004 ¶¶ 162–163; Ex. 1010 ¶¶ 65–66. Thus, the combination of Maes and Ransom teaches sending a message that includes both the URI specifying the assigned application and information about the telephony session, thereby mapping the URI to the telephony session. Pet. 17–20; Ex. 1010 ¶¶ 63–66.

Patent Owner responds that “[t]he address of application 14 in Maes, which Petitioner cites as disclosing the ‘URI’ for this claim limitation,” does not “identify the telephony session.” PO Resp. 28–29. Patent Owner’s argument is not persuasive because it addresses Maes individually, not the combination of Maes and Ransom proposed by Petitioner. *See Keller*, 642 F.2d at 426. We are persuaded by Petitioner’s explanation that, according to the ’465 patent, mapping a URI to a telephony session includes creating a request that includes both the URI *and* information relating to the telephony

session.<sup>7</sup> Pet 17–18; Ex. 1001, 3:54–4:9, 4:44–56. As discussed above, the combination of Maes and Ransom teaches sending a message that includes both the URI specifying the assigned application and information about the telephony session, thereby mapping the URI to the telephony session. Pet. 17–20; Ex. 1003, 15:51–62; Ex. 1004 ¶¶ 162–163; Ex. 1010 ¶¶ 63–66.

Patent Owner also argues that Petitioner impermissibly relies on “the same element in Maes” to teach both the “associating” and “mapping” limitations of claim 1. PO Resp. 29–30. Patent Owner’s argument is not persuasive. As discussed, for the “associating” limitation, Petitioner asserts that the combination of Maes and Ransom teaches assigning an application specified by a URI to incoming call information, thereby associating the URI with the incoming call information. Pet. 14–17; Ex. 1003, 15:51–62; Ex. 1004 ¶¶ 162–163; Ex. 1010 ¶¶ 59–62. In contrast, for the “mapping” limitation, Petitioner asserts that the combination of Maes and Ransom teaches sending a message that includes both the URI specifying the assigned application and information about the telephony session, thereby mapping the URI to the telephony session. Pet. 17–20; Ex. 1003, 15:58–62; Ex. 1004 ¶¶ 162–163; Ex. 1010 ¶¶ 63–66. Thus, Petitioner relies on different features to teach the “associating” and “mapping” limitations of claim 1.

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<sup>7</sup> The ’465 patent states that “mapping the call to a Universal Resource Identifier (URI), functions to enable a telephony session to be converted into a format that may be handled with standard web servers and web applications.” Ex. 1001, 3:54–57. Patent Owner does not dispute that creating a request that includes both a URI and information relating to a telephony session would enable the telephony session to be handled with standard web servers and web applications. See PO Resp. 28–30.

Patent Owner responds that Ransom “does not disclose a telephony session and thus also fails to disclose ‘mapping the initial URI with the telephony session.’” PO Resp. 30. Patent Owner’s argument is not persuasive because it addresses Ransom individually, not the combination of Maes and Ransom proposed by Petitioner. *See Keller*, 642 F.2d at 426. As discussed, Maes teaches that the message sent to the assigned application includes information relating to the telephony session, such as the telephony gateway address for the duration of the session-based call. Pet. 17–18; Ex. 1003, 9:5–9, 15:58–62; Ex. 1010 ¶ 64. And Ransom teaches that it was well-known to use a URI to send a message to an application over the Internet. Pet. 19–20; Ex. 1004 ¶¶ 162–163; Ex. 1010 ¶¶ 65–66. Thus, the combination of Maes and Ransom teaches sending a message that includes both the URI specifying the assigned application and information about the telephony session, thereby mapping the URI to the telephony session. Pet. 17–20; Ex. 1003, 15:58–62; Ex. 1004 ¶¶ 162–163; Ex. 1010 ¶¶ 63–66.

Claim 1 recites “sending an application layer protocol request to an application resource specified by the URI and embedding state information of the telephony voice session in the request.” Ex. 1001, 18:44–47. Maes teaches sending a message to the assigned application and embedding state information of the telephony session, such as the telephony gateway address for the duration of the session-based call. Pet. 20–21; Ex. 1003, 15:58–62; Ex. 1010 ¶ 67. Maes also teaches that the message is sent over the Internet using HTTP, which is an application layer protocol. Pet. 21–22; Ex. 1001, 13:29–31; Ex. 1003, 9:66–10:9, 28:21–36, 29:19–26, 34:7–10; Ex. 1010 ¶ 68. Ransom teaches that it was well-known to use a URI to send a message to an application over the Internet. Pet. 21–22; Ex. 1004 ¶¶ 162–

163; Ex. 1010 ¶ 68. Thus, the combination of Maes and Ransom teaches sending an HTTP request (i.e., an application layer protocol request) to the assigned application specified by the URI and embedding state information of the telephony session. Pet. 20–22; Ex. 1010 ¶¶ 67–68.

Patent Owner responds that Maes does not teach sending an application layer protocol request to an application resource specified by the URI. PO Resp. 34. Specifically, Patent Owner argues that Maes sends a SOAP message that “can be transmitted through various components of the distributed network,” and, thus, does not teach “the REST-based architecture [of] sending requests to each resource with its own URI.” *Id.* Patent Owner’s argument is not persuasive. First, claim 1 does not mention REST, and, thus, Patent Owner’s argument is not commensurate with the scope of claim 1.<sup>8</sup> Ex. 1001, 18:38–54; Tr. 45:2–3 (“[T]he ’465 patent itself doesn’t have anything about REST or SOAP in the claims.”). And the specification of the ’465 patent indicates that, although the REST model is preferable, the SOAP model also may be used. Ex. 1001, 8:57–60. Second, Maes teaches sending a message to an individual “application 14 (via the associated task manager 15)” over the Internet, and, thus, the combination of Maes and

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<sup>8</sup> Moreover, even if claim 1 required using REST, it would have been obvious to do so. Tr. 45:4–7 (“REST and SOAP are just implementation methods . . . that’s not what the point of novelty of these patents is at all.”), 57:13–15 (“SOAP and REST are just languages, API, they’re formats. There’s nothing special about either of them.”). For example, Maes describes preferred embodiments that use SOAP, but states that it is not limited to SOAP. Ex. 1003, 8:10–14 (“or through other APIs”), 15:66–16:4 (“using, e.g., SOAP”), 39:57–60 (“it is not required”). And Ransom teaches that REST is a common web-service model used to communicate with an application over the Internet. Ex. 1004 ¶¶ 162–163.

