

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

GOOGLE LLC,
Petitioner

v.

FLYPSI, INC.,
Patent Owner

Patent No. 10,051,105

**PETITION FOR *INTER PARTES* REVIEW
OF U.S. PATENT NO. 10,051,105**

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I. INTRODUCTION

Google LLC (“Petitioner”) respectfully requests *inter partes* review of claims 1-11 (“the challenged claims”) of U.S. Patent No. 10,051,105 (“the ’105 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 ’105 patent is asserted in *Flypsi, Inc., (d/b/a Flyp) v. Google, LLC*, Case No. 6:22-cv-00031 (W.D. Tex.). The ’105 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 ’105 patent originates from U.S. Patent Application No. 15/582,091, filed on Apr. 28, 2017, which is a continuation of U.S. Patent Application No. 14/307,052, filed on Jun. 17, 2014, now Pat. No. 9,667,770 (“the 770 patent”), which is a continuation-in-part of application No. 13/944,853 (“the ’853

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.

application”), filed on July 17, 2013, now abandoned. (Ex. 1001, Cover.)

Petitioner is concurrently filing IPR petitions challenging the ’770 patent as well as U.S. Patent Nos. 11,012,554 (“the ’554 patent”), 10,334,094 (“the ’094 patent”), and 11,218,585 (“the ’585 patent”), which are in the same patent family with the ’770 patent and 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 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 that the '105 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

The challenged claims should be found unpatentable on the following grounds:

Ground 1: Claim 1 is unpatentable under 35 U.S.C. § 103 as being obvious over Backhaus (Ex. 1005) and Logan (Ex. 1015).

Ground 2: Claims 2-4 and 6-11 are unpatentable under 35 U.S.C. § 103 as being obvious in view of Backhaus and Winbladh (Ex. 1020).

Ground 3: Claim 5 is unpatentable under 35 U.S.C. § 103 as being obvious in view of Backhaus, Winbladh, and Logan.

Ground 4: Claim 1 is unpatentable under 35 U.S.C. § 103 as being obvious over Backhaus, Logan, and Taylor (Ex. 1007).

Ground 5: Claims 2-4 and 6-11 are unpatentable under 35 U.S.C. § 103 as being obvious in view of Backhaus, Winbladh, and Taylor.

Ground 6: Claim 5 is unpatentable under 35 U.S.C. § 103 as being obvious in view of Backhaus, Logan, Winbladh, and Taylor.

The earliest possible priority date of the '105 patent is July 17, 2013.² Backhaus published from an application filed June 17, 2013 (Ex. 1005, Cover) and qualifies as prior art under § 102(a)(2). Taylor published on February 26, 2009 (Ex. 1007, Cover), Winbladh published on December 17, 2009 (Ex. 1020, Cover), and Logan published on May 27, 2010 (Ex. 1015, Cover), and thus each qualifies as prior art under § 102(a)(1).

None of the above-cited references were 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 '105 patent (“POSITA”) would have had an undergraduate degree in electrical engineering, computer engineering, computer science or a related field along with

² Petitioner does not concede the '105 patent is entitled to this priority date.

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.*)

VII. CLAIM CONSTRUCTION

In IPRs, the Board applies the claim construction standard from *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005) (*en banc*). See 83 Fed. Reg. 51,340-59 (Oct. 11, 2018). The Board, however, only construes claims when necessary to resolve the underlying controversy. *Toyota Motor Corp. v. Cellport Sys., Inc.*, IPR2015-00633, Paper No. 11 at 16 (Aug. 14, 2015). Here, given the correlation between the prior art references and the challenged claims of the '105 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, ¶56.)⁴

³ Petitioner submits the declaration of Dr. Bill Lin (Ex. 1002), an expert in the field of the '105 patent. (Ex. 1002, ¶¶1-18; Ex. 1003.)

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

VIII. DETAILED EXPLANATION OF GROUNDS

As detailed below, each of the challenged claims are unpatentable. (Ex. 1002, ¶¶17-189.)

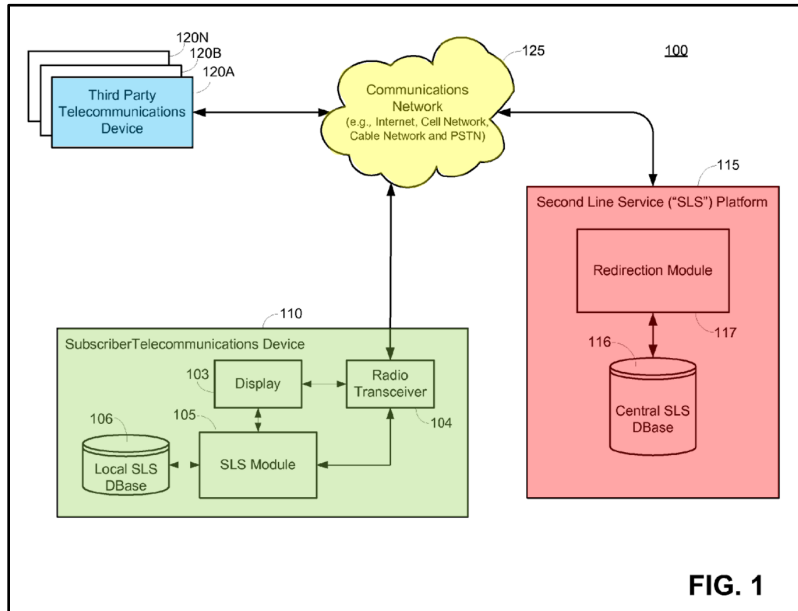
A. Ground 1: Backhaus in View of Logan Renders Claim 1 Obvious

1. Claim 1

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

To the extent limiting, Backhaus discloses these limitations. (Ex. 1002, ¶¶58-66.) Backhaus discloses 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]; Ex. 1002, ¶58.)

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



(Ex. 1005, FIG. 1 (annotated).) System 100 also includes a communication network 125 (in yellow), where calls directed from third party TD 120 (in blue) to subscriber TD 110 are transmitted via network 125. (Ex. 1005, [0032]; Ex. 1002, ¶59.)

Backhaus discloses subscriber TD 110 is associated with a primary phone number assigned to it by a service provider. (Ex. 1005, [0031].) TD 110 is also associated with a secondary phone number (or SLS number) provided by SLS platform 115. (*Id.*) A SLS subscriber “may receive calls at TD 110 that are directed to either of the primary...or the secondary phone number.” (*Id.*; Ex. 1002, ¶¶60-66.)

- 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, ¶¶67-72.) Backhaus discloses subscriber TD 110 is a “telephone handset.” Backhaus explains the terms “telecommunications device” (TD) and “wireless *handset*” “are used interchangeably.” (Ex. 1005, [0029]; *see also id.*, [0031]-[0033], [0050], [0081]; Ex. 1002, ¶67.)

Backhaus also discloses associating “a secondary telephone number and a primary telephone number with” TD 110. Backhaus explains a SLS subscriber may receive calls at TD 110 directed to the primary or the SLS number. (Ex. 1005, [0031].) Indeed, 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]). (Ex. 1005, [0060], [0075]; Ex. 1002, ¶68.)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 ’105 patent disclosing that a primary telephone number may be a number assigned to the handset at the time of activation (Ex. 1001, 5:2-4),

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. Backhaus discloses with reference to Figure 3A a SLS Master ID Table 305 that includes an association of the primary and SLS numbers with TD 110. (Ex. 1005, [0042].)

