

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

LIVEPERSON, INC.,
Petitioner,

v.

24/7 CUSTOMER, INC.,
Patent Owner.

Case IPR2017-00610
Patent 9,077,804 B2

Before CHRISTOPHER L. CRUMBLEY, ROBERT J. WEINSCHENK,
and JASON W. MELVIN, *Administrative Patent Judges*.

CRUMBLEY, *Administrative Patent Judge*.

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

I. INTRODUCTION

In this *inter partes* review trial, instituted pursuant to 35 U.S.C. § 314, Petitioner LivePerson, Inc. challenges the patentability of claims 1–3, 5, 8–9, and 16 of U.S. Patent No. 9,077,804 B2 (Ex. 1001, “the ’804 patent”), owned by 24/7 Customer, Inc.

We have jurisdiction under 35 U.S.C. § 6(b). This Final Written Decision, issued pursuant to 35 U.S.C. § 318(a), addresses issues and arguments raised during trial. For the reasons discussed below, we determine that LivePerson has proven, by a preponderance of the evidence, that claims 1–3, 5, 8–9, and 16 of the ’804 patent are unpatentable.

A. Procedural History

On January 6, 2017, LivePerson requested an *inter partes* review of claims 1–10 of the ’804 patent. Paper 1, “Pet.” 24/7 Customer filed a Patent Owner Preliminary Response. Paper 7, “Prelim. Resp.” In a Decision on Institution of *Inter Partes* Review (Paper 9, “Dec. on Inst.”), we instituted trial as to claims 1–3, 5, 8–9, and 16 on the following grounds of unpatentability:

1. Whether claims 1–3, 5, 8–9, and 16 are unpatentable under 35 U.S.C. § 103(a),¹ as having been obvious over the combined disclosures of Busey² and Yoshida;³ and
2. Whether claim 9 is unpatentable under 35 U.S.C. § 103(a), as having been obvious over the combined disclosures of Busey, Yoshida, and Lewis-Hawkins.⁴

Dec. on Inst. 20.

Following institution, 24/7 Customer filed a Patent Owner Response (Paper 21, “PO Resp.”), and LivePerson filed a Reply (Paper 28, “Pet. Reply”).

LivePerson supported its Petition with the Declaration of Stuart J. Lipoff. Ex. 1003. 24/7 Customer took cross-examination of Mr. Lipoff via deposition, and filed the transcript in the record. Ex. 2011. With its Reply, LivePerson submitted a second Declaration by Mr. Lipoff. Ex. 1017.

With its Patent Owner Preliminary Response, 24/7 Customer submitted the Declaration of Arthur T. Brody, Ph.D. (Ex. 2001), and submitted a second Declaration by Dr. Brody with its Patent Owner

¹ The relevant sections of the Leahy-Smith America Invents Act (“AIA”), Pub. L. No. 112–29, took effect on March 16, 2013. Because the application to which the ’876 patent claims priority was filed before that date, our citations to Title 35 are to its pre-AIA version.

² U.S. Patent Application Pub. No. 2006/0188086 A1 to Busey et al., published Aug. 24, 2006 (Ex. 1007).

³ U.S. Patent 7,330,873 B2 to Yoshida et al., issued Feb. 12, 2008 (Ex. 1008).

⁴ U.S. Patent Application Pub. No. 2010/0100490 A1 to Lewis-Hawkins, published Apr. 22, 2010 (Ex. 1013).

Response (Ex. 2010). LivePerson took cross-examination testimony of Dr. Brody via deposition, and submitted the transcript. Ex. 1018.

24/7 Customer filed a Motion to Exclude certain evidence submitted by LivePerson with its Reply (Paper 38, Attachment A,⁵ “Mot.”), to which LivePerson filed an Opposition (Paper 33, “Mot. Opp.”) and 24/7 Customer filed a Reply (Paper 34, “Mot. Reply”).

An oral hearing was held on April 10, 2018, and a transcript of the oral hearing is available in the record. Paper 40 (“Tr.”).

On May 3, 2018, we expanded the scope of this proceeding to include review of all challenged claims and all grounds presented in the Petition. Paper 41; *see* United States Patent and Trademark Office, *Guidance on the impact of SAS on AIA trial proceedings*, PATENT TRIAL AND APPEAL BOARD TRIALS (April 26, 2018), <https://go.usa.gov/xQ93y>. This added three challenges to claim 11 of the ’804 patent to the trial, on the following grounds:

1. Whether claim 11 is unpatentable under 35 U.S.C. § 103 as having been obvious over the combined disclosures of Busey and Yoshida;
2. Whether claim 11 is unpatentable under 35 U.S.C. § 103 as having been obvious over the combined disclosures of Busey, Yoshida, and Light;⁶ and

⁵ 24/7 Customer served, but inadvertently did not file, its Motion to Exclude at the appropriate time. We alerted the parties to this fact during the oral hearing, and LivePerson indicated that it would not oppose 24/7 Customer’s late submission of the Motion. Tr. 52. We granted a Motion to Excuse Late Action and accepted the late filing of the Motion to Exclude. Paper 39.

⁶ U.S. Patent Application Pub. No. 2008/0052377 A1 to Light, published

3. Whether claim 11 is unpatentable under 35 U.S.C. § 103 as having been obvious over the combined disclosures of Busey, Yoshida, Light, and Bogart.⁷

The parties subsequently filed a Stipulation to Withdraw Claim 11 of the '804 Patent from Petition, withdrawing all grounds relating to claim 11 from the trial. Paper 44. This Final Written Decision, therefore, does not address the patentability of claim 11.

B. The '804 Patent

The '804 patent, titled “Interaction Management,” issued July 7, 2015, from U.S. Patent Application No. 14/251,527 (“the '527 application”), filed on April 11, 2014. Ex. 1001, (54), (45), (21), (22). The '527 application was a continuation of application No. 13/626,770, which issued as U.S. Patent No. 8,737,599, and claims priority to provisional application No. 61/563,434, filed November 23, 2011. *Id.* at (60), (63).

