

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

GOOGLE LLC,
Petitioner

v.

FLYPSI, INC.,
Patent Owner

Patent No. 10,334,094

**PETITION FOR *INTER PARTES* REVIEW
OF U.S. PATENT NO. 10,334,094**

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I. INTRODUCTION

Google LLC (“Petitioner”) respectfully requests *inter partes* review of claims 1-4 (“the challenged claims”) of U.S. Patent No. 10,334,094 (“the ’094 patent”) (Ex. 1001) assigned to Flypsi, Inc. (“Patent Owner”).

II. MANDATORY NOTICES

Real Parties-in-Interest: Pursuant to 37 C.F.R. § 42.8(b)(1), Petitioner identifies Google LLC as the real party-in-interest.¹

Related Matters: The ’094 patent is asserted in the following civil action: *Flypsi, Inc., (d/b/a Flyp) v. Google, LLC*, Case No. 6:22-cv-00031 (W.D. Tex.). The ’094 patent was previously asserted in *Flypsi, Inc., (d/b/a Flyp) v. Dialpad, Inc.*, Case No. 6:21-cv-00642 (W.D. Tex.), which was dismissed on September 14, 2022 with the court’s grant of a joint motion and stipulation of dismissal.

The ’094 patent originates from U.S. Patent Application No. 16/031,806, filed on July 10, 2018, which is a continuation of application No. 15/582,091, now U.S. Pat. No. 10,051,105 (“the 105 patent”), filed April 28, 2017, which is a continuation of application No. 14/307,052, now U.S. Pat. No. 9,667,770 (“the 770

¹ Google LLC is a subsidiary of XXVI Holdings Inc., which is a subsidiary of Alphabet Inc. XXVI Holdings Inc. and Alphabet Inc. are not real parties-in-interest to this proceeding.

patent”), filed June 17, 2014, which is a continuation-in-part of application No. 13/944,853, filed on July 17, 2013, now abandoned. (Ex. 1001, Cover.) Petitioner is concurrently filing IPR petitions challenging the ’105 patent and the ’770 patent as well as U.S. Patent Nos. 11,012,554 (“the ’554 patent”) and 11,218,585 (“the ’585 patent”), all of which are also at issue in *Flypsi, Inc., (d/b/a Flyp) v. Google, LLC*, Case No. 6:22-cv-00031 (W.D. Tex.).

Additionally, the ’554, ’094, ’105, and ’770 patents were at issue in *Dialpad, Inc., v. Flypsi, Inc.*, IPR2022-01050 (PTAB), *Dialpad, Inc., v. Flypsi, Inc.*, IPR2022-01048 (PTAB), *Dialpad, Inc., v. Flypsi, Inc.*, IPR2022-01049 (PTAB), and *Dialpad, Inc., v. Flypsi, Inc.*, IPR2022-01051 (PTAB), all of which were terminated prior to the patent owner’s preliminary response and decision on institution of trial.

Counsel and Service Information: Lead counsel is Naveen Modi (Reg. No. 46,224). Backup counsel are Joseph E. Palys (Reg. No. 46,508), Daniel Zeilberger (Reg. No. 65,349), Howard Herr (*pro hac vice* to be filed), and Puja Patel (*pro hac vice* to be filed). Service information is Paul Hastings LLP, 2050 M Street NW, Washington, D.C. 20036, Tel.: 202.551.1700, Fax: 202.551.1705, email: PH-Google-Flypsi-IPR@paulhastings.com. Petitioner consents to electronic service.

III. PAYMENT OF FEES UNDER 37 C.F.R. §§ 42.15 AND 42.103

The PTO is authorized to charge any fees due during this proceeding to Deposit Account No. 50-2613.

IV. GROUNDS FOR STANDING

Petitioner certifies under 37 C.F.R. § 42.104(a) that the '094 patent is available for review and Petitioner is not barred or estopped from requesting review on the grounds identified herein.

V. PRECISE RELIEF REQUESTED AND GROUNDS RAISED

Petitioner respectfully requests review of claims 1-4 of the '094 patent and cancellation of these claims as unpatentable. The challenged claims should be found unpatentable on the following grounds:

Ground 1: Claims 1, 2, and 4 are unpatentable under 35 U.S.C. § 102 as being anticipated by Backhaus (Ex. 1005).

Ground 2: Claim 3 is unpatentable under 35 U.S.C. § 103 as being obvious in view of Backhaus and Saksena (Ex. 1008).

Ground 3: Claims 1, 2, and 4 are unpatentable under 35 U.S.C. § 103 as being obvious in view of Backhaus and Taylor (Ex. 1007).

Ground 4: Claim 3 is unpatentable under 35 U.S.C. § 103 as being obvious in view of Backhaus, Saksena, and Taylor.

The earliest possible priority date of the '094 patent is July 17, 2013.²

Backhaus published from an application filed June 17, 2013 (Ex. 1005, Cover) and thus qualifies as prior art under § 102(a)(2). Taylor published on February 26, 2009 (Ex. 1007, Cover) and Saksena published on April 13, 2006 (Ex. 1008, Cover), and thus each qualifies as prior art under § 102(a)(1).

Backhaus, Saksena, and Taylor were not identified during prosecution (Ex. 1001, Cover (“References Cited”); *see also generally* Ex. 1004) and are not the same or substantially similar to any art previously presented to the Office.

VI. LEVEL OF ORDINARY SKILL

A person of ordinary skill in the art at the time of the alleged invention of the '094 patent (“POSITA”) would have had an undergraduate degree in electrical engineering, computer engineering, computer science or a related field along with two years of work experience in the field of telecommunication. (Ex. 1002, ¶¶17-18.)³ More education can supplement practical experience and vice versa. (*Id.*)

² Petitioner does not concede that the '094 patent is entitled to a July 17, 2013 priority date.

³ Petitioner submits the declaration of Dr. Bill Lin (Ex. 1002), an expert in the field of the '094 patent. (Ex. 1002, ¶¶1-18; Ex. 1003.)

VII. OVERVIEW OF THE '094 PATENT

The '094 patent describes setting up and connecting phone calls using a data channel, and delivering voice portions of the call using a voice channel. (Ex. 1001, 1:24-29.) Figure 3 (reproduced below) shows that communications between a handset 340 and a server 100 may utilize a data channel (e.g., the Internet 316). (*Id.*, 4:44-49; Ex. 1002, ¶27.)

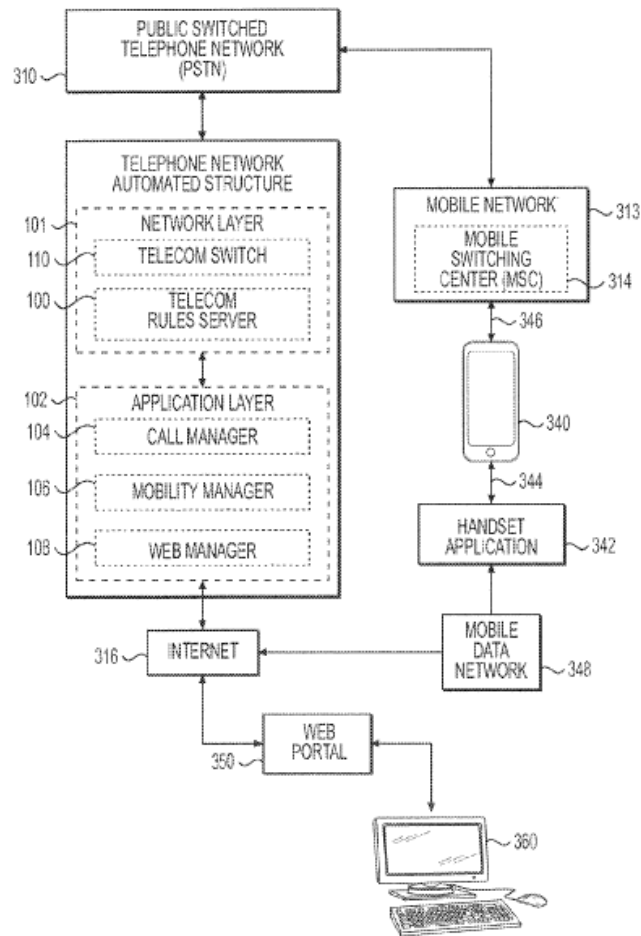


FIG. 3

(Ex. 1001, FIG. 3.) “Conversely, communications between the switch 110 and the handset over the PSTN 310 may be transmitted and received in accordance with CDMA, GSM or like standards,” which “when used to carry voice information, are referred to herein as being conducted over a ‘voice channel.’” (*Id.*, 4:49-55; Ex. 1002, ¶27.)

By using handset 340, a user may “select one or more secondary telephone numbers to be referenced to a primary telephone number for the handset.” (Ex. 1001, 5:6-11.) Additionally, using the handset 340, a user may transmit call processing rules to the server 100 by “select[ing] call processing rules for handling incoming and outgoing voice channel calls to and from the handset 340.” (*Id.*, 5:24-27, 5:40-48, 6:18-27; Ex. 1002, ¶¶28-29.)

Figure 3 of the '094 patent also depicts the call routing process for receiving an incoming call to or placing an outgoing call from a secondary telephone number. (Ex. 1001, 5:60-55, 7:29-32.) For incoming calls to a secondary telephone number, the call is routed over PSTN 310 to switch 110. (*Id.*, 5:64-6:8.) For placing outgoing calls, a bridge number is used to connect the outgoing call, and the user may choose a secondary telephone number as the originating telephone number. (*Id.*, 7:29-8:62; Ex. 1002, ¶¶30-33.)

VIII. CLAIM CONSTRUCTION

For IPR proceedings, the Board applies the claim construction standard set forth in *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005) (*en banc*). See 83 Fed. Reg. 51,340-59 (Oct. 11, 2018). Under *Phillips*, claim terms are typically given their ordinary and customary meanings, as would have been understood by a POSITA, at the time of the invention, having taken into consideration the language of the claims, the specification, and the prosecution history of record. *Phillips*, 415 F.3d at 1313; *see also id.* at 1312-16.

The Board, however, only construes the claims when necessary to resolve the underlying controversy. *Toyota Motor Corp. v. Cellport Sys., Inc.*, IPR2015-00633, Paper No. 11 at 16 (P.T.A.B. Aug. 14, 2015) (citing *Vivid Techs., Inc. v. Am. Sci. & Eng'g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999)). Here, given the correlation between the prior art references and the challenged claims of the '094 patent, the Board need not construe any terms of the challenged claims to resolve the underlying controversy, as any reasonable construction reads on the prior art. (Ex. 1002, ¶47.)⁴

⁴ Petitioner reserves all rights to raise claim construction and other arguments in other venues.

IX. DETAILED EXPLANATION OF GROUNDS

As detailed below, each of the challenged claims are unpatentable. (Ex. 1002, ¶¶17-105.)