Backhaus discloses 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.)

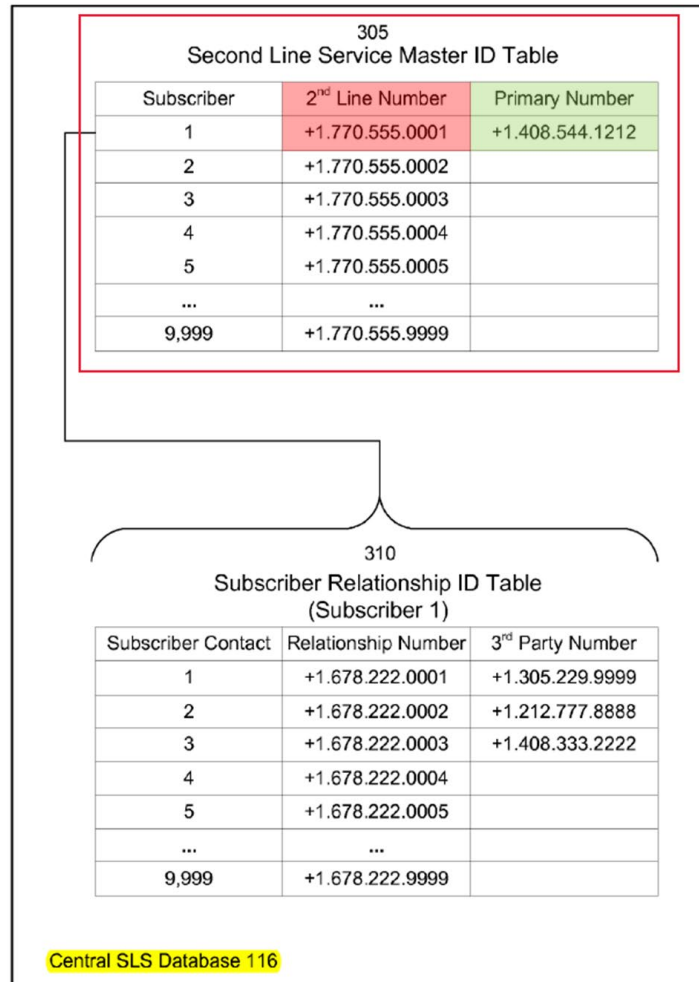


FIG. 3A

(Ex. 1005, FIG. 3A (annotated).) As indicated in Table 305, Subscriber #1, *e.g.*, the user of TD 110, is issued with SLS number 1.770.555.0001 (in red). (Ex. 1005, [0044].) The SLS number is associated with the primary number, 1.408.544.1212 (in green), which is assigned to TD 110. (*Id.*; Ex. 1002, ¶69.)

Moreover, Backhaus discloses Table 305 (which includes the “association of a secondary telephone number and a primary telephone number with a telephone handset,” discussed above) may be “automatically stor[ed]” in a central SLS

database 116 (“computer memory”), which is a part of SLS platform 115. (Ex. 1005, [0039]-[0040].) Backhaus discloses “Table 305...may be stored in a central SLS database 116.” (*Id.*, [0042]-[0043].) 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]; Ex. 1002, ¶70.)⁶

Additionally, Backhaus discloses the electronic information indicating the association of the primary and secondary numbers with TD 110 is stored “in a

⁶ The ’105 patent appears to contrast a process that is performed *automatically* with one performed *manually*. (Ex. 1001, 9:32-34, 9:49-54.) *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”). Backhaus and/or the combinations of prior art stemming from Backhaus likewise discloses and/or suggests the claimed “automatic[]” processes recited in limitations [1.b, 1.c, 1.e, 1.f, 2.a, 3.b, 8.d, 8.e] because each of the processes is performed by a server (limitations [1.b, 1.c, 1.e, 1.f]), a network (limitations [2.a, 3.b, 8.d]), and by a telecommunication device (limitation [8.e]).

computer memory associated with a server.” As explained in Backhaus, SLS database 116 (“computer memory”) is a part of the SLS server 205 (“server”). (Ex. 1005, [0039]-[0040]; Ex. 1002, ¶¶71-72.)

iii) [1.b] “automatically storing electronic information that indicates a selection of call processing rules for the primary telephone number in the computer memory;”

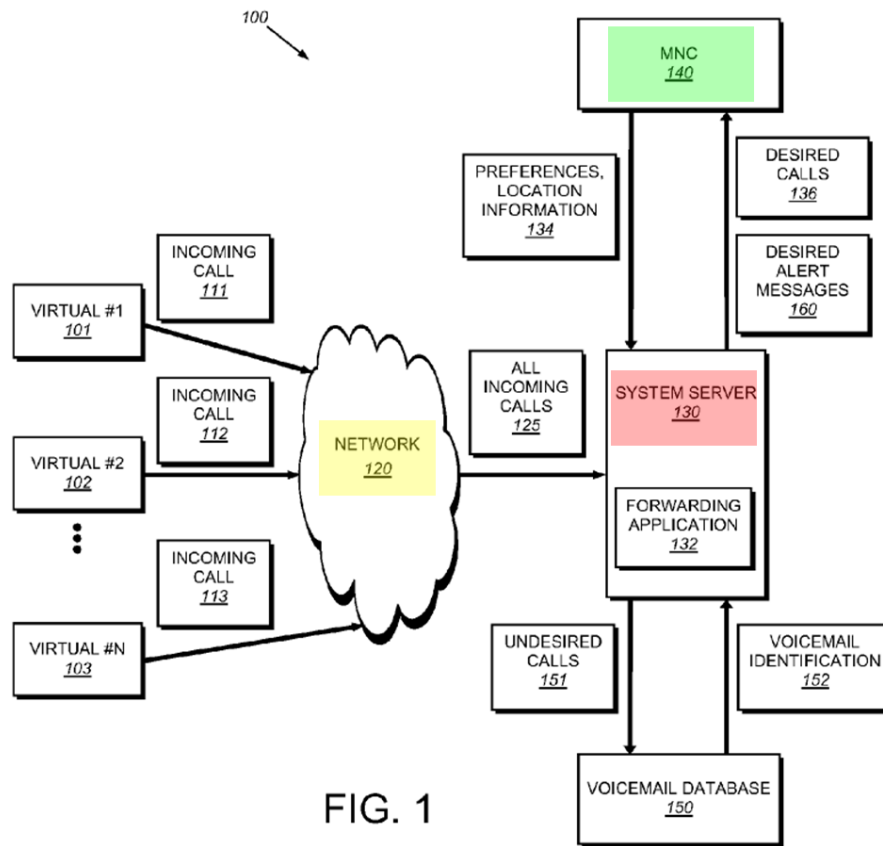
Backhaus in view of Logan discloses and/or suggests this limitation. (Ex. 1002, ¶¶73-85.) Backhaus discloses, when a subscriber elects not answering a call to the SLS number, TD 110 “use[s] a voicemail service or message service in response to the unanswered call” or provides “automated responses.” (Ex. 1005, [0035], [0068].) “[S]imilar features and services associated with the subscriber’s primary number” may be provided. (*Id.*, [0068].) Thus, Backhaus at least suggests features associated with voicemail/message services and automated responses are also available for calls directed to subscriber TD 110’s primary number. (Ex. 1002, ¶73.)