The '804 patent is directed to an apparatus and method for managing online customer/customer service agent interactions, and optimizing them “from an agent’s perspective across multiple channels, such as chat, voice, etc.” *Id.* at 2:24–26. The customer and agent interact via an “interaction engine,” which may use chat, voice, or a combination of chat and voice, and may permit a supervisor to monitor the interaction. *Id.* at 2:30–35. The agent may use the interaction engine to send the customer a link to an application via the interaction engine, or the link may be pushed to the

Feb. 28, 2008 (Ex. 1009).

⁷ U.S. Patent 6,163,607 to Bogart et al., issued Dec. 19, 2000 (Ex. 1014).

customer's smartphone using SMS or otherwise. *Id.* at 2:31–40. The customer may launch the application on an application server via the link, and the agent may monitor the progress of the customer via the interaction engine. *Id.* at 2:41–47.

Additional features of the invention are described in various embodiments of the '804 patent. For instance, the interaction engine may permit the session to end while a monitoring application continues to monitor the progress of the customer, and the agent may re-initiate the session if certain factors indicate that the user requires assistance, for example by taking too long to input requested information. *Id.* at 2:45–3:8. The interaction engine may also provide suggested responses to the agent for certain customer scenarios, or the monitoring supervisor may suggest certain responses, from which the agent may select the appropriate one. *Id.* at 4:42–48, 5:18–24. The interaction engine may also provide a command module, through which the agent may enter commands such as looking up customer data. *Id.* at 4:59–5:11.

C. Illustrative Claim

Of the challenged claims, claims 1 and 16 are independent. Claim 1 is reproduced below:

1. Apparatus for management of online customer/agent interaction across multiple channels, comprising:
 - a processor implemented interaction engine that is configured for accessibility by at least one customer and at least one agent for interaction during a session between said at least one customer and said at least one agent via any of chat, voice, and a combination of chat and voice as the mode of interaction;

said interaction engine configured to send a link to said customer at said agent's request to allow said customer to access an application at a processor implemented application server on which said application is resident and to which said link is resolved for customer access to, and launching of, said application; and

said interaction engine configured to allow said agent to proactively monitor progress of the customer while the customer is using said application.

Ex. 1001, 8:51–67. Claim 16 is a method claim counterpart to the apparatus of claim 1, and mirrors claim 1's structure. *Id.* at 10:20–36.

II. ANALYSIS

A. Claim Construction

For purposes of our Decision on Institution, LivePerson asked that we construe the term *any of*, which appears in two contexts in the challenged claims: claim 3 recites that a “link is sent in *any of* an interaction window and via SMS or native notification,” while claim 9 recites “performing additional functions comprising *any of*” several alternatives. LivePerson contended that the broadest reasonable interpretation of this term in both contexts is “one or more of.” Pet. 6–9. We agreed with 24/7 Customer that it was not necessary to construe the term, because no ground of invalidity asserted by LivePerson depended on a particular construction of *any of*. Dec. on Inst. 6; see *Vivid Techs., Inc. v. Am. Sci. & Eng'g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999) (“[O]nly those terms need be construed that are in controversy, and only to the extent necessary to resolve the controversy.”). Neither party argued during trial that a construction for *any of* was necessary.

In its Patent Owner Response, 24/7 Customer proposed constructions for several terms that the parties did not brief prior to institution. We address each construction below.

1. application

Claims 1 and 16 require that the interaction engine send a link to the customer at the agent's request, “to allow said customer to access an *application* at a processor implemented application server.” 24/7 Customer asks that we construe the term *application* to have its plain and ordinary meaning, but does not explain what that meaning is. PO Resp. 15–16. Dr. Brody testified in support of 24/7 Customer’s Response that “[a]pplications operate on data and files that are either available locally or must be obtained from another source,” and provided examples such as “Microsoft Word, Microsoft Excel, Adobe Photoshop, and web browsers such as Microsoft Explorer and Google Chrome” that fall within the plain meaning of *application*. Ex. 2010 ¶¶ 32–33.

LivePerson agrees that the term should be given its plain meaning, but argues that 24/7 Customer is attempting to exclude from the scope of the construction dynamic web pages that execute within browsers. Pet. Reply 6. LivePerson cites Dr. Brody’s testimony during cross-examination that “the ’804 patent does not limit what an application means.” *Id.* (citing Ex. 1018, 72:5–21, 117:15–22).

Upon consideration of the parties’ positions, we do not believe there to be much dispute about the construction of *application*. The parties’ dispute appears to be over the application of this construction to the prior art, as opposed to the construction itself. We agree with the parties that the term

should be given its plain meaning, and do not consider the list of exemplary applications provided by Dr. Brody to be an attempt to limit the term to only those examples. We also agree with Dr. Brody's testimony that, in common usage, an application is something that operates on data or files.

2. *proactively monitor*

Claims 1 and 16 also require that the interaction engine allow the agent to "*proactively monitor* progress of the customer" while using the application. 24/7 Customer argues that, in the context of the '804 patent, *proactively monitor* means to monitor using alerts. PO Resp. 16–17. 24/7 Customer notes that the '804 patent discusses certain events, such as a customer spending too much time on a particular web page, that will "raise alerts" based on "threshold based proactive monitoring alerts." *Id.* (citing Ex. 1001, 3:53–4:9, 4:50–55. It is the presentment of these alerts to the agent that permits the agent's monitoring to be proactive, in 24/7 Customer's view.

