UNITED STATES DISTRICT COURT

NORTHERN DISTRICT OF CALIFORNIA

SAN JOSE DIVISION

TWILIO, INC.,

Plaintiff,

v.

TELESIGN CORPORATION,

Defendant.

Case No. 16-CV-06925-LHK

ORDER CONSTRUING DISPUTED CLAIM TERMS OF U.S. PATENT NOS. 8,306,021; 8,837,465; AND 8,755,376

Re: Dkt. No. 105

Plaintiff Twilio, Inc. ("Twilio" or "Plaintiff") brings this action for patent infringement against Defendant Telesign Corporation ("Telesign" or "Defendant"). The parties now seek construction of nine disputed terms used in the claims of the following patents-in-suit: U.S. Patent Nos. Patent Nos. 8,306,021 ("the '021 Patent"), 8,837,465 ("the '465 Patent"), 8,755,376 ("the '376 Patent") (collectively, "Asserted Patents").

I. BACKGROUND

A. Background and Description of the Invention

The '021 patent is titled "System and Method for Processing Telephony Sessions." Compl. Ex. A ('021 patent). It was filed on April 2, 2009 and issued on November 6, 2012. It

claims priority to three provisional applications, the earliest of which was filed on April 2, 2008.

The '465 and '376 patents are also titled "System and Method for Processing Telephony Sessions." Compl. Ex. B ('465 patent); Compl. Ex. C ('376 patent). The '465 patent was filed on January 16, 2013 and issued on September 16, 2014. The '376 patent was filed on January 16, 2013 and issued on June 17, 2014. Both patents are continuations of another patent application, which is a continuation of the '021 patent. Accordingly, all three Asserted Patents share the same specification and priority date.

1. Specification

The Asserted Patents generally relate to "[a] system and method for processing telephony sessions." '021 patent at col. 1:25-26. Telephony sessions, such as a phone call initiated over a public switched telephone network ("PSTN") or a text message sent over the Short Message Service (SMS), are communications from one point to another. *See id*. at col. 3:16-53. However, these communications can be combined with computer logic to create interactive applications, such as an automated customer service hotline, *see id*. at col. 15:60-65, or a dial-in conferencing service, *see id*. at col. 16:11-20. In order to accomplish this, communication signals need to be "processed" so that input from the user (e.g., a button pressed, text sent, spoken response) is sent to the computer logic, and the appropriate response is sent back. *See generally id*. at col. 6:48-8:5. For example, processing a call to a customer service hotline would include detecting that the user selected, say, a "2" from the initial menu, and then retrieving and playing a recording for the new set of menu options to which option "2" corresponds. *See, e.g., id*. at col. 15:49-16:4, Fig. 7.

The Background section of the specification explains that, at the time of patenting, implementation of these interactive applications was complicated. *Id*. at col. 1:30-58. At that time, "legislation and the advent of Voice over Internet Protocol (VoIP) ha[d] revolutionized the communication industry." *Id*. at col. 1:30-32. There were new technologies for interactive applications, accompanied by new business models, and service providers. *Id*. at col. 1:32-33. For example, "[o]ne c[ould] implement extensible call switching and voice application logic in

Open source software applications, such as Asterisk and FreeSwitch." *Id*. at col. 1:34-36. However, getting these modern applications to work with traditional communications networks—such as telephone networks that handled voice communications and SMS messaging—presented "new complexities and challenges." *Id*. at col. 1:38. In particular, "[d]eploying telephony services require[d] knowledge of voice networking and codecs, hardware or services to bridge servers to the public phone infrastructure, capital investment in hardware, and ongoing collocation of that hardware." *Id*. at col. 1:39-43. In addition, the actual interactive application itself had to be developed, which "require[d] developers to train in new languages, tools, and development environments." *Id*. at col. 1:45-46. Finally, "[o]ngoing operation and maintenance of these services require[d] teams to adopt new analysis tools, performance metrics, and debugging methodologies." *Id*. at col. 1:50-53. All of these efforts were costly, requiring "significant upfront and ongoing investment." *Id*. at col. 1:54-55.

The Asserted Patents purport to address these problems by providing a way for modern applications to interact with traditional communication networks that mimics web-based programming. *See id*. at col. 2:1-18. In particular, this solution "use[s] the familiar web site visitor model," where each step of a phone call is made to act like a web page. *Id*. at col. 2:5-8. For example, in one embodiment, input that a user enters into his telephone (e.g., pressing a "2" in the automated customer hotline example) is sent to the application via HTTP POST, the same mechanism that is used when a user submits a form on a website. *See id*. at col. 4:49-57, Fig. 7. The methods and systems also leverage "familiar concepts such as HTTP redirects, accessing resources through an API, cookies, and mime-type responses." *Id*. at col. 2:9-11. According to the Asserted Patents, this reduces complexity and expense because it "enables web developers to use their existing skills and tools with the esoteric world of telephony, making telephony application development as easy as web programming." *Id*. at col. 2:2-5.