Such voicemail/message and automated response services for calls directed to the primary number correspond to “call processing rules for the primary telephone number” because these services process unanswered calls directed to the primary number by providing voicemail/message or automated responses. (Ex. 1002, ¶74.) The ’105 patent acknowledges call processing rules include “preset responses”, e.g., “custom stored voice message(s) and/or custom stored text

message(s).” (Ex. 1001, 5:31-45.) Accordingly, Backhaus at least suggests “call processing rules for the primary telephone number.” (Ex. 1002, ¶74.)

To the extent Backhaus does not disclose “automatically storing electronic information that indicates a selection of call processing rules for the primary telephone number in the computer memory,” a POSITA would have found it obvious in view of Logan. (Ex. 1002, ¶75.)

Like Backhaus, Logan provides telephone services through communication networks. (Ex. 1015, [0026].) As shown in FIG. 1, Logan discloses a server 130 (in red) that forwards calls received over network 120 (in yellow) to a user’s multi-number cellphone (MNC) 140 (in green)—“but only when that user is in the appropriate location, or meets other user-specified preferences”—otherwise, the calls are forwarded to a voicemail database. (*id.*, [0026]-[0027], FIG. 1) Thus, Logan is similar to Backhaus, which routes calls to a service platform/network, such that the service platform/network may provide services to which the subscriber subscribes.



(Ex. 1015, FIG. 1 (annotated).) Furthermore, similar to Backhaus, Logan discloses MNC 140 receives calls towards multiple numbers associated with the device (e.g., a base number and virtual numbers). (Ex. 1015, [0011], [0021].) Thus, a POSITA would have been motivated to consider Logan when implementing Backhaus. (Ex. 1002, ¶76.)

Logan additionally discloses “a user, via his [MNC] 140 can *enter a set of preferences* that are transmitted to the system server 130 via datastream 134” by using an Internet-based application to “notify the system server of which calls a user desires to receive” based on preferences, including user location, time of the

day, and/or caller identity for each of the base and virtual numbers associated with MNC 140. (Ex. 1015, [0029]; *see also id.*, [0005], [0011], [0046], [0055], claim

2.) A user may designate a number as a home or office number, and calls are routed by server 130 to the number when the phone is “located at the predetermined location, or it is the predetermined time of day.” (*Id.*, [0011].)

Otherwise, the call is routed to a voicemail associated with server 130. (*Id.*; *see also id.*, [0027]-[0028], [0039], [0043]; Ex. 1002, ¶¶77-78.)

Accordingly, because Logan discloses a user setting call processing preferences for each of the base number (“primary telephone number”) and the virtual number (“secondary telephone number”), Logan discloses making “a selection of call processing rules for the primary telephone number” recited in limitation [1.b]. (Ex. 1002, ¶79.)

Additionally, Logan discloses the user-entered “preferences notify the system server of which calls a user desires to receive” (Ex. 1015, [0029]), and the server “determines if the preferences set up by the called party indicate whether the call should be forwarded to the user” (*id.*, [0028]). Logan explains the “undesired phone calls are transmitted to a voicemail database 150,” which is associated with the server. (*Id.*, [0030], FIG. 1; *see also id.*, Abstract, [0011], [0039].) Thus, the user-entered preferences and associated configurations for each of the base and virtual numbers are at least temporarily stored at the server and/or at a database

accessible by the server for later retrievals and application. Such a process of storing the user-entered preferences and associated configurations is performed “automatically” because such a process would have been performed by server 130. Accordingly, Logan discloses “automatically storing electronic information that indicates a selection of call processing rules for the primary telephone number in the computer memory.”⁷ (Ex. 1002, ¶80.)

A POSITA would have been motivated to implement the server-based call processing rules features (including associated features, e.g., acquiring, storing, and application of the user-selected preferences/rules) similar to as discussed in Logan when implementing Backhaus’s system. A POSITA would have understood there would be common situations where TD 110 is unable to provide voicemail/preset responses to the unanswered call. Thus, it would have been beneficial to implement voicemail/preset response capabilities in a server associated with TD 110, i.e., SLS server 205/platform 115, as it would have allowed the server to provide voicemail/preset responses to unanswered calls even when TD 110 is unable to do so. To implement voicemail/preset response

⁷ For the same reason, Logan also discloses “automatically storing electronic information that indicates a selection of call processing rules for the secondary telephone number in the computer memory” (limitation [1.c]) discussed below.

capability in SLS server 205 as discussed above, a POSITA would have likewise been motivated to acquire the voicemail/preset responses and associated user-specified configurations from TD 110, and store the same in a database accessible to SLS server 205 (e.g., central SLS database 116) for responding to incoming calls when subscriber TD 110 is not available. (Ex. 1002, ¶81.)

A POSITA would have also found it beneficial to specify/select call forwarding/processing preferences for each of the numbers associated with a handset, similar to as disclosed in Logan when implementing Backhaus. Backhaus discloses providing multiple phone numbers (primary and SLS numbers) to a device, separating personal from business numbers. (Ex. 1005, [0003]-[0008]; Ex. 1006, 43, 59.) Logan's teaching would have allowed Backhaus's subscriber to better manage calls to the primary and SLS numbers by automatically processing these calls based on subscriber-specified preferences (e.g., location/time-based processing/forwarding features). (Ex. 1015, [0024].) Indeed, Logan explains these features are "highly desirable" for mobile phone users. (Ex. 1015, [0040], [0043].) Accordingly, a POSITA would have been motivated and found it beneficial to implement Logan's teaching, when implementing Backhaus's system, which would have included acquiring voicemail/preset responses and associated configurations specified/selected by the subscriber (e.g., call forwarding preferences based on time/location) from the subscriber TD 110 for calls directed

to each of the primary and SLS numbers, and storing the subscriber's selection in a database accessible to SLS server 205 for responding to incoming calls directed to either of the primary or SLS numbers when TD 110 is not available. (Ex. 1002, ¶82.)

A POSITA would have had the skill in implementing, and expectation of success in achieving, the above-discussed Backhaus-Logan combination. It was well known to implement voicemail/preset response and call forwarding capability on a server associated with a telecommunication device. (Ex. 1008, [0158]-[0159], [0164]; Ex. 1015, claim 1, [0030], [0025]-[0037].) Moreover, Backhaus discloses SLS platform 115 also provides services for the primary number, i.e., SLS platform 115 is not limited to providing the secondary line service. (Ex. 1005, [0031], [0038], [0050], [0071].) Thus, a POSITA would have understood calls directed to subscriber's primary number may be processed by SLS platform 115, e.g., for providing voicemail/preset responses and call forwarding features discussed above. (Ex. 1002, ¶83.)