LivePerson argues that 24/7 Customer's interpretation of *proactively monitor* is too narrow and improperly limits the scope of the term to alert-based monitoring. Pet. Reply 9–10. LivePerson observes that the portion of the specification cited by 24/7 Customer discussed above actually refers to a "monitoring module" that raises alerts to the *supervisor* of the agent, which is a function distinct from the monitoring performed by the agent. *Id.* Other portions of the specification, by contrast, discuss an agent re-initiating a session with a customer "based on the agent monitoring the progress of the customer *or* based on alerts generated by the interaction engine." Ex. 1001, 2:56–60 (emphasis added). LivePerson argues that this shows that the '804

patent treats alerting as a distinct concept from monitoring, and therefore *proactive monitoring* need not be performed using alerts. Pet. Reply 10. LivePerson also notes that claim 6, which depends from claim 1, further requires an alerting function, suggesting that alerting is distinct from the proactive monitoring recited in claim 1. *Id.* Finally, LivePerson directs us to the cross-examination testimony of Dr. Brody, during which Dr. Brody testified that alerts are only an example of a method by which the monitoring takes place, and the claims are not limited to alerts. Ex. 1018, 205:18–23, 210:6–12.

We agree with 24/7 Customer, to an extent. As 24/7 Customer notes, the common usage of “proactive” is “acting in advance to deal with an expected difficulty; anticipatory” or “acting in anticipation of future problems, needs, or changes.” PO Resp. 18 (citing dictionaries). There is no suggestion in the specification of the ’804 patent that the inventors intended to depart from this meaning. Certainly, an alert may be one way for an agent to act proactively and anticipate a customer’s problems before they occur, for example when a customer spends too much time on a particular webpage. Ex. 1001, 2:56–60. But the ’804 patent is not limited to using such alerts, and discusses them as an alternative to “the agent monitoring the progress of the customer” in which the agent “just keep[s] the customer company while the customer performs Web based self service.” *Id.* at 2:58–59, 3:6–8. According to the patent, both of these methods—automatically-triggered alerts or “just keeping the customer company”—permit an agent to anticipate a customer’s problems before they arise. Either alternative, therefore, falls within the meaning of *proactively*

monitor as used in the claims, and we see no reason to adopt 24/7 Customer's narrower construction that requires alerts.

We conclude that the broadest reasonable interpretation of *proactively monitor* consistent with the specification of the '804 patent is any method of monitoring that permits an agent to anticipate a customer's problems before they arise.

3. *application server*

Claims 1 and 16 require a "processor implemented *application server*" on which the application is resident. 24/7 Customer asks that we construe this as "a server where the application resides," as the term was construed by the District Court. PO Resp. 19. The result of this construction, 24/7 Customer argues, is that the server is on a network that is remote from other devices on the network, such as the customer's device. *Id.* at 20. LivePerson agrees with the formulation of 24/7 Customer's proposed construction, "a server where the application resides," but not its effect. Pet. Reply 8. According to LivePerson, there is no reason in the '804 patent to require that the server be remote from the customer's device. *Id.*

The parties' agreed construction is consistent with its usage in the '804 patent, thus we will adopt the proposed construction and interpret *application server* to mean "a server where the application resides." As discussed below, however, resolving the question whether the server must be remote from the customer is not necessary to resolving the parties' dispute in this case, and therefore we decline to construe the term further. *See Vivid Techs.*, 200 F.3d at 803; *see also* Tr. 40 (24/7 Customer's counsel conceding that "[t]he construction of server is relevant based on the argument that

starting a web browser on the customer's device . . . satisfies the claim limitation.”).

B. 24/7 Customer's Motion to Exclude

Before turning to the merits of the parties' arguments, we first determine the scope of the record by addressing 24/7 Customer's Motion to Exclude. In its Motion, 24/7 Customer seeks to exclude several exhibits submitted with LivePerson's Reply, specifically Exhibits 1019–1022, 1024, and paragraph 9 of Exhibit 1017. Mot. 1. For the following reasons, we *deny* the motion.

First, 24/7 Customer argues that Exhibits 1019–1022 should be excluded as irrelevant under Federal Rule of Evidence (“FRE”) 402 as being prior art beyond the scope of the Board's institution decision. *Id.* We find this argument unpersuasive for several reasons. LivePerson does not cite these exhibits as part of the proposed grounds of unpatentability, as 24/7 Customer alleges; rather, the exhibits are relied upon as evidence of the background level of skill and how a person of ordinary skill in the art would have interpreted the references that *were* cited as part of the ground of unpatentability, such as Busey. For example, Mr. Lipoff cites the reply exhibits as evidence that as of the date of invention, “the vast majority of web pages were not simply static HTML, but contained some dynamically generated elements. *A person of ordinary skill reading Busey . . . would not limit the term ‘web pages’ to static HTML content.*” Ex. 1017 ¶ 9 (emphasis added). As the Federal Circuit has stated, “[a]rt can legitimately serve to document the knowledge that skilled artisans would bring to bear in reading the prior art identified as producing obviousness,” and that the Board cannot

decline to consider such art “simply because [it] had not been identified at the petition stage as one of the pieces of prior art defining a combination for obviousness. *Ariosa Diagnostics v. Verinata Health, Inc.*, 805 F.3d 1359, 1365 (Fed. Cir. 2015).

In addition, we do not consider an objection for relevance to be well-founded. Evidence is relevant if it “has any tendency to make a fact more or less probably than it would be without the evidence” and that fact is material to determining the case. FRE 401. There is little question that the objected-to exhibits, which discuss types of scripting languages and dynamic web pages in existence before the filing of the ’804 patent, satisfy this test, and 24/7 Customer does not seriously argue otherwise. Rather, 24/7 Customer’s objection appears to be to the timing of the evidence, and that it is beyond the proper scope of reply evidence as permitted by our rules of practice. *See* Mot. 4 (citing 37 C.F.R. § 42.23). But the question of whether evidence submitted with a reply is improper because it should have been submitted earlier in the proceeding is one of *procedure*, not *admissibility*. Motions to exclude before the Board are intended to address only the latter. *See Liberty Mutual Ins. Co. v. Progressive Casualty Ins. Co.*, CBM2012-00002, Paper 66 at 61–62 (PTAB Jan 23, 2014) (“a motion to exclude . . . is not a mechanism to argue that a reply contains new arguments or relies on evidence necessary to make out a prima facie case.”).