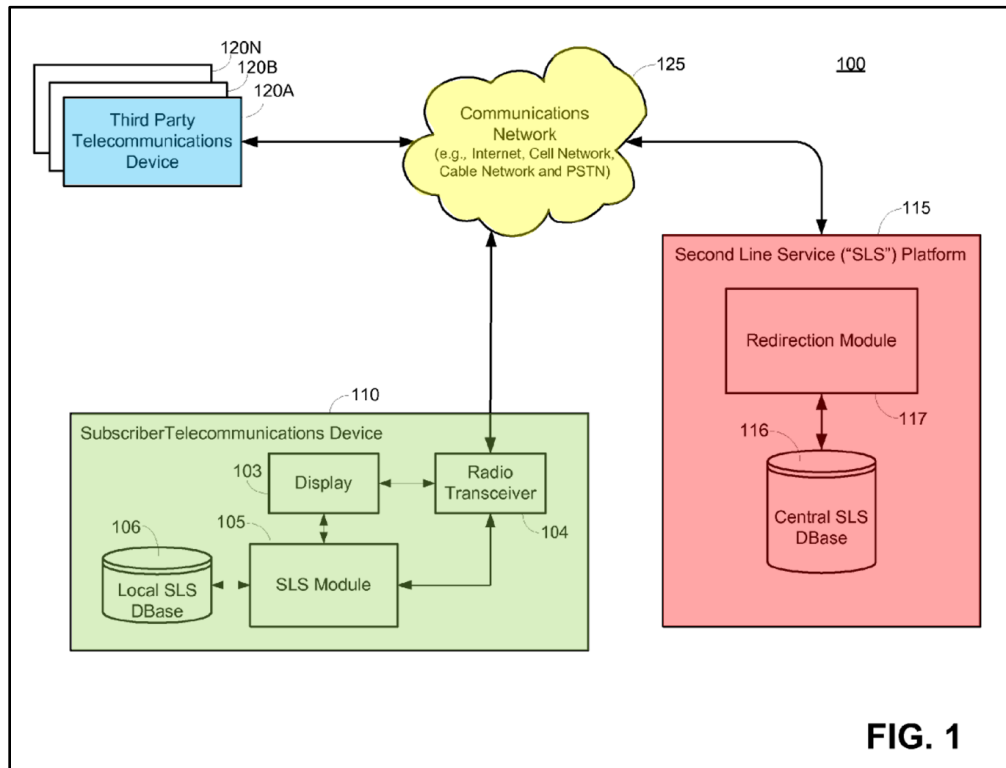
A. Ground 1: Backhaus Anticipates Claims 1, 2, and 4

1. Claim 1

i) [1.pre] “A method of providing telephone service, comprising:”

To the extent the preamble of claim 1 is limiting, Backhaus discloses the limitations therein. (Ex. 1002, ¶¶49-57.) Backhaus discloses a method for routing calls between a third party telecommunication device (“TD”) and a subscriber TD, where the call routing is facilitated by using a relationship number. (Ex. 1005, Abstract, [0009], [0030] (“the terms ‘call’ and ‘communication,’ in their noun forms, envision any data transmission routed across a network from one device to another including, but not limited to, a voice transmission, a text message, a video message, a page, a data transmission, etc”); Ex. 1002, ¶49.)

Backhaus discloses with reference to Figure 1 a high-level diagram of an exemplary system 100 that includes a second line service (“SLS”) platform 115 (highlighted in red), which provides the SLS to a subscriber operating TD 110 (highlighted in green). (Ex. 1005, [0031].)



(Ex. 1005, FIG. 1 (annotated).) System 100 also includes a communication network 125 (highlighted in yellow), where calls directed from third party TD 120 (highlighted in blue) to subscriber TD 110 are transmitted via communication network 125. (Ex. 1005, [0032] (“any call[s]...are transmitted from a third party TD 120 to the subscriber TD 110 by way of communications network 125.”); Ex. 1002, ¶50.)

Backhaus discloses that subscriber TD 110 is associated with a primary phone number that is assigned to it by a primary service provider. (Ex. 1005, [0031].) Subscriber TD 110 is also associated with a secondary phone number (or SLS number) provided by SLS platform 115. (*Id.*) As such, a subscriber to the

SLS “may receive calls at TD 110 that are directed to either of the primary phone...or the secondary phone number.” (*Id.* (“TD 110 is...associated with a primary phone number assigned to it by a primary service provider.... A subscriber to a [SLS]...may receive calls at TD 110 that are directed to either of the primary phone number...or the secondary phone number...provided, serviced and or facilitated by the SLS platform 115.”).) Backhaus explains that since subscriber TD 110 is associated with multiple phone numbers, e.g., primary and SLS phone numbers, it allows the subscriber to separately manage communications on each number, e.g., separating a personal number from a business number. (Ex. 1005, [0008] (“providing a plurality of dedicated phone numbers to a single telecommunications device in such a manner that the user of the device can separate and manage communications on each”); *see also id.*, [0003]-[0007] (describing known use of multiple numbers with a telecommunication device to separate personal from business phone numbers); Ex. 1006, 43 (“Personal & Business Phone Numbers on a Single SIM/Device,” “Provide a public number for social communities: Privacy controls, Safe environment, Protect personal number”), 59 (“A social network subscriber can have a social (virtual) number to allow other connections to make contact [w]hile maintaining their ‘Prime Number’s Privacy’”); Ex. 1002, ¶51.)

As to the call routing processes for different numbers called, Backhaus explains that a call from third party TD 120 to subscriber TD 110's *primary number* is routed via network 125 to TD 110 (Ex. 1005, [0033]), while a call from third party TD 120 to subscriber TD 110's *SLS number* is first routed by network 125 to SLS platform 115, and then routed to TD 110 (*id.*, [0034]-[0035]). In addition to processes for routing calls *to subscriber TD 110* (such as those described above), Backhaus also discloses processes for routing calls that originate from subscriber TD 110 *to the third party TD 120*. (*Id.*, [0036] ("methods for receiving a call from a third party TD 120 and making a call to a third party TD 120 by way of the SLS platform 115 will be described below relative to FIGS. 4-7."); *see also id.*, [0009]-[0010] (describing processes for handling calls directed to subscriber TD 110), [0011] (describing processes for handling calls originated from subscriber TD 110); Ex. 1002, ¶52.)

When a third party calls a subscriber's SLS number for the first time, SLS platform 115 creates a relationship between the subscriber's SLS number and the third party's number by assigning a relationship number to the combination of these two numbers (i.e., subscriber's SLS number and the third party's number). (Ex. 1005, [0052] ("SLS platform 115 accepts the call (without connecting the voice path to the third party TD 120A) and determines that the call is for SLS number...and that [the SLS number] does not yet have a 'relationship' set up for

the [third party] calling number”), [0053].) The relationship information is stored in a database in each of SLS platform 115 and subscriber TD 110 (*id.*, [0053]-[0057]) and may be utilized when the subscriber calls the third party using his/her SLS number (*id.*, [0058]-[0061]). (Ex. 1002, ¶53.)

For example, as the subscriber “dials the third party number,” subscriber’s TD 110 by using the stored relationship information “translates...[the] third party number...to relationship number” and “calls the relationship number”—even though TD 110 may display that it is calling the third party number. (Ex. 1005, [0059].)

To place calls from his SLS number, Subscriber #1 uses the SLS phone app of SLS module 105 as his dialer.... In the SLS dialer..., **Subscriber #1 dials the third party number**...which is reflected in the Private Relationship ID Tables 310, 315 as being associated with his Contact #1. The SLS module 105 queries Subscriber Relationship ID Table 315 in local SLS database 106 and **translates the called third party number...to relationship number**.... The SLS module 105 may indicate to the subscriber via display 103 that it is calling [the third party number], but instead it calls the relationship number....

(Ex. 1005, [0059].) “By calling the relationship number..., the network 125 routes the call to the SLS platform 115 instead of directly to third party TD 120A phone.”

(*Id.*) SLS platform 115 then “modif[ies] the ‘calling number’ field in the signaling,” instead of populating the field with the actual number of the calling device (i.e., subscriber’s primary number), “populate it with the SLS number....”

(*Id.*) As such, it appears to the third party that “he is receiving a call originating from the SLS number of the subscriber instead of the primary number...associated with subscriber TD 110.” (*Id.*; *see also id.*, [0060]-[0061] (disclosing additional processes for handling a call originated from an SLS subscriber); Ex. 1002, ¶54.)

Backhaus discloses further details regarding processes for providing telephony services. For example, Figures 4A-4D describe various scenarios for processing calls originated either from an SLS subscriber or from a third party. (Ex. 1005, [0062].) Specifically, Figure 4A describes processes for handling calls originated from an *unrecognized* third party (i.e., who calls the SLS number for the first time) to an SLS subscriber. (*Id.*, [0062]-[0066].) Figure 4B describes processing for handling calls originate from a *recognized* third party (i.e., who has previously called the SLS number) to an SLS subscriber. (*Id.*, [0067]-[0068].) Figure 4C describes processes for handling calls originated from an *SLS subscriber* to a third party. (*Id.*, [0069]-[0070].) Figure 4D describes processes for handling calls originated from an SLS subscriber, where such calls were *data communications with SLS platform 115*, e.g., where subscriber TD 110 requests

from SLS platform 115 a relationship number for a third party number the subscriber desires to call. (*Id.*, [0071]-[0074]; Ex. 1002, ¶55.)

Moreover, Backhaus discloses with references to Figures 5-7D additional processes for handling calls. For example, Figure 5 describes processes for handling calls from subscriber TD 110 to a third party TD 120A. (Ex. 1005, [0075]-[0076].) Figure 6 describes processes for handling calls from third party TD 120A to subscriber TD 110. (*Id.*, [0077]-[0078].) Figures 7A-7D describe processes for routing calls with a session initiated protocol (SIP). (*Id.*, [0079]-[0139].) Accordingly, Backhaus discloses a method of “providing telephone service.” (Ex. 1002, ¶¶56-57.)

- ii) **[1.a] “automatically storing electronic information that indicates an association of a secondary telephone number and a primary telephone number with a telephone handset in a computer memory associated with a server;”**

Backhaus discloses this limitation. (Ex. 1002, ¶¶58-63.) Backhaus discloses that subscriber TD 110 is a “telephone handset,” as claimed. Backhaus explains that the terms “telecommunications device” (TD) and “wireless *handset*” “are used interchangeably.” (Ex. 1005, [0029]; *see also id.*, [0031], [0033] (disclosing that TD 110 may be “a portable and wireless device”), [0050] (“subscriber TD 110...has mobile phone service...using mobile phone number”), [0081]-[0083] (“subscriber’s mobile device”); Ex. 1002, ¶58.)