The combination of Backhaus and Logan would have involved applications of known technologies (e.g., known use of a network server for executing call processing rules to forward calls) according to known methods (e.g., known techniques for obtaining user-specified call forwarding preferences from users' devices) to yield the predictable result of acquiring such information from a

handset digital information indicating primary and secondary call processing rules for handling calls to each of those numbers, automatically storing such information that indicates the user's selection of call processing rules for the primary/secondary telephone number in the computer memory, and applying the user-specified call processing rules. (Ex. 1002, ¶¶84-85.)

- iv) **[1.c] “automatically storing electronic information that indicates a selection of call processing rules for the secondary telephone number in the computer memory;”**

Backhaus in view of Logan discloses and/or suggests this limitation. (Ex. 1002, ¶¶86-89.)

Backhaus discloses “call processing rules for the secondary telephone number.” For example, as discussed in limitation [1.b], Backhaus discloses subscriber TD 110 “use[s] a voicemail service or message service in response to the unanswered call” to the SLS number and/or provides “automated responses.” (Ex. 1005, [0068]; *see also id.*, [0035]; Section VIII.A.1(iii) (limitation [1.b]); Ex. 1001, 5:31-59; Ex. 1002, ¶87.)

To the extent Backhaus does not disclose “automatically storing electronic information that indicates a selection of call processing rules for the secondary telephone number in the computer memory,” a POSITA would have found it obvious in view of Logan for similar reasons discussed in limitation [1.b]. (Section VIII.A.1(iii) (limitation [1.b]); Ex. 1002, ¶88.) For example, Logan

discloses acquiring from MNC 140 user-specified preferences regarding call forwarding/processing configurations via an Internet-based application for handling calls directed to each of the base number (“primary telephone number”) and virtual number (“secondary telephone number”). (*Id.*) A POSITA would have found it beneficial to implement server-based call processing rules features as it would have (1) provided user-specified voicemail/preset responses and call forwarding features when subscriber TD 110 is unable to provide these features to unanswered calls directed to the SLS number, e.g., when it is turned off or out of battery; (2) provided capabilities to specify call forwarding preferences for each of the numbers associated with TD 110, including the SLS number (“secondary telephone number”). Accordingly, a POSITA would have been motivated to implement Logan’s teachings, when implementing Backhaus’s system, which would have included acquiring user-specified voicemail/preset responses and configurations for call forwarding features from the TD 110 and automatically storing the user-specified voicemail/preset responses and configurations in a database accessible to SLS server 205 for handling incoming calls directed to the SLS numbers when subscriber TD 110 is not available. (Ex. 1002, ¶¶88-89.)

- v) **[1.d] “receiving an electronic indication of an incoming call to the secondary telephone number at the server, said electronic indication of an incoming call being received from a switch associated with the server;”**

Backhaus discloses this limitation. (Ex. 1002, ¶¶90-95.) Backhaus discloses “receiving an electronic indication of an incoming call to the secondary telephone number at the server.” For example, Backhaus discloses calls from third party TD 120 to subscriber TD 110’s SLS number (“secondary telephone number”) are first routed by network 125 to SLS platform 115, and then routed to TD 110. (Ex. 1005, [0032], [0034]-[0035].) Backhaus discloses SLS platform 115 includes “an SLS server 205 configured to receive calls directed to and from a second line number associated with subscriber TD 110.” (*Id.*, [0039].) A POSITA would have understood that when SLS server 205/platform 115 receives an incoming call to the SLS number, it receives an electronic signal (“electronic indication”) of such a call because components in telecommunication networks “must indicate (that is, signal) certain information to each other to coordinate themselves for providing services.” (Ex. 1011, 5-6.) Moreover, SLS platform 115 is able to use the *called SLS number* (along with the calling third party’s number) to identify a relationship number, which further supports that SLS platform 115 receives an electronic indication of “an incoming call to the secondary telephone number.” (Ex. 1005,

[0067]; *see also id.*, [0034] (network 125 “recognizes where the call needs to be routed *based on the called [SLS] number*”); Ex. 1002, ¶90.)

Additionally, Backhaus discloses “said electronic indication of an incoming call being received from a switch associated with the server.” First, Backhaus discloses a “switch,” e.g., a local switch in network 125. Backhaus explains network 125 “envision[s] *any and all* networks for transmitting and terminating communications between telecommunications devices such as...cellular networks, PSTNs, cable networks and the Internet.” (Ex. 1005, [0032], FIG. 1.) Network 125 may use, e.g., signaling system seven (SS7) for “effecting the transmission of data across communications network 125..., including call setups, terminations and the like....” (*Id.*) A POSITA would have understood the disclosed PSTN has been known to operate using the SS7 protocol. (*Id.*, claim 10; Ex. 1011, 5-6, 43 (SS7 is “the key enabler of the [PSTN]”), 103-105 (discussing the use of SS7 protocol in the PSTN since the 1990s); Ex. 1002, ¶91.)

Network 125 necessarily includes the claimed “switch,” e.g., the signal switching points (SSPs, known as “switches” or “exchanges”) included in the disclosed PSTN. (Ex. 1002, ¶92.) A POSITA would have understood 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]; Ex. 1002, ¶92.). PO acknowledges a SSP corresponds to

the claimed “switch” (Ex. 1009, 107 (stating the SSP disclosed in a prior art reference is “consistent with...that a POSITA would be familiar with the concept of a switch.”); *see also* Ex. 1009, 19-23.) (Ex. 1002, ¶¶19-26, 92.)

A POSITA would have also understood that calls are established/routed through the PSTN by SSPs in network 125, including the use of a local SSP. A local SSP is a switch connecting to a telecommunication device or server so as to allow the device/server to access the PSTN. (Ex. 1011, 6-7, 82 (disclosing that a local exchange/switch “provides network access for the subscriber”).) For example, consistent with a POSITA’s knowledge, Ex. 1007 shows a local switch that communicates with a server 50. (Ex. 1007, [0004], FIG. 1A; Ex. 1002, ¶93.)

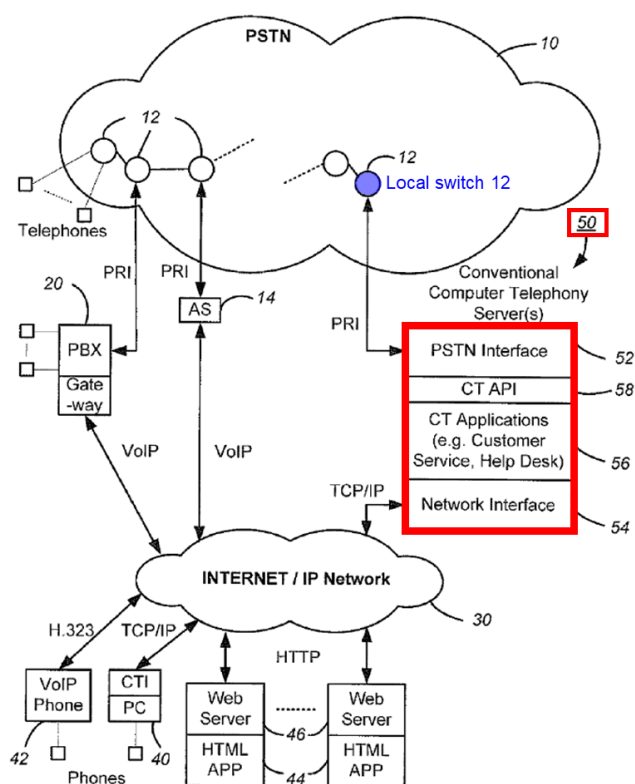


FIG. 1A (Prior Art)

(Ex. 1007, FIG. 1A (annotated).) Accordingly, Backhaus discloses a local switch in network 125 (“switch”). (Ex. 1002, ¶93.)