Finally, even if 24/7 Customer had properly raised an objection to the scope of LivePerson’s reply evidence, we would not find this argument persuasive. As discussed below in footnote 9, Exhibits 1019–1022 were submitted on reply in direct response to arguments made by 24/7 Customer

in its Patent Owner Response regarding whether web pages are “applications” within the scope of the claims.

As a subsidiary objection, 24/7 Customer also objects to Exhibits 1019–1022 as irrelevant, as they were not cited in the body of the Reply itself. Mot. 4. While we have, in prior cases, excluded for relevance exhibits that a party submitted as “background” but never cited, those were exhibits never cited anywhere in the proceeding. *See SK Innovation Co., Ltd. v. Celgard, LLC*, IPR2014-00679, Paper 58, at 49 (PTAB Sept. 25, 2015). Here, by contrast, Mr. Lipoff properly relies on the exhibits as the basis for the opinions expressed in his second Declaration. Ex. 1017 ¶ 9. We do not consider the exhibits to be irrelevant on this basis.

Second, 24/7 Customer asks that we exclude Exhibits 1019–1022 as hearsay not falling within an exception under FRE 801 and 802. Mot. 6. The Motion does not identify specifically what portions of the exhibits, or what statements made therein, are out-of-court statements offered for the truth of the matter asserted. 24/7 Customer only refers generally to “the dates that the documents were available and the purported public availability of those documents.” *Id.* Without more, it is difficult to understand what specific statements within the documents speak to either of these issues. Furthermore, LivePerson does not rely on statements within the documents themselves as evidence of their public availability as of the priority date of the ’804 patent. Rather, as 24/7 Customer acknowledges in reply (Mot. Reply 5), LivePerson presents the testimony of a librarian via the supplemental evidence Declaration of Christopher Lowden (Ex. 1025) as evidence of the documents’ public availability dates. Mr. Lowden’s

testimony is not hearsay, nor are Exhibits 1019–1022 as LivePerson has relied upon them.

Third, 24/7 Customer objects to Exhibits 1019–1022 for lack of authenticity under FRE 901(a), and Exhibit 1024 for lack of personal knowledge under FRE 602. Mot. 6–7. A document is sufficiently authenticated if the proponent of the document produces evidence sufficient to support a finding that the document is what the proponent says it is. FRE 901(a). Here, there is sufficient evidence to make that finding as to Exhibits 1019–1022. 24/7 Customer’s objection is based on its view that the “only evidence” submitted to authenticate the exhibits is the Declaration of Robert Kang (Ex. 1024), who allegedly has no personal knowledge of the authenticity of the documents. Mot. 6–7. Even if Mr. Kang’s testimony were insufficient, however, 24/7 Customer’s contention misstates the record; it ignores the fact that LivePerson also submitted Mr. Lowden’s declaration (Ex. 1025), discussed above, as supplemental evidence in response to 24/7 Customer’s evidentiary objections. We could overrule the objection on this basis alone, but also note that, upon reviewing Mr. Lowden’s declaration,⁸ he provides testimony sufficient to establish that the exhibits are what LivePerson says they are. Ex. 1025 ¶¶ 7–9.

Because we do not rely on Mr. Kang’s Declaration (Ex. 1024), and the testimony is not necessary to determine that the reply exhibits have been

⁸ 24/7 Customer does not address the Lowden Declaration in its Motion to Exclude. Its arguments regarding the sufficiency of Mr. Lowden’s testimony, made for the first time in the Reply (Mot. Reply 3–4), deprived LivePerson of the opportunity to respond and, therefore, will not be considered.

properly authenticated, we dismiss 24/7 Customer's objection to the testimony as moot.

Finally, 24/7 Customer moves to exclude paragraph 9 of Exhibit 1017, the portion of the reply testimony of Mr. Lipoff that relies on Exhibits 1019–1022. Mot. 7–8. As we have concluded above that the objections to the underlying exhibits lack merit, we also deny the motion as to the paragraph of the Declaration that relies on these exhibits.

C. Obviousness over Busey and Yoshida

LivePerson contends that claims 1–3, 5, 8–9, and 16 are unpatentable under 35 U.S.C. § 103(a), as they would have been obvious over the combined disclosures of Busey and Yoshida. Pet. 20–41. As explained below, LivePerson has shown by a preponderance of the evidence that the claims would have been obvious over the combined references.

1. Busey

Busey discloses a system for integrating multiple communication types in a call center, such as chat, email, voicemail, telephone, and web pages. Ex. 1007 ¶ 12. Figure 3A of Busey shows a screen from the agent's graphical user interface ("GUI") shown on the agent's computer screen, which comprises various windows and buttons. Among the buttons are a "Say" button that the agent may use to send text to the customer, and a "Send URL" button that displays a web page located at a selected URL on the customer's screen. *Id.* ¶ 103. The agent GUI also includes a "NetMeeting" button that initiates a NetMeeting session, through which the customer and agent can share screens and pointers. *Id.* ¶ 98.