Ransom teaches sending a message to an individual application resource specified by a URI. Ex. 1003, 15:59–62, Fig. 1 (“IP Network”); Ex. 1004 ¶¶ 162–163; Ex. 1010 ¶¶ 67–68.

Patent Owner responds that Maes does not teach an application resource. PO Resp. 35. Patent Owner argues that the ’465 patent describes an application resource as having a URI that can be modified. *Id.* (citing Ex. 1001, 8:26–27, 9:63–67). Patent Owner’s argument is not persuasive because it is not commensurate with the scope of claim 1. Although claim 1 recites “an initial URI” and “an application resource specified by the URI,” claim 1 does not recite modifying the URI or mention REST. Ex. 1001, 18:38–54; Tr. 45:2–3.

Patent Owner responds that neither Maes nor Ransom teaches an application specified by a URI that is associated with a telephony endpoint and mapped to a telephony session. PO Resp. 33, 35–37. Patent Owner’s argument is not persuasive because it addresses Maes and Ransom individually, not the combination of Maes and Ransom proposed by Petitioner. *See Keller*, 642 F.2d at 426. As discussed, the combination of Maes and Ransom teaches assigning an application specified by a URI to incoming call information (i.e., a telephony endpoint), thereby associating a URI with a telephony endpoint. Pet. 14–17; Ex. 1003, 15:51–62; Ex. 1004 ¶¶ 162–163; Ex. 1010 ¶¶ 59–62. As also discussed, the combination of Maes and Ransom teaches sending a message that includes both the URI specifying the assigned application and information about the telephony session, thereby mapping the URI to the telephony session. Pet. 17–20; Ex. 1003, 15:51–62; Ex. 1004 ¶¶ 162–163; Ex. 1010 ¶¶ 63–66. Thus, the

same URI that specifies the application is associated with a telephony endpoint and mapped to a telephony session.

Patent Owner responds that Maes's telephony gateway address is not state information of the telephony voice session. PO Resp. 36. Patent Owner's argument is not persuasive. The '465 patent explains that "[s]tate information included with each request may include a unique call identifier, call status data such as whether the call is in-progress or completed, *the caller ID of the caller, the phone number called*, geographic data about the callers, *and/or any suitable data.*" Ex. 1001, 5:33–37 (emphasis added). Maes's telephony gateway address is "the appropriate TEL address for, e.g., the duration of the call (session based)." Ex. 1003, 15:58–65. Thus, similar to the caller ID or phone number described as state information in the '465 patent, Maes's telephony gateway address is state information of a telephony voice session. Ex. 1001, 5:33–37; Ex. 1003, 15:58–65.

Patent Owner argued at the oral hearing that Maes uses a single addressable task manager, whereas the '465 patent uses a plurality of individually addressable resources. Tr. 60:21–62:12. Patent Owner's argument is not persuasive because Maes is not limited to a single addressable task manager for a plurality of applications. Rather, Maes teaches that "task manager 15 can be either common across a plurality of applications or associated with one application (as in the illustrative embodiment of FIG. 1)." Ex. 1003, 7:61–63, Fig. 1. Thus, when a task manager is associated with one application, Maes teaches sending a message to an individual "application 14 (via the associated task manager 15)" over the Internet, and the combination of Maes and Ransom teaches sending a

message to an individual application specified by a URI. Ex. 1003, 15:59–62, Fig. 1; Ex. 1004 ¶¶ 162–163; Ex. 1010 ¶¶ 67–68.

Claim 1 also recites “receiving a response to the application layer protocol request sent to the application resource, wherein the response includes a document of telephony instructions.” Ex. 1001, 18:48–51. Maes teaches receiving a response that includes a control message in the form of an XML document. Pet. 23–24; Ex. 1003, 15:66–16:4, 28:21–36. Patent Owner does not dispute that the combination of Maes and Ransom teaches this limitation of claim 1.

Claim 1 recites “executing telephony actions during the telephony voice session according to a sequential processing of at least a subset of the telephony instructions of the response.” Ex. 1001, 18:52–54. Maes teaches executing telephony actions by processing the commands in the received control message. Pet. 24–25; Ex. 1003, 16:14–26. Patent Owner does not dispute that the combination of Maes and Ransom teaches this limitation of claim 1.

3. *Claim 2*

Claim 2 depends from claim 1, and recites “wherein the telephony communication is a call.” Ex. 1001, 18:55–56. Maes teaches processing an incoming call. Pet. 25–26; Ex. 1003, 15:42–44. Patent Owner does not dispute that the combination of Maes and Ransom teaches the limitation of claim 2. See PO Resp. 39.

4. *Claim 3*

Claim 3 depends from claim 2, and recites “wherein executing a telephony action includes communicating over the public switched telephone network (PSTN).” Ex. 1001, 18:57–59. Maes teaches

communicating over the PSTN using, for example, the DT/6000 in Figure 1. Pet. 26–27; Ex. 1003, 7:2–9, 19:7–21, Fig. 1. Patent Owner does not dispute that the combination of Maes and Ransom teaches the limitation of claim 3. See PO Resp. 39.

5. *Claim 4*

Claim 4 depends from claim 1, and recites “wherein executing telephony actions includes performing the following telephony actions during the telephony voice session: playing audio, playing text-to-speech audio, capturing input, calling a telephony endpoint, or recording audio.” Ex. 1001, 18:60–64. Maes teaches playing a recording or text-to-speech stream, recording an uttered caller ID, and collecting dual tone multi-frequency digits. Pet. 27–28; Ex. 1003, 16:14–26. Patent Owner does not dispute that the combination of Maes and Ransom teaches the limitation of claim 4. See PO Resp. 39.