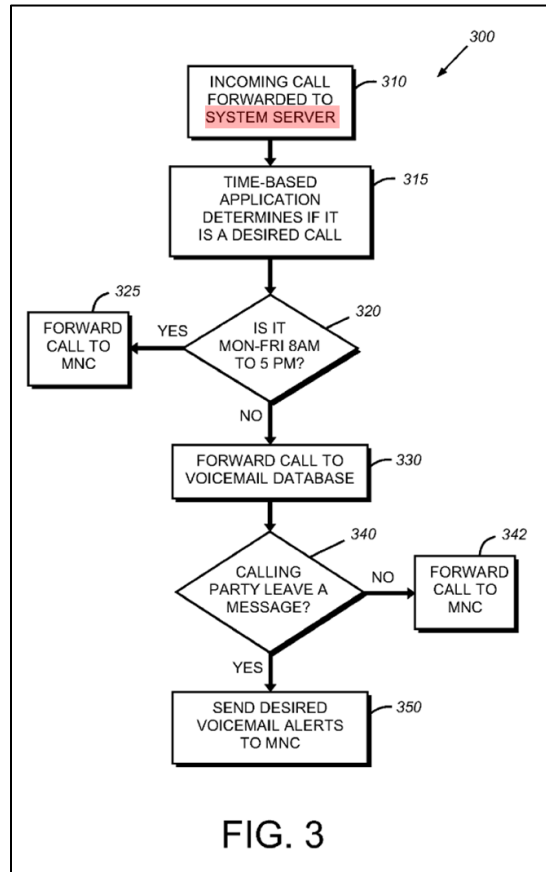
Given the incoming call to the SLS number is routed *by network 125* to SLS platform 115, the switch necessarily receives the incoming call directed to the SLS number before routing the same to SLS server 205/platform 115. (*Supra*; Ex. 1002, ¶94.) Thus, Backhaus discloses that the incoming call that SLS server 205/platform 115 receives is received from the local switch in network 125 (“said electronic indication of an incoming call being received from a switch”). Moreover, the network 125’s switch is associated with SLS platform 115/server

205 (“server”) because network 125 (including the local switch) is in communication with SLS server 205/platform 115. (Ex. 1005, [0034]-[0035] (a call directed to TD 110’s SLS number is routed by network 125 to SLS platform 115), [0039]-[0040]; Ex. 1002, ¶¶94-95.)⁸

- vi) **[1.e] “automatically accessing the call processing rules for the secondary telephone number under the control of the server responsive to the receipt of the electronic indication of the incoming call to the secondary telephone number;”**

Backhaus in view of Logan discloses and/or suggests this limitation. (Ex. 1002, ¶¶96-98.) For example, Logan discloses in Figure 3 processes for executing a user’s time-based call forwarding preference, “allow[ing] a person working from home to maintain distinct operations for home and business, using,” e.g., “a single phone while maintaining separate phone numbers for personal, home-related matters and another for business matters,” where the person “only desires to receive business-related phone calls from, for example, 8 am to 5 pm, Monday through Friday.” (Ex. 1015, [0042]-[0043].)

⁸ PO apparently asserts “a switch [is] associated with” another component if information is transmitted between the switch and the component. (Ex. 1010, 7.)



(Ex. 1015, FIG. 3.) Logan discloses that, in step 310, the server receives an incoming call to user’s business number (different from user’s home number), where either of the business or the home number corresponds to the claimed “secondary telephone number.” (*Id.*, [0043]-[0044].) At steps 315-320, the server determines whether the call directed to the business number is a desired call based on the user-specified preference. (*Id.*, [0044].) At steps 325-330, if it is during the designated time period to receive a business call, the server forwards the call to the MNC; if not, then the call is forwarded to a voicemail database. (*Id.*; Ex. 1002, ¶96.)

Because the server receives the incoming call to a “secondary telephone number” and then determines how to route the call based on user’s preference for that number, Logan discloses “automatically accessing the call processing rules for the secondary telephone number under the control of the server responsive to the receipt of the electronic indication of the incoming call to the secondary telephone number.” (Ex. 1002, ¶97; Ex. 1015, [0028].)

As discussed in limitations [1.b]-[1.c], it would have been beneficial to implement voicemail/preset response capabilities in a server that is associated with subscriber TD 110, i.e., SLS server 205/platform 115, which involves acquiring user-specified voicemail/preset responses and associated configurations for each of the primary number and the SLS number (“secondary telephone number”) from TD 110 and automatically storing the same in a database accessible to SLS server 205/platform 115 (e.g., central SLS database 116) for responding to incoming calls directed to either of the primary or SLS numbers. (Sections VIII.A.1(iii)-(iv) (limitations [1.b]-[1.c]).) For reasons similar to those discussed in limitations [1.b]-[1.c], a POSITA would have been motivated and found it beneficial to implement Logan’s teaching (as discussed above) in Backhaus, such that it allows SLS server 205/platform 115 to automatically access the user-specified preference for the SLS number from central SLS database 116 (“automatically accessing call processing rules for the secondary telephone number under the control of the

server”) in response to a call directed to the SLS number (“responsive to the receipt of the electronic indication of the incoming call to the secondary telephone number”). (Ex. 1002, ¶98.)

vii) [1.f] “automatically handing [sic] the incoming call in accordance with the accessed call processing rules for the secondary telephone number;”

The Backhaus-Logan combination discloses and/or suggests this limitation. (Ex. 1002, ¶¶99-100.)⁹ As discussed in limitations [1.b]-[1.c], Logan discloses server 130 forwards calls to a user’s MNC 140—“but only when that user is in the appropriate location, or meets other user-specified preferences”—otherwise, the calls may be forwarded to a voicemail database. (Sections VIII.A.1(iii)-(iv) (limitations [1.b]-[1.c]); Ex. 1015, [0011], [0026]-[0030], [0039], [0043].) Logan explains these call forwarding preferences may be specified and executed for each of the base number (“primary telephone number”) and virtual number (“secondary

⁹ Regarding the apparent error in the language of limitation [1.f], Petitioner assumes it reads “automatically hand[l]ing the incoming call...,” consistent with the specification. (Ex. 1001, 2:5 (“automatically handling the incoming call...”)). *See Google LLC v. Uniloc 2017 LLC*, IPR2020-00441, Paper 30 at 22-24 (P.T.A.B. July 8, 2021) (discussing how the Board corrects obvious errors in claim language).

telephone number”). (Sections VIII.A.1(iii)-(iv) (limitations [1.b]-[1.c]); Ex. 1015, [0011].) As discussed in limitation [1.e], in steps 315-320, the server determines whether the call directed to the business number is a desired call *based on the user’s time-based preference*; and at steps 325 and 330, if it is during the preferred period to receive a business call, the server forwards the call to the MNC; if not, then the call is forwarded to a voicemail database. (Section VIII.A.1(vi) (limitation [1.e]; Ex. 1015, [0044].) Given Logan discloses that its server automatically handles the incoming call by forwarding the same to MNC 140 or to the voicemail according to user-specified preferences for each of the base number (“primary telephone number”) and virtual number (“secondary telephone number”), Logan discloses “automatically handing [sic] the incoming call in accordance with the accessed call processing rules for the secondary telephone number.” (Ex. 1002, ¶99.)