Backhaus also discloses associating “a secondary telephone number and a primary telephone number with” TD 110. (Ex. 1002, ¶59.) For example, Backhaus explains that a SLS subscriber may receive calls at TD 110 directed to either of the primary number or the SLS number. (Ex. 1005, [0031] (“receiv[ing] calls at TD 110 that are directed to either of the primary phone number provided by the primary service provider or the [SLS phone number]...”).) Indeed, Backhaus discloses that a third party may call “the **primary number associated with subscriber TD 110**” (*id.*, [0033]) and “an **SLS number associated with subscriber TD 110**” (*id.*, [0034]). (*See also id.*, [0060] (“subscriber’s primary number...is associated with the subscriber’s SLS number”), [0075] (“routing calls from a telecommunications device associated with a primary number and a second line number, such as subscriber device 110, to a third party telecommunications device, such as third party TD 120A”).) Thus, Backhaus discloses “an association of a secondary telephone number and a primary telephone number with a telephone handset.” (Ex. 1002, ¶59.)⁵

⁵ While the precise bounds of the claimed “primary telephone number” and “secondary telephone number” are unclear, they would at least encompass Backhaus’s disclosures associated with the claimed features as discussed above. Indeed, like the ’094 patent disclosing that a primary telephone number may be a

Backhaus also discloses “automatically storing electronic information...in a computer memory associated with a server,” where such information indicates the above-described association of primary and SLS numbers with TD 110. For example, Backhaus discloses with reference to Figure 3A a SLS Master ID Table 305 (reproduced below and annotated) that includes an association of the primary and SLS numbers with subscriber TD 110. (Ex. 1005, [0042].)

number assigned to the handset at the time of activation (Ex. 1001, 5:11-13), Backhaus discloses that the subscriber’s device is “associated with a primary phone number assigned to it by a primary service provider” (Ex. 1005, [0031]). (See also Ex. 1016 (District Court Claim Construction Order), 2.)

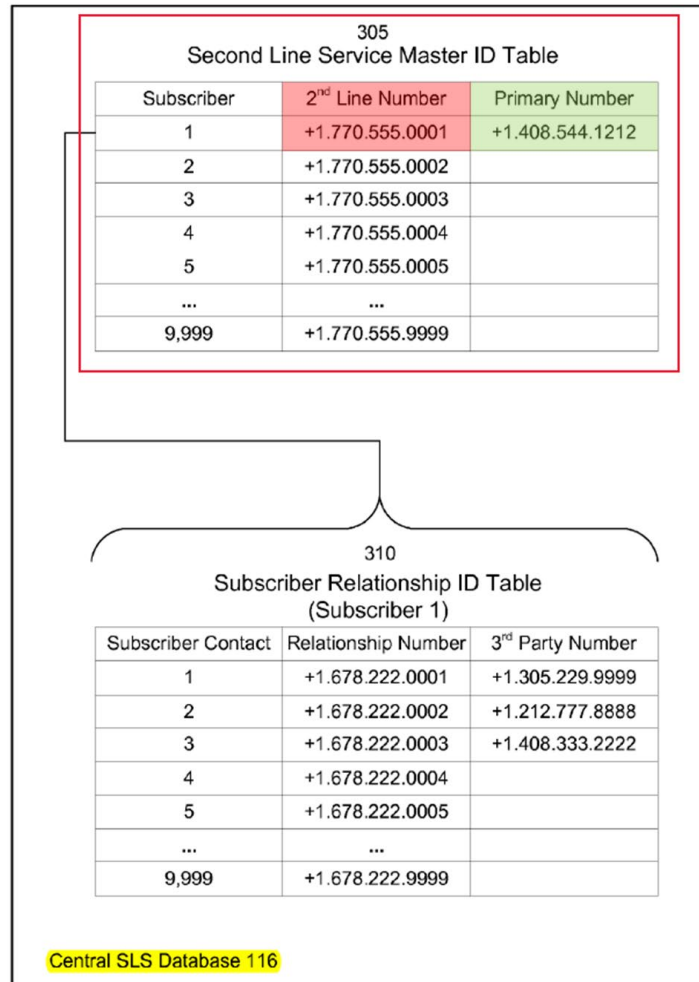


FIG. 3A

(Ex. 1005, FIG. 3A (annotated).) In particular, as indicated in Table 305 (top portion of Figure 3A), Subscriber #1, *e.g.*, the user of TD 110 (“telephone handset”), is issued SLS number 1.770.555.0001 (highlighted in red). (Ex. 1005, [0044].) The SLS number is also associated with the primary number, 1.408.544.1212 (highlighted in green), which is assigned to TD 110. (*Id.*; Ex. 1002, ¶60.)

Moreover, Backhaus discloses that Table 305 (which includes the claimed “association of a secondary telephone number and a primary telephone number with a telephone handset,” as discussed above) may be “automatically stor[ed]” in a central SLS database 116 (the claimed “computer memory”), which is a part of SLS platform 115. For example, Backhaus discloses that “[t]he [SLS] Master ID Table 305...may be stored in a central SLS database 116.” (Ex. 1005, [0042]; *see also id.*, [0039]-[0040], [0043] (“The SLS platform 115 maintains a master list of SLS phone numbers that are in service.”).) Such a “storing” process is performed “automatically” because the assignment of the subscriber’s primary number and the SLS number and association of the numbers with subscriber TD 110 is performed by the service providers and SLS platform 115—as opposed to being performed by a user manually. (*Id.*, [0044] (disclosing that “[t]he SLS service provider that manages the SLS platform 115 essentially has a group of SLS numbers that are his inventory and are provided to subscribers of the SLS service” and that “in Second Line Service Master ID Table 305 the primary number...that is assigned to the subscriber TD 110 by the primary service provider 201 is associated with subscriber #1 and his SLS number....”); Ex. 1002, ¶61.)⁶

⁶ The ’094 patent appears to contrast a process that is performed *automatically* with one that is performed *manually*. (Ex. 1001, 9:41-44 (“If the conference call

Moreover, Backhaus discloses that the electronic information that indicates the association of the primary and secondary numbers with TD 110 is stored “in a computer memory associated with a server.” (Ex. 1002, ¶62.) For example, as explained in Backhaus, SLS database 116 (“computer memory”) is a part of the SLS server 205 (“server”) included in SLS platform 115. (Ex. 1005, [0039] (“SLS platform 115 may include an SLS server 205”), [0040] (disclosing that SLS server 205 includes processor 209 and memory 211, where memory 211 includes a redirection module 117 and central SLS database 116); Ex. 1002, ¶62.)

Accordingly, Backhaus discloses “automatically storing electronic information that indicates an association of a secondary telephone number and a primary telephone number with a telephone handset in a computer memory associated with a server,” as claimed. (Ex. 1002, ¶63.)

invitation is accepted and it is time for the call, each accepting invitee handset may *automatically* or *manually* dial the bridge telephone number using a voice channel”), 9:58-60 (“Thereafter, the late joining invitee handset may dial the bridge telephone number *automatically* or *manually* using a voice channel”).) *See also Credit Acceptance Corp. v. Westlake Servs.*, 859 F.3d 1044, 1055 (Fed. Cir. 2017) (“[M]ere automation of manual processes using generic computers does not constitute a patentable improvement in computer technology”).

iii) [1.b] “automatically associating a bridge or access telephone number with each of a plurality of contact telephone numbers in the computer memory;”

Backhaus discloses this limitation. (Ex. 1002, ¶¶64-67.) Backhaus discloses “a bridge or access telephone number,” as claimed. For example, Backhaus discloses that SLS module 105 of subscriber TD 110 “translate[s] any number calling the subscriber, or called by the subscriber, into the appropriate Relationship Number” and “*uses a relationship number to access the SLS platform 115 over the telephone network 125.*” (Ex. 1005, [0049]; *see also id.*, Abstract (“Calls directed from the subscriber TD to the third party use the relationship number to route the call to the SLS platform.”).) “[B]y leveraging the relationship numbers, an SLS service provider may insert itself into the middle of a call between a third party TD 120 and a subscriber TD 110.” (Ex. 1005, [0049]; *see also id.*, [0043] (“providing a second line service leverage intermediate phone numbers to ensure that calls meant for the user of subscriber TD 110 route to the SLS platform 115”), [0057] (“the relationship...may also provide a mechanism by which the SLS platform may intercept calls originating from subscriber TD 110 via SLS number”).) Thus, a POSITA would have understood that Backhaus’s relationship number corresponds to the claimed “bridge or access telephone number.” (Ex. 1002, ¶64.)

Backhaus discloses that a relationship number may be assigned when third party TD 120A calls subscriber’s SLS number *for the first time*. In particular,

when SLS platform 115 accepts the call and determines that the subscriber's SLS number "does not yet have a 'relationship' set up" for the third party TD 120's number (Ex. 1005, [0052]), SLS platform 115 then "creates the following relationship in Subscriber Relationship ID Table 310:

When [subscriber's SLS number] receives (or places) a call from/to [third party's number], the interaction with the subscriber's phone [that is associated with its primary number] will use [a] dialable [relationship number]."

(Ex. 1005, [0053].) Backhaus explains that "a given relationship number...may be used...for many different SLS subscribers as it is the combination of the subscriber's primary number and/or the SLS number and the relationship number that map to the external number (in this case, [the third party's number])." (*Id.*; *see also id.*, [0054] ("the relationship number...established in connection with subscriber #1 and the calling third party").) (Ex. 1002, ¶65.)

Backhaus also discloses that an association of the relationship number ("bridge or access telephone number") with a third party number ("contact telephone number[]") may be stored in central SLS database 116 of SLS platform 115 as shown in Subscriber Relationship ID Table 310 of FIG. 3A (reproduced below and annotated). (Ex. 1005, [0042], [0053]-[0054], FIG. 3A.)

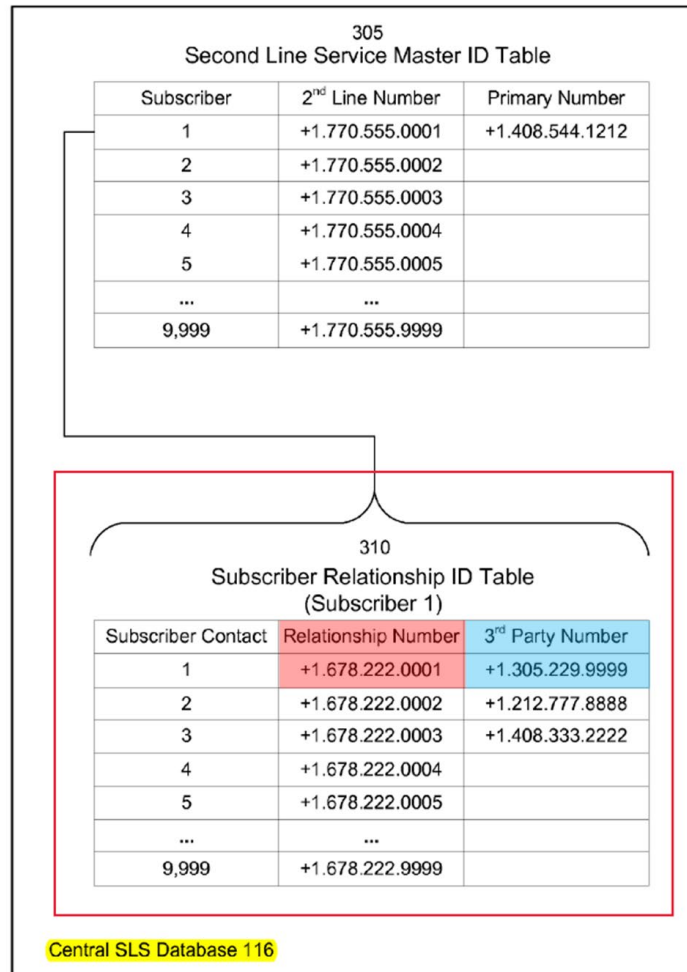


FIG. 3A

(Ex. 1005, FIG. 3A (annotated).) Such a process to associate the above-described numbers in database 116 is performed “automatically” because it is performed by SLS platform 115, as opposed to being performed by a user manually. (*See supra*; Ex. 1005, [0042], [0053]-[0054] (SLS platform 115 “creat[ing] the...relationship in...Table 310); Section IX.A.1(ii) (limitation [1.a]); Ex. 1002, ¶66.)