6. *Claim 5*

Claim 5 depends from claim 1, and recites “wherein executing a telephony action includes sending a telephony message that is sent to a telephony endpoint.” Ex. 1001, 18:65–67. Maes teaches sending a recording or text-to-speech stream that requests an ID from a caller. Pet. 28–29; Ex. 1003, 16:14–26. Patent Owner does not dispute that the combination of Maes and Ransom teaches the limitation of claim 5. See PO Resp. 39.

7. *Claim 6*

Claim 6 depends from claim 5, and recites “wherein sending the telephony message includes communicating over a Signaling System Number Seven (SS<sub>7</sub>) network.” Ex. 1001, 19:1–3. Maes teaches

communicating over an SS<sub>7</sub> network. Pet. 29–30; Ex. 1003, 7:7–9, 19:7–21. Patent Owner does not dispute that the combination of Maes and Ransom teaches the limitation of claim 6. See PO Resp. 39.

8. *Claim 9*

Claim 9 depends from claim 1, and recites “wherein the telephony endpoint is a phone number.” Ex. 1001, 19:8–9. Maes teaches that the telephony endpoint is a phone number. Pet. 30–32; Ex. 1003, 15:51–54 (“the incoming call information (e.g., Call ID, IP address, etc.)”), 34:20–67 (“<CalledTn>5555555555</CalledTn><CallingTn>5555555555</CallingTn>”). Patent Owner argues that claim 9 refers back to the telephony endpoint of claim 1, but “Petitioner does not identify the antecedent telephony endpoint in Maes or Ransom.” PO Resp. 39. Patent Owner’s argument is not persuasive. For claim 1, Petitioner identifies incoming call information, such as a phone number, as the telephony endpoint. Pet. 14–15; Ex. 1003, 15:51–62. For claim 9, Petitioner similarly identifies a phone number as the telephony endpoint. Pet. 30–32; Ex. 1003, 15:51–54, 34:20–67.

9. *Claim 13*

Claim 13 depends from claim 1, and recites “wherein initiating a telephony session for a telephony communication to the telephony endpoint is in response to an application programming interface request to create a telephony communication.” Ex. 1001, 19:18–21. Maes teaches that an application sends a message to initiate a call. Pet. 32–33; Ex. 1003, 15:63–65, 34:20–67 (“<Action>MakeCall</Action><CalledTn>5555555555</CalledTn><CallingTn>5555555555</CallingTn>”). Patent Owner argues that claim 13 refers back to the telephony endpoint of claim 1, but “Petitioner does not identify the antecedent telephony endpoint in Maes or

Ransom.” PO Resp. 39. Patent Owner’s argument is not persuasive. For claim 1, Petitioner identifies incoming call information, such as a phone number, as the telephony endpoint. Pet. 14–15; Ex. 1003, 15:51–62. For claim 13, Petitioner similarly identifies a phone number as the telephony endpoint. Pet. 32–33; Ex. 1003, 15:63–65, 34:20–67.

10. *Reasons for Combining Maes and Ransom*

Petitioner argues that a person of ordinary skill in the art would have had reason to combine the cited teachings of Maes and Ransom. Pet. 11–13, 17, 19–22 (citing Ex. 1010 ¶¶ 46–48, 51–62, 68). We agree with and adopt Petitioner’s reasoning. Specifically, Maes and Ransom relate to the same field of endeavor as the ’465 patent, namely, web services. Pet. 11–13; Ex. 1001, 1:66–2:10, 15:51–61; Ex. 1003, 3:52–65; Ex. 1004 ¶¶ 5, 42, 46, 57–58, 69–70, 78; Ex. 1010 ¶¶ 51, 54, 56–58. It would have been obvious to combine the cited teachings of Maes and Ransom because doing so would have been nothing more than using Ransom’s URI according to its established function of identifying a message recipient to yield the predictable result of sending a message to the identified recipient. Pet. 17, 19–20, 22; Ex. 1004 ¶¶ 162–163; Ex. 1010 ¶ 62; *see KSR*, 550 U.S. at 416 (“The combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results.”). It also would have been obvious to combine the cited teachings of Maes and Ransom because the teachings of Maes and Ransom are interrelated. Pet. 17, 19–20, 22; Ex. 1010 ¶ 58; *see KSR*, 550 U.S. at 418 (“Often, it will be necessary . . . to look to interrelated teachings of multiple patents.”). Namely, Maes teaches using a web service to send a message (Ex. 1003, 3:52–65, 15:66–16:4; Ex. 1010 ¶ 58), and Ransom explains that the two

common web service models—the REST and SOAP models—use a URI to send a message over the Internet (Ex. 1004 ¶¶ 162–163; Ex. 1010 ¶ 58).

Patent Owner responds that Ransom is not analogous art because it is not in the same field of endeavor as the '465 patent and is not reasonably pertinent to a particular problem with which the inventors of the '465 patent were involved. PO Resp. 15–18. Patent Owner argues that the field of endeavor for the '465 patent is telephony, whereas the field of endeavor for Ransom is electric power distribution. *Id.* at 15–16 (citing Ex. 1001, 1:22–24; Ex. 1004, Abstract; Ex. 2010 ¶¶ 30, 194–200, 215–219). Patent Owner also argues that the '465 patent sought to solve the problem of “developing software applications that interact with and use older, complex telephony network systems,” whereas Ransom sought to solve the problem of “transporting data between networks through firewalls and other network security barriers.” PO Resp. 17 (citing Ex. 1001, 1:28–57; Ex. 1004 ¶¶ 5–7; Ex. 2010 ¶¶ 50–54, 217–219).