Busey also discloses an additional screen from the agent interface, called the “pager” display, which allows agents to send messages to each other and receive messages from other agents. *Id.* ¶ 107. The pager display also includes a “NetMeeting” button to initiate a NetMeeting session, as well as a button to permit supervisors to enable an “invisible mode.” *Id.* According to Busey, in “invisible mode,” “[a]ll functions work identically, except that the participants in the room don’t see any indication that the supervisor is entering or leaving the room.” *Id.*

2. *Yoshida*

Yoshida describes a system for permitting call center agents to monitor potential customers who are visiting a website and, if appropriate, initiate communication with the potential customers. Ex. 1008, 1:66–2:3. The system uses a “customer monitoring applet” that is downloaded to a customer’s computer upon visiting a web page, which once installed monitors various aspects of the customer’s web browsing behavior. *Id.* at 8:6–25. This information is stored in a database, and subsequently forwarded to a customer service agent if it is determined that the agent should “proactively provide assistance” to the customer. *Id.* at 16:27–47. The agent reviews the customer information, decides whether to offer assistance to the customer, and uses collaborative communication software to initiate contact with the customer. *Id.* at 17:5–18. As an example, Yoshida states that the customer and agent may “simultaneously conduct text chat . . . as well as browse collaboratively through the exchange of the appropriate web page addresses and text.” *Id.* at 17:33–37.

3. *Analysis*

We find that a person of ordinary skill in the art would have combined Busey and Yoshida in the manner proposed by LivePerson. Specifically, LivePerson contends that a person of ordinary skill in the art would have had reason to apply the disclosures of Yoshida—specifically, Yoshida’s customer monitoring applet—to the system of Busey, in order to improve Busey’s system. Pet. 23–24. According to LivePerson, a person of ordinary skill would have understood that “Busey’s goal of improving customer-agent interactions using computer-related technology would be furthered by adding the customer monitoring applet of Yoshida.” Pet. Reply 27. In other words, given Busey’s stated goal of improving tracking of customer issues, the skilled artisan would have looked to Yoshida’s monitoring applet as a method of further improving this tracking. *Id.*

24/7 Customer argues that there is no motivation to combine the references in the manner proposed. PO Resp. 44–45. 24/7 Customer first argues that the references address different portions of the customer interaction process, with Yoshida being focused on monitoring a customer before interaction with an agent, while Busey teaches sending a URL to a customer after the agent interacts with the customer. *Id.* at 44. According to 24/7 Customer, “[t]here is no teaching or suggestion that the pre-agent involvement aspects of Yoshida could be used to alter or improve the post-agent involvement aspects of Busey.” *Id.*

As LivePerson notes in response—and we agree—the timing of Yoshida’s customer monitoring applet does not lead to the conclusion that a person of ordinary skill in the art would not have incorporated the applet into

Busey. First, LivePerson argues that the skilled artisan would have recognized that the Yoshida applet could be used *during* a customer-agent interaction to record customer behavior. Pet. Reply 27. Second, even if the references focus on improving different aspects of the customer-agent interaction, this is not a reason not to combine their teachings. A system that combined Yoshida’s pre-agent monitoring with Busey’s during-interaction monitoring would improve both aspects of the customer service experience, leading to an overall improved system. See Ex. 1005 ¶ 84 (“It would specifically be a natural extension of the system disclosed in Busey to provide further customer monitoring capabilities in order to provide additional information about a current customer to an agent.”). We find that a person of ordinary skill in the art would have had reason to combine the features of the references, as LivePerson proposes.

a. Independent Claims 1 and 16

As discussed above, independent claims 1 and 16 recite parallel limitations, with claim 16 being a method claim counterpart to the apparatus of claim 1. We, therefore, address the two claims together, and make the following findings of fact.

We find that Busey discloses an “interaction engine” that is “configured for accessibility by at least one customer and at least one agent for interaction during a session.” Busey teaches a Communications Interface Unit (CIU) that manages interactions between customers and agents. Ex. 1007 ¶¶ 55–56. Furthermore, we find that Busey discloses that the “interaction engine” permits communication “via any of chat, voice, and a combination of chat and voice,” namely that the CIU “provides real-time

text discussion, or chat, with multimedia extensions allowing agents and customers to interact immediately to solve a particular problem.” *Id.* ¶ 56. We adopt LivePerson’s analysis of this claim element, which 24/7 Customer does not contest. *See* Pet. 26–27.

We also find that Busey discloses that its system is “configured to send a link to said customer at said agent’s request.” Busey discloses that the agent may send a URL, which is a link to a webpage, to the customer using its “Say URL” function. Ex. 1007 ¶ 17 (“HTML can be included with chat-text so that, for example, a URL can be provided that can be clicked on to take a customer to a specific website”), ¶ 103.

24/7 Customer does not contest this aspect of the claim limitation, but contends that the links sent by Busey fail to satisfy the next portion of the claim—namely, that the links “allow said customer to access an application at a processor implemented application server on which said application is resident.” PO Resp. 26–39. According to 24/7 Customer, the links in Busey only direct the customer’s web browser to a certain web page, which is not an application. *Id.* at 26. We discuss this disputed element in depth below.

i. *a link . . . to allow said customer to access an application*

In our Institution Decision, we noted that the application that is accessed by clicking on the links of Busey could be considered to be the web browser itself (Dec. on Inst. 11), which 24/7 Customer subsequently agreed is a type of application. PO Resp. 30 (listing “Internet Explorer, Firefox, Chrome” under “Application”). But in that instance, 24/7 Customer contends that the web browser is not resident on a “processor implemented application server,” but rather on the customer’s local device.

Alternatively, LivePerson contended in the Petition that the application to which Busey directs the customer to access using the URL link is the webpage itself. Pet. 28 (“One common form of an application that one of skill in the art would understand is a webpage launched in a web-browser.”). LivePerson notes that the ’804 patent is concerned with assisting customers who are performing “Web based self service,” and that examples of self-service disclosed in the specification include rescheduling a flight using a form. Pet. 28 (citing Ex. 1001, 3:3–8, 3:60–4:3). Mr. Lipoff also testifies that “A person of ordinary skill in the art would understand that if a customer clicks a URL link, the customer’s web-browser will launch a new webpage which is a claimed ‘application’” as the term is used in the ’804 patent. Ex. 1005 ¶ 95.