Moreover, Backhaus discloses that “relationship numbers may be used for *a plurality of subscriber number and third party number combinations*, i.e. in certain

embodiments a given relationship number may not be unique to a given subscriber number and third party number combination.” (Ex. 1005, [0047]; *see also id.*, [0046] (“the description in this disclosure of exemplary embodiments that include individual subscriber relationship ID tables [as in FIG. 3A] are offered for illustrative purposes only and will not limit the scope of the disclosure.”).)

Accordingly, Backhaus discloses “automatically associating a bridge or access telephone number with each of a plurality of contact telephone numbers in the computer memory,” i.e., central SLS database 116. (Ex. 1002, ¶67.)

- iv) **[1.c] “automatically transmitting information that indicates the association of the bridge or access telephone number with each of a plurality of contact telephone numbers to the handset via a data channel;”**

Backhaus discloses this limitation. (Ex. 1002, ¶¶68-73.) For example, Backhaus discloses that the information indicating the association of a relationship number (the claimed “bridge or access telephone number”) with each of a plurality of third party contact numbers (“each of a plurality of contact telephone numbers”) is automatically transmitted to subscriber TD 110 (the claimed “handset”) “via a data channel.” (Ex. 1002, ¶68.)

Backhaus discloses this limitation in a **first way**. As discussed in Backhaus, with “the relationship number...ha[ving] been established in connection with subscriber #1 and the calling third party, the SLS platform 115 may proceed to

establish the second half of the call—the call from the SLS platform 115 to the subscriber’s TD 110” by “plac[ing] the call to the primary number...that points to subscriber TD 110....” (Ex. 1005, [0054].) Backhaus discloses that **“calling party field of the call placed from SLS platform 115 to subscriber TD 110 may contain a specially encoded message for the SLS phone app running on SLS module 105,”** where the calling party field may **“contain the relationship number established by the SLS platform 115...and the actual primary number of the calling third party.”** (*Id.*, [0055]; *see also id.*, [0010] (“the relationship number and third party calling number combination may be forwarded to the subscriber TD, thus enabling an application on the subscriber TD to save the combination in a local database of the subscriber TD.”), [0064].) SLS module 105 of Subscriber TD 110 then **“stores the combination of the relationship number...and third party actual number...in the local SLS database 106.”** (*Id.*, [0056]; *see also id.*, [0057] (“the combination of the relationship number...and the third party actual calling number...is now stored in the central SLS database 116 at SLS platform 115 and also in the local SLS database 106 in subscriber TD 110”), [0058]-[0059] (disclosing that subscriber TD 110 may originate a call to the third party from his/her SLS number by leveraging the relationship combination (which “maps Subscriber #1’s SLS number...and the third party phone number...to relationship number”) previously established/stored in SLS platform 115 and TD

110 when processing the call from the third party), [0060]-[0061] (disclosing processes of connecting a call from a third party to subscriber TD 110), [0069]-[0070] (disclosing with reference to FIG. 4C processes for handling calls from subscriber TD 110 to a third party by using a relationship number); Ex. 1002, ¶69.)

A POSITA would have understood that the encoded message, as described above, containing the relationship number and the third party number (from SLS platform 115 to subscriber TD 110) is automatically transmitted to subscriber TD 110 via a data channel rather than a voice channel because Backhaus discloses that that a voice path is not connected until the subscriber answers the call. (Ex. 1002, ¶70; Ex. 1005, [0052] (“the third party uses TD 120A to place a call to the subscriber #1 SLS number.... As described above, the call is routed to the SLS platform 115. The SLS platform 115 accepts the call (**without connecting the voice path** to the third party TD 120A) and determines that the call is for SLS number”), [0056] (describing that the voice call is not connected until the call is answered, e.g., “[o]nce the subscriber #1 answers, the SLS platform 115 connects the two legs of the call”).) As an example, Backhaus discloses that communication protocols, including IP-based communications (“data channel”), may be used for establishing the relationship between various numbers and associated databases (as described above). (Ex. 1005, [0073] (“Such channels can be used in setting up the relationship databases, sharing information between the SLS module 105 and the

SLS platform 115, initiating voice communication establishment from the TD 110 to the SLS platform 115”); Ex. 1002, ¶70.)

Backhaus discloses that the information indicating the association of a relationship number (the claimed “bridge or access telephone number”) with each of a plurality of third party contact numbers (“each of a plurality of contact telephone numbers”) is automatically transmitted to subscriber TD 110 (the claimed “handset”) “via a data channel” **in a second way**. Backhaus discloses with reference to FIG. 4D processes for handling data communication between subscriber TD 110 and SLS platform 115 over network 125. (Ex. 1005, FIG. 4D, [0071]-[0074].) When the subscriber of TD 110 desires to call a third party but “no relationship number has been associated with the actual third party number,” the SLS module 105 on subscriber TD 110 provides a “request for the **new relationship number, along with the third party number** it desires to call, to the SLS platform 115 via the communication.” (*Id.*, [0071].) SLS platform 115 then “determine[s] the next available relationship number for the subscriber’s given SLS number” (*id.*) and then returns the next available relationship number to TD 110 (*id.*, [0074].) A POSITA would have understood that the relationship number provided by SLS platform 115 to TD 110 is information that indicates the association of the relationship number (the claimed “bridge or access telephone number”) with each of the third party numbers (“each of a plurality of contact

telephone numbers”). (Ex. 1002, ¶71.) This is because subscriber TD 110 requests for a new relationship number *along with the third party number* it desires to call and the provided available relationship number is associated and stored with the third party number in both the SLS platform 115 and subscriber TD 110. (Ex. 1005, [0074].)

At block 448, the determined next available relationship number is returned to the SLS module 105 of the subscriber TD 110. At block 450, **the central SLS database 116 [of SLS platform 115] is updated with the new relationship number and the third party CLID provided to the SLS platform by the SLS client 105 of the subscriber TD 110. The new relationship number is now associated in the central SLS database 116 with the subscriber primary number, the subscriber SLS number and the third party CLID.** Notably, after blocks 448 and/or 450, the method 400 may return to the start of method 400 at block 402 as **the SLS module 105 of the subscriber TD 110 has acquired a new relationship number in association with a third party CLID.** Consequently, using the newly acquired relationship number may essentially start over the method 400 with the SLS platform receiving a communication. If so, the method 400 would follow to FIG. 4C where the communication was recognized as the subscriber TD 110 having placed a call to the new relationship number.

(Ex. 1005, [0074]; Ex. 1002, ¶71.)

Indeed, when the same third party calls subscriber TD 110 next time, SLS platform 115 would recognize the calling third party number, redirect the call to subscriber TD 110's primary number, and populate the calling party field with the combination of the relationship number and third party number. (Ex. 1005, [0062]-[0063] (disclosing with reference to FIG. 4A step 408 where SLS platform 115 determines whether the third party number is recognized), [0067] (disclosing with reference to FIG. 4B steps 422-424 for processing a call from a known third party number); Ex. 1002, ¶72.)

Backhaus discloses that TD 110 may communicate with SLS platform 115 using various protocols/mechanisms, e.g., an unstructured supplementary services data (USSD) protocol (Ex. 1005, [0072]), short message service (SMS) protocol, multimedia messaging service (MMS) protocol, IP-based interaction, cellular data, WiFi, Bluetooth, proprietary wireless or wired technologies (*id.*, [0073]). "Such channels can be used in setting up the relationship databases, sharing information between the SLS module 105 and the SLS platform 115, initiating voice communication establishment from the TD 110 to the SLS platform 115, the TD 110 requesting the SLS platform 115 to place a call to a third party TD 120, etc." (*Id.*) The above-described communication protocols/mechanisms/channels disclosed in Backhaus correspond to the claimed "data channel." (Ex. 1002, ¶73.)

Indeed, these communication protocols/mechanisms/channels are consistent with the “data channel” described in the ’094 patent. (Ex. 1001, 4:15-21 (“A preferred data channel may be an Internet Protocol (IP) channel, which is not a conventional telephone voice channel. However, other data, non-conventional voice, channels over which information may be transmitted between a telephone handset and a server may be used in alternative embodiments of the invention.”), 4:47-49 (“Such IP governed communications are referred to herein as being conducted over a ‘data channel’”).) To be sure, the above described processes for “transmitting information” are performed “automatically” because they are performed by SLS platform 115, as opposed to being performed by a user manually. (*See supra*; Ex. 1005, [0054]-[0055] (SLS platform 115 placing a call containing the claimed “information”), [0074] (SLS platform 115 providing the claimed “information”); Section IX.A.1(ii) (limitation [1.a]).) Accordingly, Backhaus discloses “automatically transmitting information that indicates the association of the bridge or access telephone number with each of a plurality of contact telephone numbers to the handset via a data channel.” (Ex. 1002, ¶73.)

- v) **[1.d] “automatically associating each primary telephone number and bridge or access telephone number pairing with a corresponding secondary telephone number and contact telephone number pairing in the computer memory;”**

Backhaus discloses this limitation. (Ex. 1002, ¶¶74-79.) For example, Backhaus discloses automatically associating each subscriber’s primary number (“primary telephone number”) and relationship number (“bridge or access telephone number”) pairing with a corresponding SLS number (“secondary telephone number”) and a third party number (“contact telephone number”) pairing in SLS database 116 of SLS platform 115 (“the computer memory”). (Ex. 1002, ¶74.)

Backhaus discloses “pairing” of subscriber’s primary number (“primary telephone number”) and a relationship number (“bridge or access telephone number”). For example, Backhaus discloses that SLS platform 115 recognizes a combination of the calling and called numbers, e.g., the subscriber’s primary number and a relationship number. (Ex. 1005, [0060] (“When the SLS platform 115 processes this first leg of the call, it may recognize that the **calling number is the subscriber’s primary number...and the called number is the relationship number.**”), [0070] (disclosing that “central SLS database 116 is queried for the **relationship number [that is being called] in combination with the subscriber’s primary number** from which the call originated” and “the

relationship number and the subscriber primary number combination”), FIG. 4C (step 434 discloses “Query Central SLS Dbase for **Subscriber Primary Service Number and Relationship Number combination**”); *see also id.*, [0132] (same), [0135] (“a combination of the subscriber's primary service number and the relationship number”); Ex. 1002, ¶75.)