Patent Owner’s argument is not persuasive. “The Supreme Court’s decision in *KSR* . . . directs us to construe the scope of analogous art broadly.” *Wyers v. Master Lock Co.*, 616 F.3d 1231, 1238 (Fed. Cir. 2010). As such, “[t]he field of endeavor of a patent is not limited to the specific point of novelty, the narrowest possible conception of the field, or the particular focus within a given field.” *Unwired Planet, LLC v. Google Inc.*, 841 F.3d 995, 1001 (Fed. Cir. 2016). Here, the '465 patent is directed to “making telephony application development as easy as web programming” by using “the familiar web site visitor model” that allows developers to “reuse their existing tools and techniques.” Ex. 1001, 1:66–2:10; Ex. 1010 ¶ 54. Ransom is directed to transporting data between a mix of secure and

unsecure networks in an electric power distribution system using “a communication network” that “is a publicly accessible data network such as the Internet or other network or combination of sub-networks that transmit data utilizing the transmission control protocol/internet protocol (‘TCP/IP’) protocol suite.” Ex. 1004 ¶¶ 5, 58; Ex. 1010 ¶¶ 57–58. Thus, both the ’465 patent and Ransom are directed to the field of web services, with the ’465 patent focusing on telephony applications and Ransom focusing on electric power distribution applications. See *Unwired Planet*, 841 F.3d at 1001 (“Here, both Galitz and the ’205 patent are in the field of interface design, with Galitz focusing on graphical user interfaces and the ’205 patent focuses on interfaces for location-based services.”).

Patent Owner responds that a person of ordinary skill in the art would not have been motivated to combine the cited teachings of Maes and Ransom. PO Resp. 24–27, 30–33, 37–39. Patent Owner argues that Petitioner provides “no factual support” for the rationale that “[a]dding the teachings of Ransom to the system of Maes would be nothing more than using a prior art element predictably according to its established function.” *Id.* at 25, 30–31, 37. Patent Owner argues that Petitioner does not identify 1) any deficiency in Maes that would have motivated the combination; 2) any teaching, suggestion, or motivation in Maes or Ransom to make the combination; or 3) any market or design demands for the combination. *Id.* at 26–27, 31–33, 37–38. Patent Owner also argues that Petitioner “merely restates the resulting combination,” which shows that Petitioner relies “on hindsight.” *Id.* at 26–27, 32, 38.

Patent Owner’s arguments are not persuasive. Petitioner presents factual support from the prior art and also from Petitioner’s declarant, Dr.

Nielson, that combining the cited teachings of Maes and Ransom would have been nothing more than using Ransom's URI according to its established function of identifying a message recipient to yield the predictable result of sending a message to the identified recipient. Ex. 1004 ¶¶ 162–163; Ex. 1010 ¶ 62. Petitioner also presents factual support from the prior art and from Dr. Nielson that it would have been obvious to combine Maes and Ransom based on their interrelated teachings. Ex. 1003, 3:52–65, 15:66–16:4; Ex. 1004 ¶¶ 162–163; Ex. 1010 ¶ 58. Because these reasons for combining Maes and Ransom are sufficient, Petitioner need not show a deficiency in Maes, a teaching, suggestion, or motivation in Maes or Ransom, or a market or design demand for the combination. See *KSR*, 550 U.S. at 416, 418.

Patent Owner responds that Dr. Nielson's testimony regarding the reason for combining Maes and Ransom should be given little weight because Dr. Nielson "has virtually no experience relating to telephony." PO Resp. 18, 26, 32, 38. Patent Owner's argument is not persuasive. As discussed above, Maes teaches sending a message to an application over the Internet, and Petitioner relies on Ransom simply to show that it was well known to use a URI to send a message to an application over the Internet. Pet. 14–17; Ex. 1003, 7:13–15, 15:51–62, Fig. 1 ("IP Network"); Ex. 1004 ¶¶ 162–163; Ex. 1010 ¶¶ 59–62. Patent Owner does not contend that Dr. Nielson lacks experience relating to the use of URIs, which is the focus of the proposed combination. See PO Resp. 18, 26, 32, 38.

Patent Owner argued at the oral hearing that Petitioner does not provide a reason why a person of ordinary skill in the art would have modified Maes's "single-point architecture" to make the application

resources “individually addressable.” Tr. 62:19–64:24, 67:8–17. Patent Owner’s argument is not persuasive. As discussed, Maes is not limited to what Patent Owner calls a “single-point architecture.” Rather, Maes teaches that “task manager 15 can be either common across a plurality of applications or associated with one application (as in the illustrative embodiment of FIG. 1).” Ex. 1003, 7:61–63, Fig. 1. Thus, Maes teaches sending a message to an individual “application 14 (via the associated task manager 15)” over the Internet, and the combination of Maes and Ransom teaches sending a message to an individual application specified by a URI. Ex. 1003, 15:59–62, Fig. 1 (“IP Network”); Ex. 1004 ¶¶ 162–163; Ex. 1010 ¶¶ 67–68.

Moreover, Petitioner does not propose modifying Maes’s architecture. Rather, Petitioner relies on Ransom to make explicit what a person of ordinary skill in the art would have already known when reading Maes. Pet. 14–22. Specifically, Maes teaches sending a message to an application over the Internet, but does not expressly mention using a URI to send the message. Pet. 14–15; Ex. 1003, 7:13–15, 15:51–62, Fig. 1 (“IP Network”); Ex. 1010 ¶ 59. Petitioner relies on Ransom not to modify Maes, but, rather, simply to show that it was well known to use a URI to send a message to an application over the Internet. Pet. 15–17; Ex. 1004 ¶¶ 162–163; Ex. 1010 ¶¶ 60–62.