Also discussed in limitations [1.b]-[1.c], a POSITA would have been motivated to combine Backhaus and Logan. (Sections VIII.A.1(iii)-(iv) (limitations [1.b]-[1.c]).) A POSITA would have likewise been motivated to implement Logan’s teaching in Backhaus to allow SLS server 205/platform 115 to automatically handle the incoming call directed to the SLS number according to the user-specified preference for the SLS number accessed from central SLS database 116. (Ex. 1002, ¶100; Sections VIII.A.1(vi) (limitation [1.e].)

- viii) [1.g] **“transmitting pre-call information via a data channel to the handset under the control of the server, said pre-call information including a bridge telephone number for connecting the handset to the incoming call at the switch; and”**

Backhaus discloses and/or suggests this limitation. (Ex. 1002, ¶¶101-111.)

Backhaus discloses “transmitting pre-call information via a data channel to the handset under the control of the server, said pre-call information including a bridge telephone number.” Backhaus discloses this limitation in **a first way**. Backhaus discloses SLS module 105 of 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.) “[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], [0057].) Thus, the relationship number in Backhaus discloses the claimed “bridge telephone number.” (Ex. 1002, ¶¶101-102.)

Moreover, Backhaus discloses a relationship number (“bridge telephone number”) may be assigned when third party TD 120A calls subscriber’s SLS number *for the first time*. When SLS platform 115 accepts the call and determines 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 [associated with its primary number] will use [a] dialable [relationship number].”

(Ex. 1005, [0053]; *see also id.*, [0053]-[0054]; Ex. 1002, ¶103.)

The relationship number (“bridge telephone number”) is then stored in central SLS database 116 of SLS platform 115 as shown in Subscriber Relationship ID Table 310 of FIG. 3A. (Ex. 1005, [0042], [0053]-[0054], FIG. 3A; Ex. 1002, ¶104.)

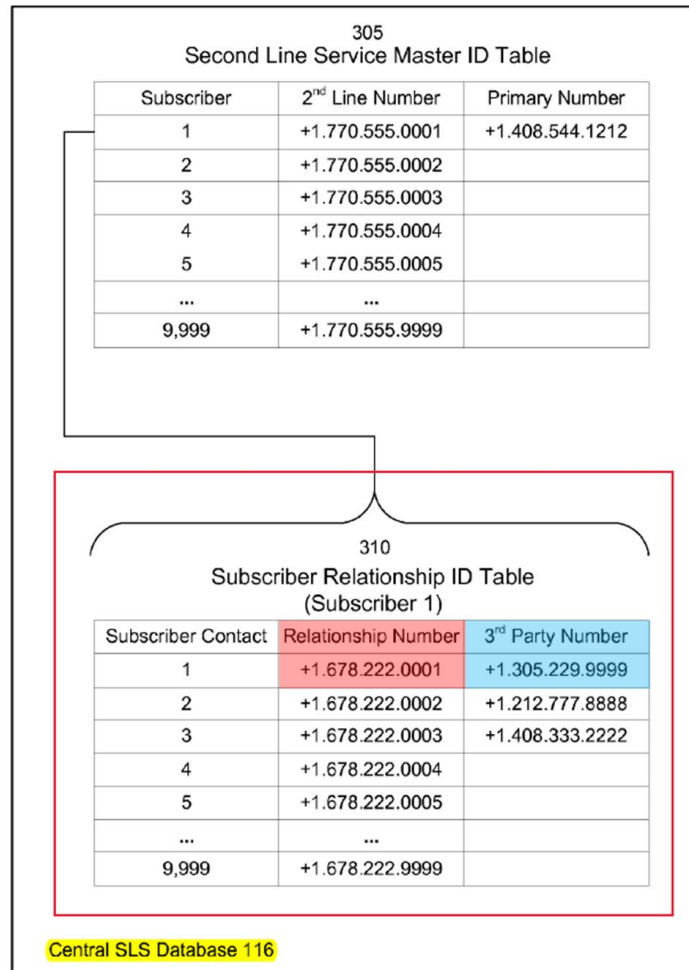


FIG. 3A

(Ex. 1005, FIG. 3A (annotated).)

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 the “**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 [of TD 110],” “contain[ing] 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], [0064].) A POSITA would have understood the encoded message corresponds to the claimed “pre-call information” because it is transmitted before connecting the voice call between the calling and called parties. (Ex. 1005, [0055]-[0056].) Given it is SLS platform 115 that places the call, which contains the “pre-call information,” Backhaus discloses that such information is transmitted “under the control of the server,” i.e., SLS platform 115/server 205. (Ex. 1005, [0039]-[0040], FIG. 2; Ex. 1002, ¶105.)

A POSITA would have understood the encoded message (“pre-call information”) is transmitted via a “data channel” because Backhaus discloses that a voice path is not connected until the call is answered by the callee. (Ex. 1002, ¶106; Ex. 1005, [0052], [0056].)

To the extent that Backhaus does not disclose that the disclosed “pre-call information” is transmitted “via a data channel,” a POSITA would have been motivated to implement this feature in Backhaus. Backhaus discloses that IP-based communications may be used for establishing the relationship between various numbers and associated databases (as described above). (Ex. 1005, [0073].) Additionally, Backhaus explains that the IP-based communication “minimize[s]

temporal delays in allocating and acquiring relationship numbers between an SLS module 105 and an SLS platform 115.” (*Id.*) Thus, a POSITA would have found it beneficial to implement this feature. A POSITA would have had the skill in implementing, and expectation of success in achieving, the above implementation as Backhaus already use IP-based communications for transmitting data between TD 110 and SLS platform 115. (Ex. 1005, claim 15, [0029], [0032], [0073].) An IP-based communication corresponds to the claimed “data channel” and consistent with the “data channel” described in the ’105 patent. (Ex. 1001, 4:6-12, 4:38-46.) Thus, Backhaus discloses and/or suggests using a “data channel” for transmitting the disclosed “pre-call information.” (Ex. 1002, ¶107.)

Backhaus discloses the-above-quoted limitation **in a second way**. (Ex. 1002, ¶108.) 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 desires to call a third party but “no relationship number has been associated with the...third party number,” the SLS module 105 on 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 returns the next available relationship number to TD 110. (*Id.*, [0074].) A POSITA would have understood the transmitted information, including the

relationship number, corresponds to the claimed “pre-call information” because it is transmitted before a call is connected between a third party and the subscriber (e.g., before a call is connected when the third party calls the subscriber, described in association with Figure 4B). (Ex. 1005, [0071], [0074]; *see also id.*, [0067]-[0068].) Because SLS platform 115 determines the relationship number and/or provides it to subscriber TD 110, Backhaus discloses the “pre-call information” is transmitted “under the control of the server,” i.e., SLS platform 115/server 205. (Ex. 1005, [0039]-[0040], FIG. 2, [0071]-[0074]; Ex. 1002, ¶108.)