In the Asserted Patents, the ability to interact with a traditional communication network in a web-like way is accomplished through a "call router," which sits between the traditional communication network and the modern application and translates between the two. *Id*. at col. 6:49-8:5, 13:12-14:14. Figures 2A and 3A show this setup for a modern application communicating with a traditional phone line:

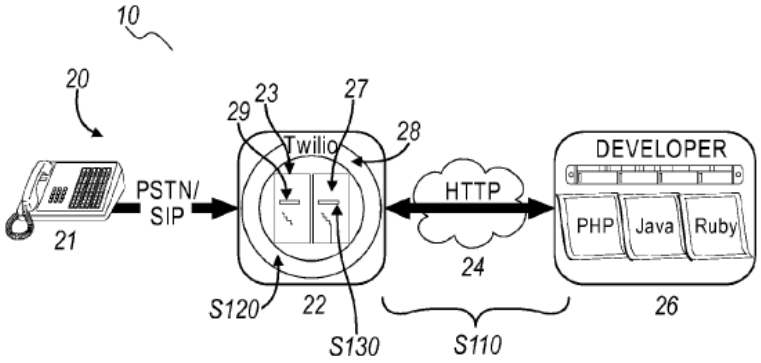

FIG. 2A

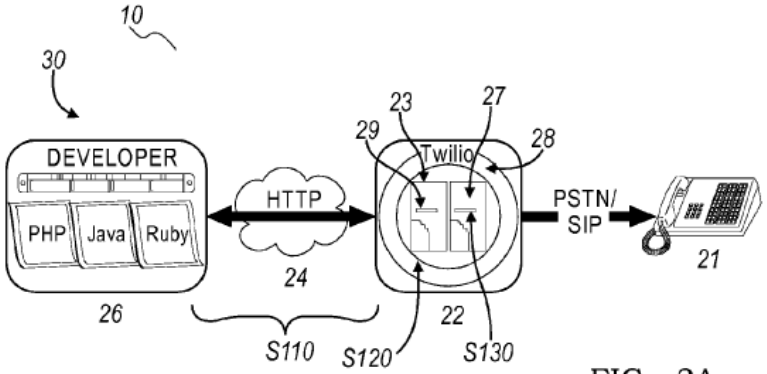

FIG. 3A

Item 26 represents a server that runs the modern application ("application server"), such as code that implements the tree of menu options in a customer service hotline. *Id*. at col. 14:15-15:47. It communicates with the call router, item 22, using familiar web-like constructs. *Id*. at col. 13:29-14:14. The call router then takes these web-based descriptions of interactions and translates them into telephone signals that can be sent to the user's telephone, item 21, over a traditional telephone network, and vice versa. *Id*. at col. 6:49-8:5, 13:12-14:14. For example, the call router is able to detect the signal indicating that a user pressed a "2" coming from a traditional telephone line, translate that into an HTTP POST response, and send that over the internet to the application

server. *See id*. at col. 13:12-14:14, Fig. 7.

Figure 1 illustrates the operation of the call router, the application server, and the communication network:

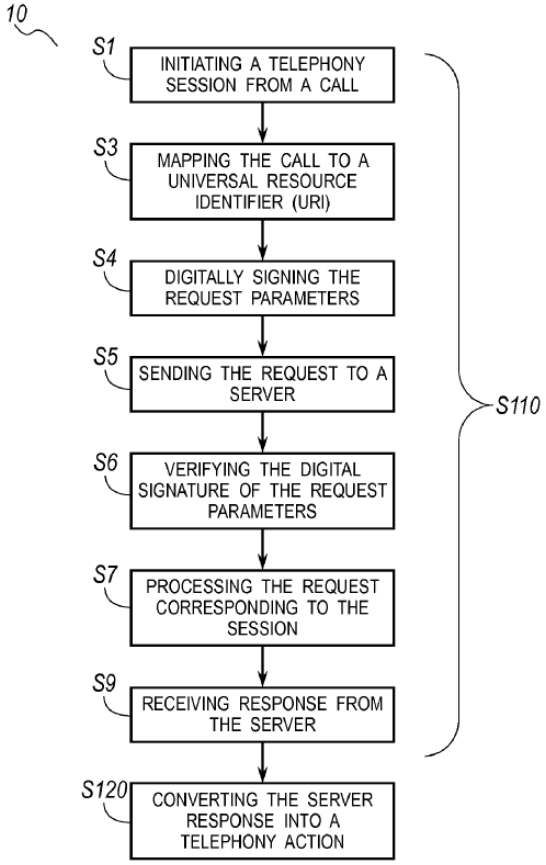

FIG. 1

The call router communicates with the application server using an "application layer protocol," such as HTTP or HTTPS. *Id*. at col. 14:24-26. The location of the application server, or an application hosted on an application server, is identified using a universal resource identifier ("URI"). *Id*. at col. 14:21-23. When a user initiates a telephony session (such as a phone call), the call router determines the URI that corresponds to the application server responsible for handling that call, and maps the call to that URI. *Id*. at col. 3:54-4:10. (For example, if a user calls a dial-in voice conferencing number, the call router maps that number to the URI for the server hosting the conferencing application. *See id*. at col. 3:54-4:10, 15:51-54.) The call router then communicates

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