#### 11. *Objective Indicia of Non-Obviousness*

Patent Owner argues that certain objective indicia, including copying, commercial success, industry praise, and long-felt but unmet need, demonstrate non-obviousness of the challenged claims. PO Resp. 54–61.

a. *Copying*

Patent Owner argues that Petitioner’s co-founder had access to Patent Owner’s technology and “used that access to copy Patent Owner’s technology.” PO Resp. 55. Specifically, Patent Owner contends that Petitioner’s co-founder executed a non-disclosure agreement (“NDA”) with Patent Owner in 2010 “to gain access to its technology” and then “created 13 different accounts to access Patent Owner’s products, using fake names on many of them.” *Id.* (citing Ex. 2017 ¶ 66; Ex. 2018; Ex. 2041; Exs. 2047–2054; Exs. 2063–2066). Patent Owner also contends that Petitioner initially provided only SOAP-based products and then developed REST-based products after it “had access to and used Patent Owner’s patented technology.” PO Resp. 55–56 (citing Ex. 2015, 4; Exs. 2025–2027; Ex. 2041; Exs. 2063–2066). To show a nexus between the alleged copying and the challenged claims, Patent Owner argues that its Programmable Voice product embodies claim 1 of the ’465 patent. PO Resp. 56–57 (citing 2010 ¶¶ 140–146; Ex. 2016, 3–5).<sup>9</sup>

The evidence of record does not show that Petitioner had access to and copied the Programmable Voice product. The NDA states that Petitioner had access to Patent Owner’s “business model,” “development

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<sup>9</sup> To show that the Programmable Voice product embodies claim 1, Patent Owner relies on its declarant, Dr. Negus, who relies primarily on discussions he had with one of the inventors, Mr. John Wolthuis. Ex. 2010 ¶¶ 140–146. Patent Owner does not provide a limitation-by-limitation comparison of the Programmable Voice product to claim 1 (Tr. 82:24–83:12), or provide much documentary evidence to corroborate Dr. Negus’s discussions with Mr. Wolthuis (Ex. 2010 ¶ 145 (citing Exs. 2069, 2070)). But, because there ultimately is no prejudice to Petitioner, this Decision assumes that the Programmable Voice product embodies claim 1.

and launch schedule,” “technical architecture plans,” “programming model,” “Application Programming Interfaces (API),” “marketing plan,” “business and/or financial projections,” and “clients.” Ex. 2041, 3. But Patent Owner does not explain how the NDA shows that Petitioner had access to and copied the specific Programmable Voice product. See PO Resp. 55–56; Tr. 75:16–76:7, 77:20–78:4; Ex. 2041, 1–3. Similarly, Patent Owner does not explain how the accounts created by Petitioner’s co-founder show that Petitioner had access to and copied the specific Programmable Voice product. See PO Resp. 55–56; Tr. 75:16–76:7, 77:20–78:4; Exs. 2047–2054, 2063–2066.

Further, Patent Owner’s copying allegation focuses on Petitioner’s change from a SOAP-based product to a REST-based product. PO Resp. 55–56. However, Patent Owner acknowledged at the oral hearing that the challenged claims of the ’465 patent do not mention REST. Tr. 45:2–3 (“[T]he ’465 patent itself doesn’t have anything about REST or SOAP in the claims.”). Patent Owner similarly acknowledged at the oral hearing that REST is not the point of novelty of the ’465 patent. *Id.* at 45:4–7 (“REST and SOAP are just implementation methods . . . that’s not what the point of novelty of these patents is at all.”), 57:13–15 (“SOAP and REST are just languages, API, they’re formats. There’s nothing special about either of them.”). As a result, even if Petitioner changed from a SOAP-based product to a REST-based product, that would not show that Petitioner copied the technology claimed in the ’465 patent.

Therefore, because the evidence of record indicates that Petitioner had access to some of Patent Owner’s technology, but does not show specifically

that Petitioner copied the invention claimed in the '465 patent, the objective indicia of copying at best only weighs slightly in favor of non-obviousness.

b. *Commercial Success*

Patent Owner argues that its products achieved significant commercial success. PO Resp. 57–59. Specifically, Patent Owner contends that it generated \$166.9 million in revenue in 2015 and generated \$4.6 billion in market capitalization in 2016. *Id.* at 58–59 (citing Ex. 2020, 2; Ex. 2038, 70). To show a nexus between the alleged commercial success and the challenged claims, Patent Owner again relies on its Programmable Voice product. PO Resp. 56–57, 59. Patent Owner contends that its revenue is attributable to “products including Programmable Voice.” *Id.* at 59 (citing Ex. 2038, 72, 78; Ex. 2067, 4, 5).

The evidence of record indicates that Patent Owner’s products achieved commercial success. Ex. 2038, 70. But the evidence of record also indicates that the success is attributable to several different products, not just the Programmable Voice product. Ex. 2038, 78 (“We derive our revenue primarily from usage-based fees . . . . These usage-based software products include our Programmable Voice, Programmable Messaging and the recently introduced Programmable Video products.”); Ex. 2067, 5 (“Programmable Messaging . . . Programmable Voice . . . Phone Numbers, Other”). Patent Owner does not identify specifically what portion of its revenue is attributable to the Programmable Voice product. *See* PO Resp. 57–59. Nonetheless, because the evidence indicates that at least some of Patent Owner’s commercial success is attributable to the Programmable Voice product, the objective indicia of commercial success weighs in favor of non-obviousness.

c. *Industry Praise*

Patent Owner argues that its products received industry praise. PO Resp. 60. Patent Owner points to three articles discussing the benefits of Patent Owner's REST-based products. *Id.* at 58–60 (citing Ex. 2022, 1; Ex. 2023, 1; Ex. 2029, 1). Patent Owner also asserts that Petitioner touted the release of its own REST-based product. PO Resp. 60 (citing Ex. 2015). To show a nexus between the alleged industry praise and the challenged claims, Patent Owner again relies on its Programmable Voice product. PO Resp. 56–57, 60.