Additionally, Backhaus discloses “pairing” of a corresponding SLS number (“secondary telephone number”) and a third party number (“contact telephone number”). (Ex. 1002, ¶76.) Backhaus explains that a SLS number is used to communicate with a third party. (Ex. 1005, [0049] (“[t]he **SLS number** is used by...the SLS platform 115 to complete calls with any **external party** calling the subscriber’s SLS number or being called by the SLS subscriber using SLS module 105 of subscriber TD 110.”), [0052] (“the third party uses TD 120A to place a call to the subscriber #1 SLS number...”).) Furthermore, Backhaus discloses setting up a relationship for the SLS number and the third party number. As discussed in limitation [1.b], when third party TD 120A calls a subscriber’s SLS number for the first time, SLS platform 115 sets up a relationship between the SLS number and the third party calling number. (*Id.*, [0052] (“SLS platform 115...determines...that [the called SLS number] does not yet have a ‘relationship’ set up for the calling [third party] number....”), [0053] (disclosing setting up a relationship for the calling and called numbers, e.g., the third party number and the SLS number);

Section IX.A.1(iii) (limitation [1.b]); *see also* Ex. 1005, [0010] (disclosing “the combination of the third party calling number and the subscriber’s second line number.”), [0013] (same); Ex. 1002. ¶76.)

Moreover, Backhaus discloses using the combination of the subscriber’s primary number (“primary telephone number”) and the relationship number (“bridge or access telephone number”) to determine a corresponding combination of a subscriber SLS number (“secondary telephone number”) and a third party number (“contact telephone number”). (Ex. 1002, ¶77.) As discussed in limitation [1.b], SLS platform 115 creates a relationship in Subscriber Relationship ID Table 310 that associates a subscriber’s primary number and relationship number combination with a subscriber’s SLS number and third party number combination:

When [subscriber’s **SLS number**] receives (or places) a call from/to [**third party’s number**], the interaction with the subscriber’s phone [that is associated with its **primary number**] will use dialable [**relationship number**].”

(Ex. 1005, [0053]; *see also* Section IX.A.1(iii) (limitation [1.b]); Ex. 1002, ¶77.)

When the subscriber wants to call the third party using the subscriber’s SLS number, the subscriber dials the third party number, and then “[t]he SLS module 105 [on subscriber’s TD 110]...translates the called third party number...to relationship number.” (Ex. 1005, [0059].) “By calling the relationship number associated with Contact #1, the network 125 routes the call to the SLS platform

115 instead of directly to third party TD 120A phone.” (*Id.*) SLS platform 115 then processes the first leg of the call (from the subscriber to SLS platform 115) and the second leg of the call (from SLS platform 115 to the third party) as disclosed in Backhaus:

When the SLS platform 115 processes this first leg of the call, it may recognize that the **calling number** is the **subscriber’s primary number**...and the **called number** is the **relationship number**.... Querying the Subscriber Relationship ID Table 310 in central SLS database 116, the redirection module 117 may apply the following logic: “**when primary number...calls relationship number..., it is actually SLS number...calling [the third party number].**” The SLS platform 115 may then follow that logic and complete the subscriber’s call by calling the [third party number] associated with third party TD 120A.

(Ex. 1005, [0060].) With the determined SLS number and third party number combination, SLS platform 115 **calls the third party number** and “cause[s] the calling number to be **reflected as the SLS number**...instead of the actual primary number of subscriber TD 110.” (*Id.* (“Notably, in completing the second leg of the call from Subscriber #1 to the third party associated with third party TD 120A, the SLS platform 115 may cause the calling number to be reflected as the SLS

number...instead of the actual primary number of subscriber TD 110.”); Ex. 1002, ¶78.)

Moreover, Backhaus discloses that the above-described method may be utilized for processing calls for each of the SLS server subscribers, i.e., not limited to a single subscriber. (*See, e.g.*, Ex. 1005, [0044] (“The SLS service provider that manages the SLS platform 115 essentially has a group of SLS numbers that are his inventory and are provided to subscribers of the SLS service.”), [0053] (“a given relationship number, such as relationship number... may be used as a relationship number for many different SLS subscribers”).) Additionally, the process to associate the two pairings of numbers is performed “automatically” because it is performed by SLS platform 115, as opposed to being performed by a user manually. (*See supra*; Ex. 1005, [0052]-[0053], [0060]; Section IX.A.1(ii) (limitation [1.a]); Ex. 1002, ¶79.)

Accordingly, Backhaus discloses “automatically associating each primary telephone number and bridge or access telephone number pairing with a corresponding secondary telephone number and contact telephone number pairing in the computer memory.” (Ex. 1002, ¶79; *see also* Ex. 1005, [0010] (“a relationship number that serves to map the subscriber’s primary number to the combination of the third party calling number and the subscriber’s second line number.”), [0013] (same), [0015] (“associating the SLS number of the subscriber,

the primary number of the subscriber and the primary number of a third party via a common relationship number”), [0046] (“records associated with multiple subscribers may be used to map subscriber number and third party number combinations to given relationship numbers.”), [0047], [0053], [0058], [0064], [0067], [0070], [0074] (“The new relationship number is now associated in the central SLS database 116 with the subscriber primary number, the subscriber SLS number and the third party CLID.”), [0126], [0132], [0135], [0139]; Ex. 1002, ¶79.)

vi) **[1.e] “receiving, at a switch associated with the server, an outgoing call from the handset to the bridge or access telephone number via a second channel;”**

Backhaus discloses this limitation. (Ex. 1002, ¶¶80-84.) Backhaus discloses making “an outgoing call from the handset to the bridge or access telephone number.” (Ex. 1002, ¶80.) For example, Backhaus discloses that subscriber TD 110 (“handset”) makes a call to a relationship number (“bridge or access telephone number”) when calling a third party. In particular, when the subscriber wants to call the third party using the subscriber’s SLS number, the subscriber dials the third party number, and then “[t]he SLS module 105 [on subscriber’s TD 110]...translates the called third party number...to relationship number.” (Ex. 1005, [0059].) While the SLS module 105 indicates to the subscriber that it is calling the third party number, “instead it **calls the relationship number.**” (*Id.*)

“By calling the relationship number associated with [the third party contact], the network 125 routes the call to the SLS platform 115 instead of directly to third party TD 120A phone.” (*Id.*; *see also id.*, [0049] (“The application run by the SLS module 105 on subscriber TD 110 uses a relationship number to access the SLS platform 115 over the telephone network 125. The SLS number is used by the redirection module 117 of the SLS platform 115 to complete calls with any external party calling the subscriber's SLS number or being called by the SLS subscriber using SLS module 105 of subscriber TD 110.”).) Thus, Backhaus discloses making “an outgoing call from the handset to the bridge or access telephone number.” (Ex. 1002, ¶80.)

Backhaus discloses “receiving, at a switch associated with the server...via a second channel” an outgoing call from subscriber TD 110 (“handset”) to a relationship number (“bridge or access telephone number”). (Ex. 1002, ¶81.) As discussed above, Backhaus discloses that network 125 routes the outgoing call to SLS platform 115. (*See supra*; *see also* Ex. 1005, [0059].) Backhaus explains that network 125 “envision[s] *any and all* networks for transmitting and terminating communications between telecommunications devices such as, but not limited to, cellular networks, PSTNs, cable networks and the Internet.” (Ex. 1005, [0032], FIG. 1.) Moreover, network 125 may use, e.g., signaling system seven (SS7) for “effecting the transmission of data across communications network 125 from one

device to another, including call setups, terminations and the like are understood by those of ordinary skill in the art of data transmission.” (*Id.*) A POSITA would have understood that the disclosed PSTN has been known to operate using the SS7 protocol. (*Id.*, claim 10 (“the leg of the redirected call between the SLS platform and the third party TD is conducted over the public switched telephone network (‘PSTN’) via SS7 protocol.”); Ex. 1011, 5-6 (SS7 is “the most advanced and widely used signaling system for both cellular and fixed-line telecommunication networks”), 43 (SS7 is “a protocol suite that is employed globally, across telecommunications networks,” “provid[ing] the mechanisms to allow the telecommunication network elements to exchange control information,” and “the key enabler of the public switched telephone network (PSTN)....”), 103-105 (discussing the use of SS7 protocol in the PSTN since the 1990s); Ex. 1002, ¶81.)

A POSITA would have understood that network 125 necessarily includes the claimed “switch,” such as the signal switching points (SSPs, which are known as “switches” or “exchanges”) included in the disclosed PSTN. (Ex. 1002, ¶82.) Indeed, a POSITA would have understood that a SSP is a necessary part of the PSTN, and “a voice switch” that “processes voice-band traffic.” (Ex. 1011, 62-63, 81 (“At the core of the PSTN are digital switches”); *see also* Ex. 1007, [0004] (disclosing that “[t]elephone service is traditionally carried by the PSTN,” which “includes a network of interconnected local exchanges or switches 12;” “[v]oice or

data is carried from a source node to a destination node on the network by establishing a circuit path along the PSTN effected by appropriately switching the interconnecting exchanges;” and “[e]xternal digital communication systems typically communicate with the PSTN by interfacing with an exchange such as 12.”); Ex. 1002, ¶¶19-26, 82.). Indeed, PO acknowledges that a SSP corresponds to the claimed “switch” (Ex. 1009, 107 (stating that the SSP disclosed in a prior art reference is “consistent with...that a POSITA would be familiar with the concept of a switch.”).)⁷ (Ex. 1002, ¶82.)

A POSITA would have also understood that calls are established and routed through the PSTN by SSPs in network 125, including the use of a local SSP. A local SSP is a switch that connects to a telecommunication device or server so as to allow the device/server to access the PSTN. (Ex. 1011, 6-7 (describing that calls are established and routed by switches across the PSTN, including a calling party’s local switch and a destination’s local switch), 82 (disclosing that a local

⁷ PO also acknowledges that the claimed “switch” has been well known “since virtually the dawn of telecommunications” (Ex. 1009, 19), “may describe a broad category of well-known structures in the art” (*id.*, 20-23), and may be “an element in the communications networks that facilitates connections between transmitters and receivers” (*id.*, 22).

exchange/switch “provides network access for the subscriber”).) For example and consistent with a POSITA’s knowledge, Ex. 1007 shows a local switch that communicates with a server 50. (Ex. 1007, [0004] (“External digital communication systems typically communicate with the PSTN by interfacing with an exchange such as [local switch] 12”), FIG. 1A (showing a local switch 12 that is in communication with server 50); Ex. 1002, ¶83.)