Backhaus discloses TD 110 may communicate with SLS platform 115 using various protocols/mechanisms, including, e.g., IP-based interaction, cellular data, and WiFi. (*Id.*, [0072]-[0073].) “Such channels can be used in setting up the relationship databases, sharing information between the SLS module 105 [of subscriber TD 110] 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.” (*Id.*) These communication protocols/mechanisms/channels correspond to the claimed “data channel,” and are consistent with the “data channel” described in the ’105 patent. (Ex. 1002, ¶109; Ex. 1001, 4:6-12, 4:38-46.)

Additionally, Backhaus discloses using the relationship number (“bridge telephone number”) “for connecting the handset to the incoming call at the

switch.” When a known third party calls subscriber’s SLS number, SLS platform 115 “queries the central SLS database 116 for the relationship number that maps to the combination of the third party CLID and subscriber’s SLS number” and “the subscriber’s primary number.” (Ex. 1005, [0067].) SLS platform 115 then calls subscriber’s TD 110 *using the relationship number* for connecting the incoming call. (*Id.*; *see also id.*, [0052]-[0055].) Next, “the subscriber is alerted to the incoming call,” which is then “connected to the subscriber TD 110 by the SLS platform 115 when the subscriber answers the call” although the subscriber may “elect[] not to answer” it. (Ex. 1005, [0068].) As discussed in limitation [1.d], because the incoming call to the SLS number is routed by network 125 to SLS platform 115, the switch (i.e., the local switch in network 125) necessarily connects TD 110 to the incoming call. (Section VIII.A.1(v) (limitation [1.d]); Ex. 1002, ¶¶110-111.)

- ix) **[1.h] “receiving, at the server via the data channel, an electronic indication of a selection of a call processing rule for handling the incoming call to the secondary telephone number, or”**

Backhaus in view of Logan discloses and/or suggests this limitation. (Ex. 1002, ¶¶112-119.)

First, limitation [1.h] could be understood as a process for the server to receive a user’s selection of a call processing rule, which is stored in the computer memory, consistent with as recited in limitation [1.c] (“automatically storing

electronic information that indicates a selection of call processing rules for the secondary telephone number in the computer memory”). The Backhaus-Logan combination discloses and/or suggests limitation [1.h] in this first read. As explained in limitation [1.b], Logan discloses “a user, via his [MNC] 140 can enter a set of preferences that are transmitted to the system server 130 via datastream 134” using an Internet-based application to “*notify the system server* of which calls a user desires to receive” based on user-specified preferences for each of the base number (“primary telephone number”) and the virtual number (“secondary telephone number”). (Section VIII.A.1(iii) (limitation [1.b]); Ex. 1015, [0011], [0029], [0046], [0055], claim 2.) Logan thus discloses this limitation because it discloses server 130 acquires from MNC 140 user-specified call processing/forwarding preferences/configurations via the Internet (“the data channel”) for handling calls directed to the virtual number (“secondary telephone number”). (Ex. 1002, ¶¶112-113.)

Backhaus likewise discloses the capability of “receiving” information provided by the handset “at the server via the data channel.” As discussed in limitation [1.g.], subscriber TD 110 requests for the new relationship number by communicating with SLS platform 115 via, e.g., IP-based interaction (“the data channel”). (Section VIII.A(viii) (limitation [1.g]); Ex. 1005, [0071]-[0074]; Ex. 1002, ¶114.)

As explained in limitations [1.b]-[1.c], it would have been beneficial to implement Logan's teaching in Backhaus's system, e.g., implementing voicemail/preset response capabilities in a server that is associated with TD 110 of Backhaus, i.e., SLS server 205/platform 115, which would have involved acquiring/receiving user-specified voicemail/preset responses and associated configurations for calls directed to the primary number and the SLS number ("secondary telephone number") from the TD 110 via IP-based interaction ("the data channel"). (Sections VIII.A.1(iii)-(iv) (limitations [1.b]-[1.c]).) Accordingly, the Backhaus-Logan combination discloses and/or suggests limitation [1.h] in the first read. (Ex. 1002, ¶115.)

Second, limitation [1.h] could be read as a process for the server to receive a user's selection of a call processing rule for handling a *pending* incoming call, i.e., an incoming call reaching the user's handset and awaiting the user's selection on how to handle the call. The Backhaus-Logan combination discloses and/or suggests limitation [1.h] in this second read. (Ex. 1002, ¶116.)

Logan discloses call processing rule features may apply to a user group, which shares a virtual number, and calls to which are forward to the group member(s) only when member(s), e.g., are in the user-specified location and/or only during certain time. (Ex. 1015, [0061]; *see also id.*, [0062]-[0068].) Additionally, a group member may handoff incoming calls without answering the

phone by activating on the handset a command that is then “communicat[ed] to the server.” (Ex. 1015, [0069].) If the call is not forwarded and/or declined, the caller is sent to the voicemail. (*Id.*, [0068]; Ex. 1002, ¶¶117-118.)

Because a group member may select to forward/decline a pending incoming call directed to a virtual number (“a selection of a call processing rule for handling the incoming call to the secondary telephone number”) and such selection is received by the server, Logan discloses “receiving, at the server..., an electronic indication of a selection of a call processing rule for handling the incoming call to the secondary telephone number.” Moreover, as discussed above, Logan’s MNC communicates with the server via an Internet-based application (“via the data channel”). Accordingly, the Backhaus-Logan combination discloses and/or suggests limitation [1.h] in the second read. (Ex. 1002, ¶119.)

- x) **[1.i] “establishing a voice channel connection between the handset and the switch as a result of the handset calling the switch using the bridge telephone number.”**

Claim 1 requires one of limitation [1.h] or limitation [1.i]. As discussed above, the Backhaus-Logan combination discloses and/or suggests limitations [1.pre]-[1.h]. Accordingly, the Backhaus-Logan combination discloses and/or suggests claim 1. (Ex. 1002, ¶120.) Petitioner does not concede limitation [1.i] is not met by the Backhaus-Logan combination.

B. Ground 2: Backhaus in view of Winbladh Renders Claims 2-4 and 6-11 Obvious

1. Claim 2

- i) [2.pre] **“A method for providing telephone service to a telephone handset having a primary telephone number assigned to the telephone handset, wherein at least a secondary telephone number is associated with the primary telephone number assigned to the telephone handset, the method comprising:”**

To the extent the claim 2 preamble is limiting, Backhaus discloses the limitations therein. (Ex. 1002, ¶¶121-123.) As discussed in limitations [1.pre]-[1.a], Backhaus discloses providing telephone services to TD 110 (“telephone handset”). (Sections VIII.A.1(i)-(ii) (limitations [1.pre]-[1.a]).) As also discussed therein, Backhaus discloses TD 110 has a primary phone number assigned to it. (*Id.*; Ex. 1005, [0031]; Ex. 1002, ¶121.)