Even if the evidence of record shows industry praise of Patent Owner's and Petitioner's REST-based products generally, Patent Owner acknowledged at the oral hearing that the challenged claims of the '465 patent do not mention REST and that REST is not the point of novelty of the '465 patent. Tr. 45:2–7, 57:13–15. Further, as discussed above, the evidence of record indicates that Patent Owner offers several different REST-based products, not just the Programmable Voice product. Ex. 2038, 78; Ex. 2067, 4–5. Nonetheless, because one of the articles cited by Patent Owner appears to praise the Programmable Voice product specifically (Ex. 2022, 1 (“Twilio has gained a following among developers looking to include support for VoIP within an application.”)), the objective indicia of industry praise weighs slightly in favor of non-obviousness.

d. *Long-Felt but Unmet Need*

Patent Owner argues that other companies had a long-felt but unmet need for the solution provided by the '465 patent. PO Resp. 60–61. Specifically, Patent Owner argues that “Larian and Tribal Shout each developed and deployed telephony application services to users on custom

application-specific platforms.” *Id.* at 60 (citing Ex. 2010 ¶¶ 152–155). According to Patent Owner, Larian and Tribal Shout “failed,” but “may” have been successful if Patent Owner’s products existed at the time. PO Resp. 60–61 (citing Ex. 2010 ¶ 155). Patent Owner, however, does not identify specific evidence indicating that either company actually expressed a need for the solution provided by the ’465 patent or that such a need was long-felt. *See* PO Resp. 60–61; Ex. 2010 ¶¶ 152–155. Further, Patent Owner’s argument that its products may have allowed Larian and Tribal Shout to succeed is based only on the subjective belief of Patent Owner’s declarant, Dr. Negus. Ex. 2010 ¶ 155 (“[I]f Twilio’s Programmable Voice and Programmable Messaging products existed . . . , I believe both companies could have developed their respective services.”). Therefore, Patent Owner’s evidence of alleged long-felt but unmet need does not weigh in favor of non-obviousness.

#### 12. *Totality of the Evidence*

For the reasons discussed above in Section II.C.1 through Section II.C.10, the evidence presented by Petitioner strongly indicates that claims 1–6, 9, and 13 would have been obvious over Maes and Ransom. For the reasons discussed above in Section II.C.11, Patent Owner’s evidence of commercial success weighs in favor of non-obviousness, Patent Owner’s evidence of copying and industry praise weigh slightly in favor of non-obviousness, and Patent Owner’s evidence of long-felt but unmet need does not weigh in favor of non-obviousness. When considering all of the *Graham* factors, we find Petitioner’s strong evidence of obviousness outweighs Patent Owner’s evidence of the objective indicia. Thus, when considering all the evidence of obviousness and non-obviousness together, *see In re*

*Cyclobenzaprine Hydrochloride Extended-Release Capsule Patent*

*Litigation*, 676 F.3d 1063, 1079 (Fed. Cir. 2012), we conclude Petitioner has shown by a preponderance of the evidence that claims 1–6, 9, and 13 would have been obvious over Maes and Ransom.

D. *Obviousness of Claims 1, 4, 5, and 9 over ETSI 391-4 and ETSI 391-11*

Petitioner argues that claims 1, 4, 5, and 9 would have been obvious over ETSI 391-4 and ETSI 391-11. Pet. 5. Based on the parties’ arguments and supporting evidence, Petitioner has not shown by a preponderance of the evidence that claims 1, 4, 5, and 9 would have been obvious over ETSI 391-4 and ETSI 391-11.

1. *Claim 1*

Claim 1 recites “initiating a telephony voice session for a telephony communication to the telephony endpoint.” Ex. 1001, 18:41–42. Petitioner argues that the phrase “initiating a telephony voice session” in claim 1 includes accepting a Short Message Service (“SMS”) message. Pet. 39 (citing Ex. 1001, 3:16–24). Petitioner argues that ETSI 391-4 teaches an SMS Web Service API that accepts an incoming SMS message from a subscriber, and, thus, initiates a telephony voice session. Pet. 39–40 (citing Ex. 1005, Fig. 2). Patent Owner responds that the phrase “initiating a telephony voice session” in claim 1 does not include accepting an SMS message. PO Resp. 40–41 (citing Ex. 1001, 3:16–24).

Patent Owner’s argument is persuasive. The portion of the ’465 patent cited by Petitioner does not show that the phrase “initiating a telephony voice session” in claim 1 includes accepting an SMS message. The cited portion of the ’465 patent states:

Step S1, which recites initiating a *telephony session*, functions to accept an incoming message. The message is *preferably a call* from a PSTN-connected (Public Switched Telephone Network) or Internet addressable devices, such as landline phones, cellular phones, satellite phones, Voice Over-Internet Protocol (VOIP) phones, SIP devices, Skype, Gtalk, or *any other suitable PSTN-connected or Internet addressable voice device*. The message may *alternatively be a Short Message Service (SMS) message*.

Ex. 1001, 3:16–24 (emphasis added). In other words, the cited portion of the ’465 patent describes “initiating a telephony session,” not a telephony *voice* session. *Id.* Further, the cited portion of the ’465 patent distinguishes between initiating a telephony session by accepting a call from a *voice* device or, alternatively, by accepting an SMS message. *Id.* Similarly, during prosecution of the application that issued as the ’465 patent, the patentee stated that an SMS message is different than a telephony *voice* session. Ex. 1002, 993. Thus, because Petitioner does not show that the phrase “initiating a telephony voice session” in claim 1 includes accepting an SMS message, Petitioner does not show that ETSI 391-4 teaches initiating a telephony *voice* session.

Petitioner argues in the Reply that it “does not maintain as Patent Owner asserts that the incoming SMS message of ETSI-4 is the claimed ‘telephony voice session,’” but, rather, “maintains that the *initiating a telephony voice session* limitation is taught by ETSI-4’s disclosure that an incoming message (circle 1) *subsequently* triggers (circle 4) a telephone call.” Pet. Reply 9. Petitioner’s argument is not persuasive. Petitioner specifically asserts in the Petition that ETSI 391-4 “teaches that the SMS Web Service API accepts an incoming SMS message from a subscriber, denoted ‘1’ in Figure 2.” Pet. 39. Petitioner does not assert in the Petition

that ETSI 391-4 teaches initiating a telephony voice session because the incoming SMS message subsequently triggers a telephone call. *See id.* at 39–40. Petitioner relies on the subsequent initiation of a telephone call for a different limitation of claim 1 that requires “executing telephony actions during the telephony voice session.” *Id.* at 47 (“After receiving a response from the application instructing the initiation of a call, the Third Party Call Web Service API initiates the call, denoted ‘4’ in Figure 2.”).