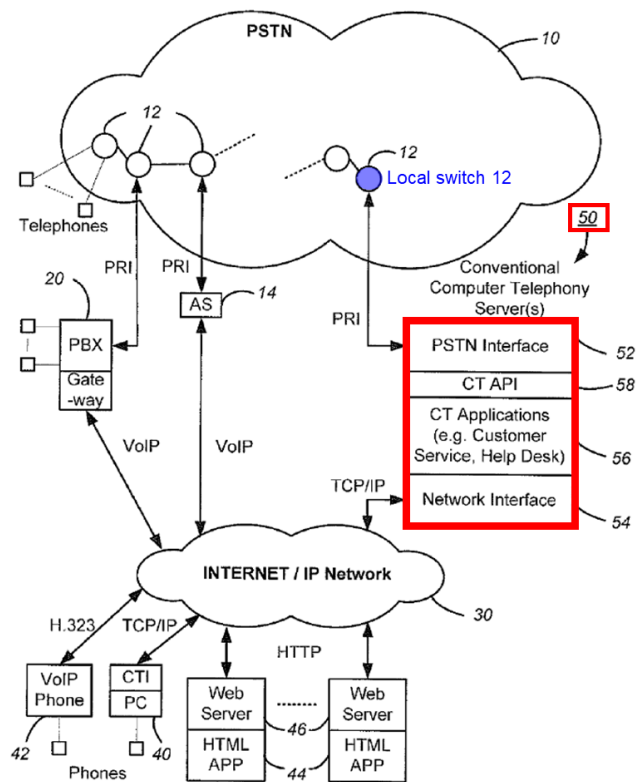


FIG. 1A (Prior Art)

(Ex. 1007, FIG. 1A (annotated).) Thus, in Backhaus, given that the outgoing calls are routed through network 125 (which includes the PSTN) to SLS platform 115, a POSITA would have understood that a local switch (the claimed “switch”) in

network 125 necessarily receives the outgoing calls before routing the same to SLS platform 115. Moreover, Backhaus discloses that the local switch in network 125 (the claimed “switch”) is associated with SLS server 205 (claimed “server”) of SLS platform 115 because network 125 (including the local switch) is in communication with SLS server 205. (Ex. 1005, [0034]-[0035] (disclosing that a call from third party TD 120 to subscriber TD 110’s SLS number is first routed by network 125 to SLS platform 115), [0039] (disclosing that SLS server 205 is “configured to receive calls directed to and from a [SLS] number associated with subscriber TD 110.”), [0040]; Ex. 1002, ¶83.)⁸

The ’094 patent indicates that communications over the PSTN are an exemplary voice channel. (Ex. 1001, 4:44-55 (“The communications between the server 100 and the handset 340 over the Internet 316 may utilize IP as a protocol opposed to protocols used to establish communications according to CDMA,

⁸ PO apparently asserts that “a switch [is] associated with” another component if information is transmitted between the switch and the component. (Ex. 1010, 7 (PO asserting that “the specification is likewise replete with discussions about how switches may associate with other elements in telecommunications networks,” where one of the cited disclosures relied upon by PO’s assertion states “transmitting call handling information between a handset and a switch”).)

GSM, or like standards. Such IP governed communications are referred to herein as being conducted over a ‘data channel.’ Conversely, communications between the switch 110 and the handset over the PSTN 310 may be transmitted and received in accordance with CDMA, GSM or like standards as opposed to using IP. Such CDMA, GSM or like governed communications, when used to carry voice information, are referred to herein as being conducted over a ‘voice channel.’”), 5:67-6:1 (“call may be routed over the PSTN 310 to the switch 110”), 7:7-9 (“The return call from the handset 340 to the bridge telephone number may be routed over the PSTN 310 to the switch 110 using a voice channel connection.”).) Moreover, as a POSITA would have understood the disclosed switch is responsible for connecting a voice channel to create a conversation path between the calling and the called parties. (Ex. 1011, 99 (“The switch is responsible for many tasks, but one of its primary function is connecting voice channels to create a bi-directional conversation path between two phone subscribers.... Once a circuit is set up between the two subscribers, the connection remains for the duration of the call.”).) As such, because calls are routed through network 125, where the disclosed switch establishes a voice channel (“second channel”) through the disclosed PSTN in network 125, to facilitate voice communication in the connected call, Backhaus discloses “receiving, at a switch

associated with the server, an outgoing call from the handset to the bridge or access telephone number via a second channel.” (Ex. 1002, ¶84.)

- vii) **[1.f] “receiving, at the server, information from the switch indicating the outgoing call is being made to the bridge or access telephone number from the primary telephone number; and”**

Backhaus discloses this limitation. (Ex. 1002, ¶¶85-86.) For example, Backhaus discloses receiving, at SLS server 205 of SLS platform 115 (claimed “server”), information from the switch of network 125 (claimed “switch”) indicating the outgoing call is being made to the relationship number (claimed “bridge or access telephone number”) from the subscriber’s primary phone number (“from the primary telephone number”). (Ex. 1002, ¶85.)

As discussed in limitation [1.e], when the subscriber dials the third party number, “[t]he SLS module 105 [on subscriber’s TD 110]...translates the called third party number...to relationship number” and then “calls the relationship number.” (Ex. 1005, [0059]; Section IX.A.1(vi) (limitation [1.e]).) The local switch (the claimed “switch”) in network 125 necessarily receives the outgoing call before routing the same to SLS platform 115 (including the claimed “server”). (Ex. 1005, [0059]; *see also id.*, [0049]; Section IX.A.1(vi) (limitation [1.e]).) Indeed, Backhaus discloses that “[w]hen the SLS platform 115 processes this first leg of the call, **it may recognize that the calling number is the subscriber’s primary number... and the called number is the relationship number....**” (*Id.*

at [0060]; *see also id.* (SLS platform 115 “may apply the following logic: ‘when primary number...calls relationship number ..., it is actually SLS number...calling [the third party number]’” when completing the call to the third party), [0069]-[0070] (disclosing with reference to FIG. 4C an outgoing call from subscriber TD 110 that is directed to a relationship number and that “the central SLS database 116 is queried for the relationship number in combination with the subscriber’s primary number from which the call originated.”).) As such, Backhaus discloses that the “information” received by SLS platform 115 (including the claimed “server”) from a local switch (the claimed “switch”) in network 125 indicates the outgoing call is being made to the relationship number (the claimed “the bridge or access telephone number”) from the subscriber’s primary number (“from the primary telephone number”). (Ex. 1002, ¶86.)

- viii) **[1.g] “receiving, at the switch, information from the server directing the switch to: (a) connect the outgoing call to a contact telephone number associated with the primary telephone number and bridge or access telephone number pairing, and (b) identify a telephone number from which the outgoing call is being made as the secondary telephone number.”**

Backhaus discloses this limitation. (Ex. 1002, ¶¶87-90.) As discussed in limitation [1.f], SLS platform 115 processes the first leg of the outgoing call (between subscriber TD 110 and SLS platform 115 via network 125) that is directed to the third party, where the subscriber dials the third party number but TD

110 calls the relationship number instead. (Section IX.A.1(vii) (limitation [1.f]).) As to the second leg of the call, as discussed in limitation [1.d], Backhaus discloses that the SLS platform 115 completes the subscriber's outgoing call by calling the third party's number. (Ex. 1005, [0060] ("The SLS platform 115 may then follow that logic and complete the subscriber's call by calling the actual number...associated with third party TD 120A."); Section IX.A.1(v) (limitation [1.d]).) Additionally, as discussed in limitation [1.e], calls are established and routed by components in network 125 including the local switch that is associated with SLS platform 115. (Section IX.A.1(vi) (limitation [1.e]); *see also* Ex. 1007, [0004] ("External digital communication systems typically communicate with the PSTN by interfacing with an exchange such as [local switch] 12"); Ex. 1011, 6-7 (describing that calls are established and routed by switches, including a calling party's local switch and a destination local switch), 82 (disclosing that in the PSTN a local exchange or switch "provides network access for the subscriber"); Ex. 1002, ¶87.)

A POSITA would have understood, when SLS platform 115 calls the third party's number, the local switch in network 125 receives the called number from SLS platform 115 ("receiving...information from the server"), where the received number directs the local switch to route the call to the third party through network nodes formed between the calling party (SLS platform 115) and the called party

(the third party). (Ex. 1002, ¶88; Ex. 1011, 6-8 (“[I]f a [party] wishes to place a call, the call must be signaled to the [party’s] local switch.... When a complete called party number is received or enough digits are collected to allow the routing process to proceed, the calling party’s local switch begins signaling to the other nodes that form part of the core network” to “set up a circuit between the calling and called parties so that user traffic (voice, fax, and analog dial-up modem, for example) can be transported bi-directionally”).) Such an understanding is consistent with Backhaus’s disclosure that calls by the SLS platform 115 are routed through network 125 based on the called number. (Ex. 1005, FIG. 1, [0034] (“network 125 recogniz[ing] where the call needs to be routed **based on the called number**”), [0051] (“a called party can receive calls over the telephone network 125 from a telecommunications device on any service provider’s network”), [0062] (“Notably, the communication is envisioned to be any communication over network 125 that is directed to SLS platform 115, whether such communication originates from a TD 110 or a TD 120.”), [0070] (“the SLS platform 115 redirects the call to [third party] TD 120.”).) Accordingly, because the local switch in network 125 (that is associated with SLS platform 115) receives the third party number from SLS platform 115, where the received number directs the switch to route/connect the call (“receiving, at the switch, information from the server directing the switch to...connect the outgoing call to a contact telephone number”),

Backhaus discloses “receiving, at the switch, information from the server directing the switch to: (a) connect the outgoing call to a contact telephone number.” (Ex. 1002, ¶88.)

Moreover, as discussed in limitation [1.d], Backhaus discloses automatically associating each **subscriber’s primary number (“primary telephone number”)** and a **relationship number (“bridge or access telephone number”)** pairing with a corresponding SLS number (“secondary telephone number”) and a **third party number (“contact telephone number”)** pairing. (Section IX.A.1(v) (limitation [1.d]).) Thus, Backhaus discloses that the called **third party number (“contact telephone number”)** is “associated with” the **subscriber’s primary number (“primary telephone number”)** and **relationship number (“bridge or access telephone number”)** pairing. (Ex. 1002, ¶89.)

Backhaus also discloses “receiving, at the switch, information from the server directing the switch to...(b) identify a telephone number from which the outgoing call is being made as the secondary telephone number.” (Ex. 1002, ¶90.) For example, Backhaus discloses that “in completing the second leg of the call from Subscriber...to the third party..., the SLS platform 115 may cause the calling number to be reflected as **the SLS number [the claimed “secondary telephone number”]**...instead of the actual primary number of subscriber TD 110.” (Ex. 1005, [0060]; *see also id.*, [0070] (“[t]he calling party field of the call is **populated**

with the subscriber's SLS number so that the third party will associate the incoming call with the second line number of the subscriber and not the primary number of the subscriber.”.) A POSITA would have understood that the above-described process of reflecting the calling number as the SLS number is a known service provided by the PSTN, which involves sending a call signal to the local switch that includes the calling line identification (CLI or CLID). (Ex. 1011, 217 (disclosing examples of common services provided by the PSTN includes “Calling Line Identification” (CLI)); Ex. 1002, ¶90; Ex. 1005, [0033] (disclosing that the call signal includes the calling line identification or CLID).) As such, given that it is SLS platform 115 (including the claimed “server”) that “cause[s] the calling number to be reflected as the SLS number” and the call signal is routed by the local switch (the claimed “switch”) through network 125, Backhaus discloses “receiving, at the switch, information from the server directing the switch to” perform the process recited in the “(b) identify[ing]” step. Accordingly, Backhaus discloses this limitation. (Ex. 1002, ¶90.)