24/7 Customer contends that a webpage itself, as opposed to the web browser, is not an “application,” but instead is information or content. PO Resp. 27; *see also* Prelim. Resp. 18–21 (“web pages are launched in web browsers; the web browser is the application, and the web page is the content displayed in the application.”). Citing the testimony of Dr. Brody in support, 24/7 Customer states that “[a] web page is content from an HTML file that is rendered/displayed by a web browser application,” but is not itself an application. PO Resp. 29 (citing Ex. 2010 ¶¶ 32–34, 76).

In response, LivePerson contends that at the time of the invention, very few web pages were simply static information displayed by a web browser, and that a person of ordinary skill in the art would have understood that a URL such as those in Busey could also link to a dynamic web page with interactive elements. Pet. Reply 17. For example, LivePerson notes

that the examples given in the '804 patent of a self service application set forth in its Petition include dynamic web pages such as a “reschedule flight form” or “reschedule billing cycle.” *Id.* at 18 (citing Ex. 1001, 3:3–8, 3:60–4:3). Mr. Lipoff describes several types of scripting languages that were commonly used to create dynamic web pages at time of the invention, including JavaScript, CGI, ASP, and ActiveX, and cites credible evidence in support. Ex. 1017 ¶ 9 (citing Exs. 1019–1021⁹). For example, Exhibit 1021 is a “history of the dynamic web” which shows that several types of scripting languages for web pages were in use well before the 2011 priority date of the '804 patent. *See* Ex. 1021, 3 (timeline showing, for example, that CGI released in 1993). Mr. Lipoff concludes that, by 2011, “the vast majority of web pages were not simply static HTML, but contained some

⁹ As discussed above, we construe 24/7 Customer’s relevance objection to these exhibits as more properly expressed as an argument that the exhibits are late-arising evidence outside the proper scope of reply. Upon review of the record, we consider LivePerson’s evidence regarding dynamic web pages to be proper reply evidence. In its Petition, LivePerson contended that the URLs of Busey were links to applications, to which 24/7 Customer contended in response that a web page was merely a static document and therefore not an “application.” Exhibits 1019–1022 were provided in direct response to 24/7 Customer’s arguments, and therefore constitute proper reply evidence, as opposed to a shift in the theory of the case. As previously noted, LivePerson’s Petition relied on the theory that webpages, and in particular interactive webpages containing “forms,” were types of applications disclosed by the prior art. Rather than “changing theories in midstream,” the reply exhibits are merely permissible “development of evidence in the course of the trial . . . in keeping with the oppositional nature of an *inter partes* review proceeding.” *See Genzyme Therapeutic Prod. Ltd. P’ship v. Biomarin Pharm. Inc.*, 825 F.3d 1360, 1367 (Fed. Cir. 2016).

dynamically generated elements.” Ex. 1017 ¶ 9. During cross-examination, Dr. Brody would not express an opinion as to whether a web page that contained JavaScript was an application; he merely testified that a static web page that did *not* contain such scripting would *not* be an application. Ex. 1018, 151:15–20, 153:23–125:10.

Scripted, dynamic web pages of the type described by LivePerson fall squarely within Dr. Brody’s description of an application as something that “operate[s] on data and files that are either available locally or must be obtained from another source.” Ex. 2010 ¶ 33. For example, a webpage that contains the “reschedule flight form” described in the specification of the ’804 patent would operate on data obtained from the form fields as filled out by the customer. We, therefore, agree with LivePerson that a link to a dynamic web page, if disclosed in the prior art, would satisfy the *a link . . . to allow said customer to access an application* limitation of claim 1.

We find sufficient support in the record to conclude that, at the time of the invention, a person of ordinary skill in the art would have understood Busey’s URLs to be links to dynamic web pages that are applications within the scope of the claims. First, as Mr. Lipoff testifies, such scripting was commonplace in 2011 and the “vast majority” of web pages at the time contained some type of dynamically generated content. Ex. 1017 ¶ 9. As noted above, Mr. Lipoff’s testimony is supported by the objective evidence of record (Ex. 1021, 3), and Dr. Brody does not provide any testimony to the contrary or address the prevalence of dynamic web pages at the time of the invention at all. Furthermore, we find that Figure 3A of Busey contains specific disclosures of dynamic web pages. As 24/7 Customer notes

(Prelim. Resp. 9), one of the links in window 534 of the figure is the “Yahoo URL” (see Ex. 1001 ¶ 104). Mr. Lipoff testifies that, at the time of the invention, the Yahoo! web page was a well-known, dynamic web page. Ex. 1017 ¶ 10; see also Ex. 1018, 226:8–14 (Brody: “Yahoo!, at that point, would be part of the search engine.”).

In sum, we find that a person of ordinary skill in the art in 2011 would have understood Busey’s “Say URL” feature to send a link to a customer, and that link would allow a customer to access an application, namely a web application. We discern no difference in functionality between this embodiment and the “reschedule flight form” described in the specification of the ’804 patent. We also find that web applications such as those described by Busey would reside on a “processor implemented application server,” namely a web server,¹⁰ and that clicking on the link would “resolve[] for customer access to, and launching of, said application,” as required by the claims.

ii. *proactively monitor a customer*

The parties also dispute whether the prior art discloses proactively monitoring a customer. LivePerson contends that both Busey and Yoshida disclose this. LivePerson indicates Busey’s disclosure of a NetMeeting function, which permits the customer and agent to share screens, and states that this allows the agent to proactively monitor the customer’s progress.

¹⁰ As noted above in the context of claim construction, because a web server is remote from the customer, this limitation is satisfied even if we accept 24/7 Customer’s argument that *processor implemented application server* must be construed to be remote from the customer, and 24/7 Customer does not contend otherwise. See Tr. 40.

Pet. 29. Alternatively, LivePerson argues that Yoshida’s disclosure of a customer monitoring applet, which monitors customer actions on a web page, meets this limitation. *Id.* at 30.

24/7 Customer contends that neither reference discloses proactively monitoring, because neither teaches the monitoring of customers using alerts. PO Resp. 40. This argument, however, is grounded in 24/7 Customer’s proposed claim construction of *proactively monitor*, which we did not adopt above.