Petitioner argued at the oral hearing that the Petition’s introduction section at pages 35 and 36 describes how ETSI 391-4 teaches accepting an SMS message and subsequently triggering a telephone call. Tr. 41:6–42:8. But, as discussed above, the Petition does not rely on the subsequent initiation of a telephone call for the limitation of claim 1 that recites “initiating a telephony voice session.” *See* Pet. 39–40, 47.

Thus, Petitioner’s argument in the Reply (and at the oral hearing) is an improper new theory of unpatentability presented for the first time in the Reply, and Patent Owner has not had a fair and meaningful opportunity to respond to that argument. *See* 37 C.F.R. § 42.23(b); *Intelligent Bio-Systems, Inc. v. Illumina Cambridge Ltd.*, 821 F.3d 1359, 1369–70 (Fed. Cir. 2016); *Belden Inc. v. Berk-Tek LLC*, 805 F.3d 1064, 1078–79 (Fed. Cir. 2015). Because Petitioner’s argument in the Reply (and at the oral hearing) is an improper new theory of unpatentability, this Decision does not consider that argument.

For the foregoing reasons, Petitioner has not shown by a preponderance of the evidence that claim 1 would have been obvious over ETSI 391-4 and ETSI 391-11.

2. *Claims 4, 5, and 9*

Claims 4, 5, and 9 depend from claim 1. Ex. 1001, 18:60–67, 19:8–9. Petitioner’s arguments and evidence regarding claims 4, 5, and 9 do not compensate for the deficiency discussed above for claim 1. See Pet. 49–50. Therefore, because Petitioner has not shown by a preponderance of the evidence that claim 1 would have been obvious over ETSI 391-4 and ETSI 391-11, Petitioner also has not shown by a preponderance of the evidence that claims 4, 5, and 9 would have been obvious over ETSI 391-4 and ETSI 391-11. See *supra* Section II.D.1.

3. *Summary*

For the reasons discussed above, Petitioner has not shown by a preponderance of the evidence that claims 1, 4, 5, and 9 would have been obvious over ETSI 391-4 and ETSI 391-11.

E. *Obviousness of Claim 2 over ETSI 391-4, ETSI 391-11, and ETSI 391-3; Claim 3 over ETSI 391-4, ETSI 391-11, ETSI 391-3, and Hong; Claim 6 over ETSI 391-4, ETSI 391-11, and Hong; and Claim 13 over ETSI 391-4, ETSI 391-11, and ETSI 391-2*

Petitioner argues that claim 2 would have been obvious over ETSI 391-4, ETSI 391-11, and ETSI 391-3; claim 3 would have been obvious over ETSI 391-4, ETSI 391-11, ETSI 391-3, and Hong; claim 6 would have been obvious over ETSI 391-4, ETSI 391-11, and Hong; and claim 13 would have been obvious over ETSI 391-4, ETSI 391-11, and ETSI 391-2. Pet. 5–6. Claims 2, 3, 6, and 13 depend, directly or indirectly, from claim 1. Ex. 1001, 18:55–59, 19:1–3, 19:18–21. Claim 2 recites “[t]he method of claim 1, wherein the telephony communication is a call.” *Id.* at 18:55–56. For claim 2, Petitioner argues that “[i]t would have been obvious to a POSA to substitute the incoming SMS message taught in ETSI ES 202 391-4 with

the incoming call taught in ETSI ES 202 391-3.” Pet. 53. Petitioner, though, does not assert that theory in the Petition for claim 1’s recitation of “initiating a telephony voice session.” See *id.* at 39–40; Pet. Reply 9–10; Tr. 41:6–42:8. Therefore, because, as discussed above, Petitioner has not shown by a preponderance of the evidence that claim 1 would have been obvious over ETSI 391-4 and ETSI 391-11, Petitioner also has not shown by a preponderance of the evidence that claims 2, 3, 6, and 13 would have been obvious over the above combinations. See *supra* Section II.D.1.

F. *Patent Owner’s Motion to Strike*

Patent Owner filed a Motion to Strike portions of Petitioner’s Reply (Paper 34, “PO Mot. Str.”), to which Petitioner filed an Opposition (Paper 39, “Pet. Opp. Str.”).<sup>10</sup> Patent Owner argues that Section III.A of Petitioner’s Reply from page 9, line 1 to page 10, line 8 should be stricken because it exceeds the scope of a proper reply. PO Mot. Str. 1. Specifically, Patent Owner contends that Petitioner relies on ETSI 391-4’s SMS Web Service to teach a telephony voice session in the Petition, but then “shifts its grounds” to rely on ETSI 391-4’s Third Party Call Web Service to teach a telephony voice session in the Reply. *Id.* at 1–2. Petitioner responds that the Reply is proper because it responds to arguments raised by Patent Owner in the Response. Pet. Opp. Str. 1–4.

As discussed above, Petitioner’s argument in the Reply (and at the oral hearing) regarding ETSI 391-4’s teaching of a telephony voice session is an improper new theory of unpatentability, and this Decision does not consider that argument. See *supra* Section II.D.1. Thus, because this

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<sup>10</sup> We authorized Patent Owner to file a motion to strike and Petitioner to file an opposition. Paper 32, 3.

Decision does not consider Petitioner's improper arguments in the Reply, it is unnecessary to strike those portions of the Reply from the record.

Therefore, Patent Owner's Motion to Strike is *dismissed as moot*.

G. *Petitioner's Motion to Exclude*

Petitioner filed a Motion to Exclude (Paper 36, "Pet. Mot. Excl."), to which Patent Owner filed an Opposition (Paper 42, "PO Opp. Excl."), and Petitioner filed a Reply (Paper 43, "Pet. Reply Excl."). Ex. 2010 is Dr. Negus's Declaration. Petitioner argues that paragraphs 141–146 of Exhibit 2010 should be excluded under Fed. R. Evid. 702, 801, 802. Pet. Mot. Excl. 3–4. Specifically, Petitioner argues that paragraphs 141–146 of Dr. Negus's Declaration "simply repeat[] back hearsay statements of Mr. John Wolthuis – Patent Owner's co-founded and named co-inventor of the instant '465 Patent" to show "that Patent Owner's Programmable Voice Product practices the challenged claims of the '465 Patent." *Id.* at 2.