2. Claim 2: “The method of claim 1, wherein the data channel is an Internet protocol (IP) channel.”

Backhaus discloses this limitation. (Ex. 1002, ¶91.) For example, as discussed in limitation [1.c], Backhaus discloses that TD 110 may communicate with SLS platform 115 using various protocols/mechanisms, including the data channel that utilizes “IP-based interaction.” (Ex. 1005, [0073]; *see also supra*

Section IX.A.1(iv) (limitation [1.c]).) A POSITA would have understood that such an IP-based data channel corresponds to the claimed “Internet protocol (IP) channel.” Thus, Backhaus discloses this limitation. (Ex. 1002, ¶91.)

3. Claim 4: “The method of claim 1, wherein the second channel is not an Internet Protocol (IP) channel.”

Backhaus discloses this limitation. (Ex. 1002, ¶92.) For example, as discussed in limitation [1.e], Backhaus discloses using the SS7 protocol over PSTN of network 125 (the claimed “second channel”). (*Supra* Section IX.A.1(vi) (limitation [1.e]).) A POSITA would have understood that a channel established over the PSTN is not an IP channel as the PSTN operates using the SS7 protocol. (*Supra* Section IX.A.1(vi) (limitation [1.e]).) In fact, the ’094 patent acknowledges that channels established over the PSTN using associated protocols are different from IP channels. (Ex. 1001, 4:44-55 (Acknowledging that “communications between the switch 110 and the handset over the PSTN 310 may be transmitted and received in accordance with CDMA, GSM or like standards,” which is referred to as a “voice channel,” “as opposed to using IP,” which is referred to as a “data channel.”)) Accordingly, Backhaus discloses this limitation. (Ex. 1002, ¶92.)

B. Ground 2: Backhaus in View of Saksena Renders Claim 3 Obvious

1. Claim 3: “The method of claim 2, wherein the second channel is established in accordance with a CDMA or GSM standard.”

Backhaus in view of Saksena discloses and/or suggests this limitation. (Ex. 1002, ¶¶93-97.) As discussed in limitation [1.e], Backhaus discloses communications over a voice channel of the PSTN in network 125 (the claimed “second channel”). (*Supra* Section IX.A.1(vi) (limitation [1.e]).) While Backhaus does not expressly disclose that “the second channel is established in accordance with a CDMA or GSM standard,” a POSITA would have found it obvious in view of Saksena. (Ex. 1002, ¶¶93.)

Like Backhaus, Saksena describes providing telephony services to different subscriber devices. (Ex. 1008, Abstract; *see also id.*, [0057], [0072] (describing that the disclosed process allows, e.g., “[t]he user of four devices associated with four different networks [to] manage one set of universal telephony services for all of his different devices.”).) For example, Saksena discloses with reference to Figure 1A (reproduced below and annotated) a centralized network 105 (highlighted in red) that provides telephony services to multiple devices, e.g., cellular device 156a (highlighted in blue) and other devices, that are associated with different networks, e.g., 110a-110e (highlighted in green). (*Id.*, [0077].)

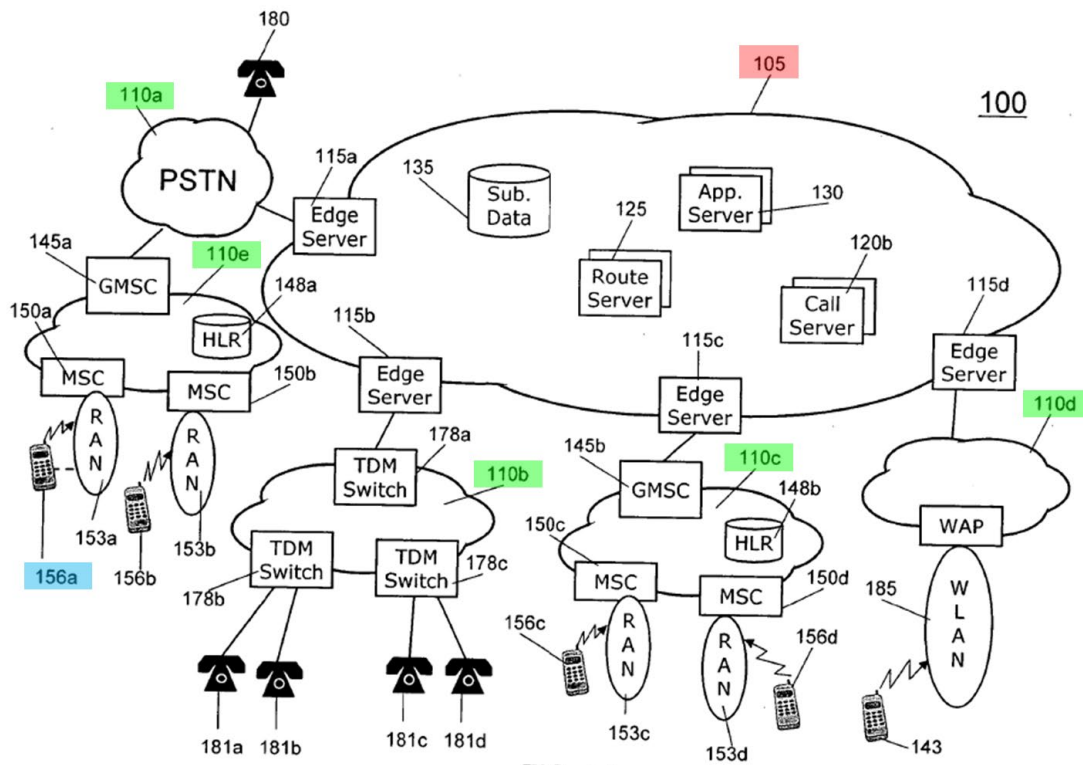


FIG. 1A

(Ex. 1008, FIG. 1A (annotated).) Specifically, calls made by a subscriber's mobile device 156a on cellular network 110e may be routed through both the PSTN 110a and network 105 to device 180, such that network 105 is involved in the calls and may provide services to which the subscriber subscribes. (*Id.*, [0119]-[0120]; *see also id.*, [0121]-[0129] (describing processes to connect a call between the caller and callee with network 105 involved in the call).) Thus, Saksena is similar to Backhaus, which discloses connecting calls through both network 125 (including the PSTN) and SLS platform 115, such that SLS platform 115 may provide services to which the subscriber subscribes. (*Supra* IX.A.1 (claim 1).) Therefore,

a POSITA would have been motivated to consider the teachings of Saksena. (Ex. 1002, ¶94.)

Saksena further discloses that mobile device 156a on cellular network 110e may operate using either the Global System for Mobile Communications (GSM) or Code-division multiple access (CDMA) standards. (Ex. 1008, [0053], [0082].) Saksena therefore discloses establishing a voice channel in accordance with a CDMA or GSM standard for calls associated with a mobile device. (Ex. 1002, ¶95.) Backhaus discloses processing a call from a wireless handset or a mobile device (e.g., TD 110) via a voice channel (the claimed “second channel”) (*supra* Section IX.A.1(vi) (limitation [1.e])), but Backhaus does not expressly disclose that the voice channel is established “in accordance with a CDMA or GSM standard.” (*Supra* Section IX.A.1(vi) (limitation [1.e])); Ex. 1005, [0033] (disclosing that TD 110 may be “a portable and wireless device”), [0050] (“subscriber TD 110...has mobile phone service...using mobile phone number”), [0081]-[0083] (“subscriber’s mobile device”).) Nevertheless, a POSITA would have found it obvious and been motivated to implement such a feature. (Ex. 1002, ¶95.)

A POSITA would have been motivated to establish a voice channel (“second channel”) based on CDMA or GSM protocols when implementing a system similar to Backhaus. (Ex. 1002, ¶96.) This is because CDMA and GSM were the mobile

telecommunication standards at the time of the alleged invention and Backhaus is silent with respect to the cellular network standard used for the disclosed mobile devices. (Ex. 1001, 4:49-52 (acknowledging that GSM and CDMA are telecommunication standards at the time of the alleged invention).) (Ex. 1002, ¶96.) Indeed, as discussed in Saksena, cellular networks “can be based on a global system for mobile communications (GSM) standard, a time division multiple access (TDMA) standard, or a code division multiple access (CDMA) standard.” (Ex. 1008, [0053].) Moreover, consistent with a POSITA’s knowledge, commercially available mobile devices were implemented with the GSM or CDMA communication standard. (*Id.*, [0082] (“For example, when a subscriber subscribes to cellular service with Verizon, they buy a cellular mobile device with CDMA technology. If a subscriber subscribes to cellular service with T-Mobile, they buy a cellular mobile device with GSM technology.”).) Accordingly, a POSITA would have been motivated to implement the CDMA or GSM standard for the cellular network where Backhaus’s mobile devices operate for voice communications. (Ex. 1002, ¶96.)

A POSITA would have had the skill in implementing, and expectation of success in achieving, the above implementation. Moreover, a skilled person would have appreciated that the above-described combination would have merely involved a combination of known prior art technologies (e.g., a known

telecommunication protocols for mobile device networks) according to known methods (e.g., known process of implementing a voice channel based on CDMA or GSM protocols) to yield the predictable result of a telecommunication system including a voice channel that is implemented using CDMA or GSM standard for mobile communication. (Ex. 1002, ¶¶97.) *See KSR Int’l Co. v. Teleflex, Inc.*, 550 U.S. 398, 416 (2007).

C. Grounds 3-4: Each of the Above Prior Art Combinations in view of Taylor Renders Obvious the Challenged Claims

Grounds 1-2 demonstrate how Backhaus and/or combinations of prior art stemming from Backhaus discloses and/or suggests claims 1-4. (Sections IX.A-IX.B.) To the extent that the claimed “switch” is interpreted as required to be a device separate from the PSTN, it would have been obvious to implement the claimed “switch” in light of Taylor. (Ex. 1002, ¶¶98-104.)

Like Backhaus and Saksena, Taylor is directed to providing telephone services through communication networks. (Ex. 1007, [0004].) For example, Taylor discloses a computer telephony (CT) server 50 that provides “added features to an end user’s phone” and may be implemented with the PSTN and/or an IP telephony network system as shown in FIG. 1A below. (*Id.*, [0008], FIG. 1A; *see also id.*, [0004] (“FIG. 1A illustrates a typical configuration of a conventional computer telephony server operating with a Public Switched Telephone Network (PSTN) and/or the Internet.”).) Thus, Taylor is similar to Backhaus and Saksena,

which discloses routing calls through both the PSTN and a service provider platform/network, such that the service provider platform/network may provide services to which the subscriber subscribes. (*Supra* IX.A.1 (claim 1); IX.B.1 (claim 3).) As such, a POSITA would have been motivated to consider the teachings of Taylor. (Ex. 1002, ¶¶99.)