Independent of the “using alerts” claim construction, 24/7 Customer makes two¹¹ alternative arguments why Busey does not teach this limitation. First, 24/7 Customer contends that “merely selecting the NetMeeting button would not allow the agent to monitor the progress of the customer,” but rather that additional steps beyond selecting the button are required before a NetMeeting is initiated and the customer’s screen is shared. PO Resp. 40. This argument, however, reads the disclosure of Busey too narrowly and is too focused on the “NetMeeting button” itself, instead of the functionality provided by that button. A person of ordinary skill in the art would

¹¹ 24/7 Customer also contends that it “incorporates by reference” its argument in the Preliminary Response that Busey fails to meet the limitation because NetMeeting is not accessed from the link sent to the customer, but is not “restating” the argument because we found it unpersuasive at institution. PO Resp. 39–40 n.1. This is problematic for several reasons, including the fact that incorporation by reference of arguments from one document into another is expressly prohibited by our Rules. 37 C.F.R. § 42.6(a)(3). In any event, we would find the argument unpersuasive for the same reason stated at institution, namely that the claims require the customer to access an application using a link, but not that the monitoring of the customer be performed *using* that same application. See Dec. on Inst. 12–13.

understand that Busey’s disclosure of a “NetMeeting button” on its interface begins the process of initiating a NetMeeting, and therefore allows an agent to proactively monitor a customer by sharing screens. See Ex. 1007 ¶ 98 (“The ‘NetMeeting’ button initiates a NetMeeting session that allows the customer and the agent to share screens, pointers and further facilitates communication between the customer and agent.”).

Second, 24/7 Customer argues that merely because the NetMeeting function permits sharing of screens and therefore *could* be used to monitor the customer’s use of the application, Busey does not actually disclose using it to do so. But this argument misunderstands what claim 1 requires—the claimed interaction engine must only be *configured to allow* an agent to proactively monitor a customer; there is no requirement that an agent actually do so. We find ample support in the record that an agent using the NetMeeting function of Busey would have the ability to share screens with the customer (Ex. 1007 ¶ 69 (Busey discussing “the use of off-the-shelf software such as Microsoft’s ‘NetMeeting’ to place the customer and agent into an interactive shared-view session over the Internet.”))), and this screen-sharing would permit an agent to anticipate problems before the customer encounters them (*id.* at ¶ 98). This is the same capability that claim 1 requires of the interaction engine. We, therefore, find that the system of Busey allows an agent to proactively monitor the customer’s use of an application.

Regarding Yoshida, 24/7 Customer argues that its customer monitoring applet records customer activity *prior* to routing that customer to an agent. PO Resp. 41–42. Because claim 1 requires the agent to provide a

link to allow the customer to access an application, the monitoring of the customer's use of the application must necessarily occur after the agent's involvement. 24/7 Customer, therefore, contends that Yoshida's applet cannot *proactively monitor* the customer's use of the application. *Id.* First, as we have found that Busey teaches this limitation, even if Yoshida were deficient in this respect it would not be fatal to LivePerson's ground of unpatentability. In any event, we consider 24/7 Customer's argument to be too narrow an interpretation of LivePerson's proposed combination. LivePerson does not argue that a person of ordinary skill in the art would only consider implementing Yoshida's customer monitoring applet for the pre-agent stage of the customer experience. Rather, as discussed above in the context of the reason to combine the references, LivePerson contends that the skilled artisan would have recognized that implementing Yoshida's applet at any stage of the customer interaction would have advantages and improve customer tracking. Pet. Reply 24–27.

For these reasons, we find that Busey and Yoshida teach or suggest an interaction engine that is “configured to allow said agent to proactively monitor progress of the customer while the customer is using said application.” LivePerson has shown that each limitation of independent claim 1, and by extension independent claim 16, are disclosed by the proposed combination of references.

b. Dependent Claims

Regarding dependent claims 2, 3, 5, 8, and 9, 24/7 Customer does not argue the patentability of these claims separately of independent claim 1 from which they depend. Our Scheduling Order cautioned 24/7 Customer

that “any arguments for patentability not raised in the response will be deemed waived.” Paper 10, 6. Nevertheless, we have reviewed the entire record developed during trial and find that each of the additional limitations of the dependent claims are disclosed by the combination of Busey and Yoshida.

Claim 2 depends from claim 1 and further requires that the interaction engine “implement[] an interaction window that is accessible by a supervisor to monitor an interaction.” LivePerson contends that Busey discloses such a capability, because it permits supervisors to enter “invisible mode” such that when the supervisor enters or leaves a room, “the participants in the room don’t see any indication.” Pet. 31 (citing Ex. 1007 ¶ 107). Mr. Lipoff testifies that this would be understood by a person of ordinary skill in the art to refer to a supervisor’s ability to enter a chat session between a customer and an agent without either participant being made aware of the supervisor’s presence. Ex. 1005 ¶ 104.

We find that the “room” referred to in connection with Busey’s “invisible mode” is the interaction window claimed, and that a person of ordinary skill in the art would have understood that the room could be used to monitor an interaction between a supervised agent and a customer. We adopt LivePerson’s analysis in this regard, which 24/7 Customer does not contest. See Pet. 31; Ex. 1005 ¶ 104.

Claim 3 depends from claim 1 and further requires that the link sent by the agent “is sent in any of an interaction window and via SMS or native notifications, depending on the customer’s preferences.” We find that Busey teaches sending a link via either method, and adopt LivePerson’s

uncontested analysis as to this claim. Ex. 1007 ¶¶ 13, 17; Pet. 31–32; Ex. 1005 ¶ 108.