Patent Owner relies on paragraphs 141–146 of Dr. Negus's Declaration to support its arguments regarding the objective indicia of non-obviousness. PO Resp. 56–57. As discussed above, when considering all the evidence of obviousness and non-obviousness together, Petitioner has shown by a preponderance of the evidence that the challenged claims are unpatentable. *See supra* Section II.C.12. Thus, because the admission of paragraphs 141–146 of Exhibit 2010 does not prejudice Petitioner, it is unnecessary to exclude those portions of Exhibit 2010. Therefore, Petitioner's Motion to Exclude is *dismissed as moot*.

H. *Patent Owner's Motion to Exclude*

Patent Owner filed a Motion to Exclude (Paper 37, "PO Mot. Excl."), to which Petitioner filed an Opposition (Paper 41, "Pet. Opp. Excl."), and

Patent Owner filed a Reply (Paper 44, “PO Reply Excl.”). Exhibits 1017 and 1018 are emails between Petitioner’s and Patent Owner’s employees. Patent Owner argues that Exhibits 1017 and 1018 should be excluded under Fed. R. Evid. 801, 802. PO Mot. Excl. 1. This Decision does not rely on Exhibit 1017 or 1018. Therefore, Patent Owner’s Motion to Exclude is *dismissed as moot*.

I. *Patent Owner’s Motion to Seal*

Patent Owner filed an unopposed Motion to Seal. Paper 26 (“Mot. Seal”). Patent Owner seeks to seal Exhibits 2025–2027 in their entirety, portions of Exhibits 2047–2054 and 2063–2066, and portions of Patent Owner’s Response. Mot. Seal 1. For the reasons discussed below, the Motion to Seal is *granted*.

Patent Owner states that Exhibits 2025–2027 are internal emails among Petitioner’s employees regarding product development, which Petitioner asserts contain confidential information that would damage Petitioner’s business if made public. Mot. Seal 2–3. Patent Owner states that Exhibits 2047–2054 and 2063–2066 are reports from Patent Owner’s internal database showing the status of various accounts opened by Petitioner. Mot. Seal 3. Pursuant to paragraph 5(A)(ii) of the Protective Order entered June 21, 2018 (Paper 24), Patent Owner submitted both confidential and public versions of Exhibits 2047–2054 and 2063–2066. Mot. Seal 3. In the public versions, Patent Owner redacted certain personal identification information, such as email addresses, account numbers, and names, which is necessary to allow submission of relevant evidence in this proceeding while protecting personal identification information. *Id.* at 3–4. Patent Owner states that the Response includes confidential information

from the foregoing exhibits. *Id.* at 4. Pursuant to paragraph 5(A)(ii) of the Protective Order, Patent Owner submitted both confidential and public versions of the Response. *Id.* at 4.

There is a strong public policy that favors making information filed in an *inter partes* review open to the public. *Garmin Int'l, Inc. v. Cuozzo Speed Techs. LLC*, Case IPR2012-00001, slip op. 1–2 (PTAB Mar. 14, 2013) (Paper 34). The standard for granting a motion to seal is good cause. 37 C.F.R. § 42.54. That standard includes showing that the information addressed in the motion to seal is truly confidential, and that such confidentiality outweighs the strong public interest in having the record open to the public. *See Garmin*, IPR2012-00001, Paper 34, 2–3. Based on the Motion to Seal and the documents sought to be sealed, good cause exists to grant the Motion to Seal.

This Decision does not discuss or otherwise reveal any confidential information. Nonetheless, confidential information that is subject to a protective order ordinarily becomes public 45 days after final judgment in a trial, unless a motion to expunge is granted. 37 C.F.R. § 42.56; Office Patent Trial Practice Guide, 77 Fed. Reg. 48,756, 48,761 (Aug. 14, 2012). We recognize, though, that a party who is dissatisfied with this Decision may appeal pursuant to 35 U.S.C. § 141(c). Thus, confidential information in this case will remain sealed until the time period for filing a notice of appeal has expired, or if an appeal is taken, until the appeal has concluded. A motion to preserve the record, therefore, is not necessary at this time. Within 45 days of the conclusion of all appeals, or, if no notice of appeal is filed, within 45 days of the expiration of the period to file a notice of appeal, the parties may file a motion to expunge any sealed documents. If the

parties do not file such a motion, the sealed documents will be unsealed.

### III. CONCLUSION

Petitioner has shown by a preponderance of the evidence that claims 1–6, 9, and 13 of the '465 patent are unpatentable as obvious over Maes and Ransom. Petitioner, however, has not shown by a preponderance of the evidence that claims 1, 4, 5, and 9 are unpatentable as obvious over ETSI 391-4 and ETSI 391-11; that claim 2 is unpatentable as obvious over ETSI 391-4, ETSI 391-11, and ETSI 391-3; that claim 3 is unpatentable as obvious over ETSI 391-4, ETSI 391-11, ETSI 391-3, and Hong; that claim 6 is unpatentable as obvious over ETSI 391-4, ETSI 391-11, and Hong; or that claim 13 is unpatentable as obvious over ETSI 391-4, ETSI 391-11, and ETSI 391-2.

### IV. ORDER

It is hereby

ORDERED that claims 1–6, 9, and 13 of the '465 patent are shown unpatentable;

FURTHER ORDERED that Patent Owner's Motion to Strike is *dismissed as moot*;

FURTHER ORDERED that Petitioner's Motion to Exclude is *dismissed as moot*;

FURTHER ORDERED that Patent Owner's Motion to Exclude is *dismissed as moot*;

FURTHER ORDERED that Patent Owner's Motion to Seal Paper 27 and Exhibits 2025–2027, 2047–2054, and 2063–2066 is *granted*; 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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