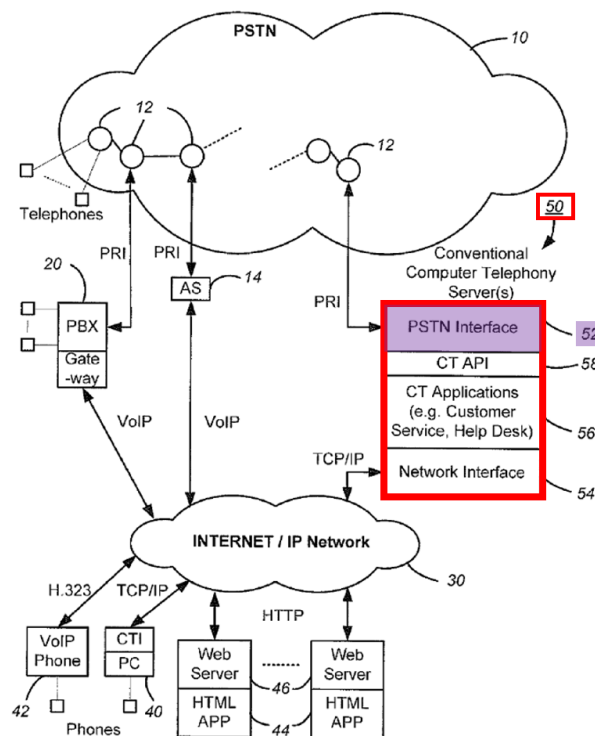


FIG. 1A (Prior Art)

(Ex. 1007, FIG. 1A (annotated).)

Taylor additionally discloses that when CT server 50 connects to other networks, e.g., the PSTN or the Internet, an interface is used in order to receive/process calls. (Ex. 1002, ¶¶100.) For example, as shown in Figure 1A, “CT

server 50 can be configured to interface via a PSTN interface 52 with an exchange 12 to receive and process calls pertaining to a predefined set of telephone numbers on the PSTN.” (Ex. 1007, [0008] (also disclosing that CT server 50 “can also be configured to interface via an IP network interface 54 with the Internet to receive and process calls pertaining to a predefined set of telephone numbers or IP addresses.”).) A POSITA would have understood that PSTN interface 52 disclosed in Taylor is similar to the switch described in the ’094 patent’s examples that likewise receives calls and processes calls associated with a specific number, e.g., a bridge number. (Ex. 1001, 2:13-16 (“connecting the handset to the incoming call at the switch”), 5:67-6:2 (“the incoming call may be routed over the PSTN 310 to the switch 110 [r]esponsive to receipt of the incoming call at the switch 110”), 6:11-13 (“The bridge telephone number may be associated with the switch 110, and calls to the bridge telephone number may be automatically routed to this switch.”).) Indeed, PO acknowledges that the claimed “switch” has been well known “since virtually the dawn of telecommunications” (Ex. 1009, 19), “may describe a broad category of well-known structures in the art” (*id.*, 20-23), and may be “an element in the communications networks that facilitates connections between transmitters and receivers” (*id.*, 22). (Ex. 1002, ¶100.)

A POSITA would have been motivated to include a PSTN interface similar to that discussed in Taylor when implementing Backhaus’s telephony service

system. (Ex. 1002, ¶101.) For example, Backhaus discloses that there are several different telecommunication networks that may be used for connecting the calls through network 125, e.g., cellular networks, PSTNs, cable networks and the Internet. (Ex. 1005, [0032] (“communications network 125 envisions any and all networks for transmitting and terminating communications between telecommunications devices such as, but not limited to, cellular networks, PSTNs, cable networks and the Internet.”).) A POSITA would have understood that the PSTN is well known for providing reliable communications to a large number of landline and wireless devices/users as well as providing sophisticated phone and data services. (Ex. 1011, 81 (“Today, the PSTN is a network of computers and other electronic equipment that converts speech into digital data and provides a multitude of sophisticated phone features, data services, and mobile wireless access.... The PSTN is well known for providing reliable communications to its subscribers.”).) Thus, a POSITA would have been motivated to connect SLS platform 115 with the PSTN and to also include a PSTN interface in order to facilitate such an connection when implementing Backhaus’s system and processes—such that SLS platform 115 could provide the disclosed second line services to many device users connected to the PSTN that is known to provide reliable communications. (Ex. 1002, ¶101.)

A POSITA would have had the skill to implement, and expectation of success in achieving, the use of a PSTN interface, since it would have involved applications of known technologies (e.g., known PSTN and PSTN interface) according to known methods (e.g., known techniques for facilitating communication between a server and the PSTN) to yield the predictable result of a telephony service system/process that provided telecommunication services. (Ex. 1002, ¶102.) *See KSR*, 550 U.S. at 416.

Accordingly, for the reasons above, to the extent Backhaus is read not to disclose the claimed “switch,” it would have been obvious to modify Backhaus (including as modified with the additional features based on the prior art associated with claim 3 in Ground 2 (Saksena) given that modifications discussed in Ground 2 relating to the mobile phone’s wireless standard do not materially affect the claimed “switch” in the context of the claimed features) to implement a PSTN interface in light of Taylor and a POSITA’s contemporaneous knowledge. (Ex. 1002, ¶103.) Thus, the positions above (along with those in each respective ground above) demonstrate how the asserted prior art combinations in further view of Taylor disclose and/or suggest claims 1-4. (*See* Sections IX.A-IX.B, incorporated here and for each of Grounds 3-4 listed in Section IV.)

Namely, a POSITA would have had the same motivations, capabilities, and expectations discussed above in Grounds 1-2 and knowledge of those discussed

above regarding Taylor to modify each asserted combination to implement a PSTN switch (explained above.) Therefore, for the same reasons discussed above and in the respective sections for Grounds 1-2, the prior art combination discloses and/or suggests claims 1-4 (Sections IV, IX.A-IX.B; Ex. 1002, ¶¶103-104.)

X. DISCRETIONARY DENIAL IS NOT APPROPRIATE

A. The Board Should Not Deny Institution Under § 325

While the '094 patent was at issue in *Dialpad, Inc., v. Flypsi, Inc.*, IPR2022-01048 (PTAB), it was filed by an unrelated third party and terminated before any preliminary response or institution decision. Moreover, this is Petitioner's first petition directed to any claims of the '094 patent. Thus, the Board should not deny institution under *General Plastic*.

B. The Board Should Not Deny Institution Under *Fintiv*

The merits of Petitioner's arguments are compelling and the evidence in support is substantial. That "alone demonstrates that the PTAB should not discretionarily deny institution under *Fintiv*." (Ex. 1012 at 4-5.) But in any event, the six *Fintiv* factors do not justify denying institution.

The **first factor** (stay) is neutral, if not weighing against denial. Google has not yet moved to stay in district court pending IPR, but has moved to stay pending mandamus review of a motion to transfer. (Ex. 1022, 1.) While the PTAB does not infer how the district court would rule should a stay be requested, the pending

motion at least increases the likelihood of a stay. *Hulu LLC v. SITO Mobile R&D IP, LLC*, IPR2021-00298, Paper 11 at 10-11 (May 19, 2021).

The **second factor** (trial proximity) weighs against denial, since “the median time-to-trial is around the same time...[as] the projected...final written decision.” (Ex. 1012, 9.) The median time from filing to trial in the Western District of Texas is more than 28 months. (Ex. 1014 (Federal Court Management Statistics), 37.) The district court case was filed on January 10, 2022, so trial will likely be in May/June 2024.⁹ On the other hand, with this petition filed in January 2023, a final written decision may be expected around June 2024.

The **third factor** (investment in parallel proceedings) also weighs strongly against denial. The district court case is in the early stages. (Ex. 1013, 2.)

The **fourth factor** (overlap) also weighs against denial, since Petitioner hereby stipulates that, if the IPR is instituted, Petitioner will not pursue the IPR grounds in the district court litigation. Thus, “[i]nstituting trial here serves overall system efficiency and integrity goals by not duplicating efforts and by resolving materially different patentability issues.” *Apple, Inc. v. SEVEN Networks, LLC*,

⁹ While the trial is currently scheduled on November 15, 2023 (Ex. 1013, 3), the Memorandum requires consideration of median time-to-trial. Moreover, if the district court proceedings are transferred or stayed, that may impact the schedule.

IPR2020-00156, Paper 10 at 19 (June 15, 2020); *see also Sand Revolution II, LLC v. Continental Intermodal Group-Trucking LLC*, IPR2019-01393, Paper 24 at 12 (June 16, 2020).

The **sixth** factor (other circumstances) also weighs against denial as the merits of Petitioner’s arguments are compelling. While the **fifth** factor (parties) may weigh slightly in favor of denial because the parties are the same as in district court, under the “holistic view” of whether integrity of the system and efficiency is best served, institution is favored. *Samsung Elecs. Co. Ltd. v. Dynamics Inc.*, IPR2020-00505, Paper 11 at 15 (Aug. 12, 2020).

XI. CONCLUSION

Petitioner requests institution of IPR for claims 1-4 of the ’094 patent based on the grounds specified in this petition.

Respectfully submitted,

Dated: January 10, 2023

By: /Naveen Modi/
Naveen Modi (Reg. No. 46,224)
Counsel for Petitioner

CERTIFICATE OF COMPLIANCE

Pursuant to 37 C.F.R. § 42.24(d), the undersigned certifies that the foregoing
Petition for *Inter Partes* Review of U.S. Patent No. 10,334,094 contains, as
measured by the word-processing system used to prepare this paper, 11,823 words.
This word count does not include the items excluded by 37 C.F.R. § 42.24 as not
counting towards the word limit.

Respectfully submitted,

Dated: January 10, 2023

By: /Naveen Modi/
Naveen Modi (Reg. No. 46,224)
Counsel for Petitioner

CERTIFICATE OF SERVICE

I hereby certify that on January 10, 2023, I caused a true and correct copy of the foregoing Petition for *Inter Partes* Review of U.S. Patent No. 10,334,094 and supporting exhibits to be served via express mail on the Patent Owner at the following correspondence address of record as listed on PAIR:

COOLEY LLP
ATTN: IP Docketing Department
1299 PENNSYLVANIA AVENUE, NW
SUITE 700
WASHINGTON, DC 20004
UNITED STATES

A courtesy copy was also sent via electronic mail to the Patent Owner's litigation counsel at the following addresses:

Thomas M. Melsheimer
tmelsheimer@winston.com
M. Brett Johnson
mbjohnson@winston.com
Michael A. Bittner
mbittner@winston.com
Matthew R. McCullough
mrmccullough@winston.com
William M. Logan
wlogan@winston.com

By: /Naveen Modi/
Naveen Modi (Reg. No. 46,224)