Regarding claim 5, which depends from claim 1 and further requires that the interaction engine is configured so that “any of said agent and said customer to re-initiate a session at any point in time, as required,” we find that Busey teaches this functionality. Ex. 1007 ¶ 74, 78. Busey discloses that if either the agent or customer disconnects from the chat, they may return to it later. *Id.* We adopt LivePerson’s analysis as to claim 5, which 24/7 Customer does not contest. Pet. 32–33; Ex. 1007 ¶ 112.

Claim 8 depends from claim 1 and further requires that the interaction engine be “configured for any of: selecting an appropriate agent to whom a session is routed; raising alerts for a supervisor; and enabling the supervisor to track sessions and intervene.” The combination of Busey and Yoshida teaches a system that is configured to perform at least one, if not all three, of these functions. For example, Busey teaches matching customers with agents based on a number of factors including availability and agent proficiency. Ex. 1007 ¶ 61. Yoshida also discloses selecting an appropriate agent by matching customer and agent characteristics. Ex. 1008, 9:32–35.

Busey also teaches that a supervisor may track sessions and intervene through its “invisible mode,” as discussed above in the context of claim 2. Ex. 1007 ¶ 107. For these reasons, we find that Busey and Yoshida teach the limitations of claim 8, and adopt LivePerson’s unchallenged analysis in this regard. Pet. 33–34; Ex. 1005 ¶¶ 115–117.

Finally, claim 9 depends from claim 1 and further requires that, if the session is a chat session, the interaction engine is configured to perform an

additional function “comprising any of: enabling the agent to run commands from an interaction window; showing appropriate responses to the agent on analyzing an interaction; and providing shortcut keys that allow the agent to insert appropriate responses.” We find that Busey discloses at least one of these functions. For example, Busey teaches “pushing” a URL to a customer during a chat session using its “Send URL” function, which then causes the website located at that URL to be displayed on the customer’s screen. Ex. 1007 ¶ 103. We agree with Mr. Lipoff that this function would be understood by a person of ordinary skill in the art as permitting the agent to “run commands” from the interaction window. Ex. 1005 ¶ 122.

Regarding the other functionality of claim 9, we adopt LivePerson’s analysis as to these alternative reasons why Busey teaches the limitation. Pet. 49–50; Ex. 1007 ¶¶ 120–123.

c. Conclusion

For the foregoing reasons, we find that a person of ordinary skill in the art would have combined Busey and Yoshida, the combination would have been within the level of ordinary skill in the art, and the combination teaches or suggests all limitations of the challenged claims. 24/7 Customer has supplied no evidence of secondary indicia of nonobviousness. Weighing the evidence before us, we conclude by a preponderance of the evidence that claims 1–3, 5, 8, 9, and 16 of the ’804 patent would have been obvious over the combined disclosures of Busey and Yoshida.

D. Obviousness over Busey, Yoshida, and Lewis-Hawkins

LivePerson also challenges claim 9 as unpatentable under 35 U.S.C. § 103(a), as having been obvious over the combined disclosures of Busey,

Yoshida, and Lewis-Hawkins. Pet. 47–50. As discussed above, claim 9 recites that, if the session is a chat session, the interaction engine is configured to perform any of three additional functions: 1) enabling the agent to run commands from an interaction window; 2) showing appropriate responses to an agent on analyzing an interaction; and 3) providing shortcut keys that allow the agent to insert appropriate responses. As we have found that the combination of Busey and Yoshida disclose at least one of these functions, we need not further address whether Lewis-Hawkins does.

Nevertheless, we agree with LivePerson that Lewis-Hawkins discloses the third claimed feature of providing shortcut keys to insert responses. Lewis-Hawkins discusses a “standard response window” in a customer/agent chat session that permits an agent to “select and transmit pre-set and stored arrangements or compilations of information,” which may include “standard answers to frequently asked questions.” Ex. 1013 ¶¶ 21–22. We also find that person of ordinary skill in the art would have had reason to incorporate this feature of Lewis-Hawkins into the system of Busey, to reduce the effort required from the agent and increase the efficiency of the interaction. See Pet. 48; Ex. 1005 ¶ 161.

24/7 Customer does not contest this ground of unpatentability apart from restating its arguments as to claim 1, from which claim 9 depends, and stating that Lewis-Hawkins does not remedy the deficiencies of the Busey-Yoshida combination. As we have found above that the combination of Busey and Yoshida disclose all limitations of claim 1, there are no deficiencies for Lewis-Hawkins to remedy.

Weighing the evidence of record, we find that a person of ordinary skill in the art would have combined Busey, Yoshida, and Lewis-Hawkins, the combination would have been within the level of ordinary skill in the art, and the combination teaches or suggests all limitations of claim 9. As with the prior ground of unpatentability, 24/7 Customer has supplied no evidence of secondary indicia of nonobviousness. Based on a preponderance of the evidence, we conclude that claim 9 of the '804 patent would have been obvious over the combined disclosures of Busey, Yoshida, and Lewis-Hawkins.

III. CONCLUSION

For the foregoing reasons, we determine that LivePerson has demonstrated by a preponderance of the evidence that claims 1–3, 5, 8–9, and 16 of the '804 patent are unpatentable under 35 U.S.C. § 103(a) as having been obvious over the combined disclosures of Busey and Yoshida, and claim 9 is also unpatentable over the combined disclosures of Busey, Yoshida, and Lewis-Hawkins.

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.

IV. ORDER

Accordingly, it is:

ORDERED that 24/7 Customer's Motion to Exclude (Paper 38, Attachment A) is *denied*;

FURTHER ORDERED that claims 1–3, 5, 8–9, and 16 of U.S. Patent No. 9,077,804 B1 are *unpatentable*; and

FURTHER ORDERED that, pursuant to 35 U.S.C. § 318(b), upon expiration of the time for appeal of this decision, or the termination of any such appeal, a certificate shall issue canceling claims 1–3, 5, 8–9, and 16 of U.S. Patent No. 9,077,804 B1.

IPR2017-00610
Patent 9,077,804 B2

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