Additionally, Backhaus discloses an SLS number (“secondary telephone number”) is associated with the primary number of TD 110. Consistent with as shown in Table 305 of Figure 3A, Backhaus discloses the primary number “assigned to the subscriber TD 110...is associated with...[the subscriber’s] SLS number.” (Ex. 1005, [0044], FIG. 3A, [0050], [0060]; Ex. 1002, ¶122.)

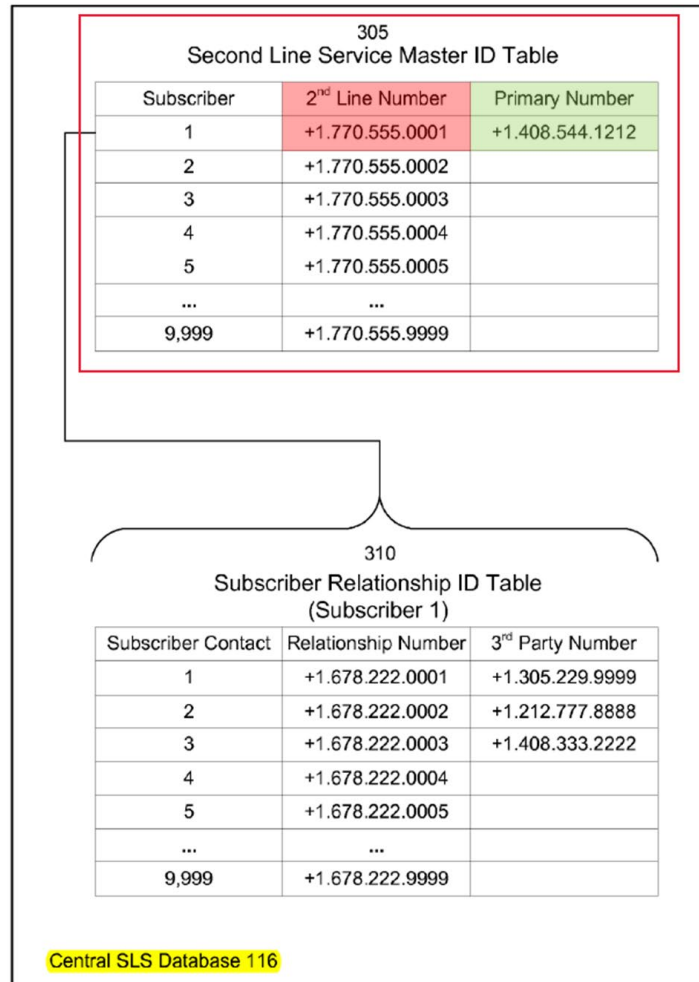


FIG. 3A

(Ex. 1005, FIG. 3A (annotated).) As indicated in Table 305, Subscriber #1, *e.g.*, the user of TD 110 (“handset”), is issued with SLS number 1.770.555.0001 (highlighted in red) and the SLS number is associated with the primary number, 1.408.544.1212 (highlighted in green). (Ex. 1005, [0044]; Ex. 1002, ¶¶122-123.)

- ii) **[2.a] “A) in response to an incoming call to the secondary telephone number received by a switch, retrieving, by a server from a database, a first bridge telephone number to be used for completion of the incoming call to the secondary telephone number, wherein the first bridge telephone number is associated with the switch such that calls to the first bridge telephone number are automatically routed to the switch; and”**

Backhaus discloses this limitation. (Ex. 1002, ¶¶124-132.)

First, Backhaus discloses “an incoming call to the secondary telephone number received by a switch.” As discussed in limitation [1.d], Backhaus discloses a local switch in network 125 (“switch”) necessarily receives an incoming call directed to the SLS number (“incoming call to the secondary telephone number”) before routing the same to SLS server 205/platform 115 (because it is routed by network 125 to SLS platform 115). (Section VIII.A.1(v) (limitation [1.d]); Ex. 1002, ¶125.)

Second, Backhaus discloses “in response to” the above-discussed incoming call, “retrieving, by a server from a database, a first bridge telephone number.” As discussed in limitation [1.d], network 125’s local switch receives incoming calls from a third party directed to the SLS number before routing the same to SLS server 205/platform 115. (Section VIII.A.1(v) (limitation [1.d]).) Moreover, as discussed in limitation [1.g], in response to the incoming call to the SLS number, if it is the first time the third party calls the SLS number (e.g., an

unknown/unrecognized third party caller), the SLS platform 115 assigns the next available relationship number (“first bridge telephone number”) and creates a relationship in Table 310 indicating the association of the third party number and the SLS number with the relationship number and the primary number. (Section VIII.A.1(viii) (limitation [1.g]); Ex. 1005, [0053]-[0055], [0064]-[0066]; Ex. 1002, ¶126.)

Backhaus explains that a new relationship number is determined by querying central SLS database 116. (Ex. 1005, [0071].) Because SLS platform 115 queries central SLS database 116 to determine the next available relationship number in response to an incoming call (e.g., from an unknown/unrecognized third party caller) to the SLS number received by the local switch in network 125, Backhaus discloses “in response to an incoming call to the secondary telephone number received by a switch, retrieving, by a server from a database, a first bridge telephone number.” (Ex. 1002, ¶127.)

Backhaus also discloses this limitation in a different scenario, i.e., when a *known/recognized* third party calls the SLS number. As discussed in limitation [1.g], when a known third party calls the SLS number (where the call is received by the local switch and forwarded to SLS platform 115, as discussed above), SLS platform 115 “queries the central SLS database 116 for the relationship

number....” (Ex. 1005, [0067]; Section VIII.A.1(viii) (limitation [1.g]); Ex. 1002, ¶128.)

Third, Backhaus discloses the relationship number (“first bridge telephone number”) is “to be used for completion of the incoming call to the secondary telephone number.” (Ex. 1002, ¶129.) As discussed above and in limitation [1.g], when third party TD 120A calls subscriber’s SLS number for the first time, SLS platform 115 processes the call and assigns a relationship number. (Ex. 1005, [0052]-[0054]; Section VIII.A.1(viii) (limitation [1.g]).) The SLS platform 115 then proceeds “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]), where the calling party field of the call may “contain the *relationship number*...and the actual primary number of the calling third party.” (*Id.*, [0055]; *see also id.*, [0010].) SLS module 105 of TD 110 then stores these numbers in local SLS database 106. (*Id.*, [0056].) “Once the subscriber #1 answers, the SLS platform 115 connects the two legs of the call (leg 1 represented by third party TD 120A to SLS platform 115 and leg 2 represented by SLS platform 115 to subscriber TD 110).” (*Id.*, [0056]; *see also id.*, [0064]-[0066] (disclosing a similar process in the context of Figure 4A).) Because SLS platform 115 uses the relationship number (“first bridge telephone number”) in the process of completing an incoming call to the SLS number of TD

110 (“secondary telephone number”), e.g., including in the calling party field and storing it in local SLS database 106, Backhaus discloses “a first bridge telephone number to be used for completion of the incoming call to the secondary telephone number.” (Ex. 1002, ¶129.)

Backhaus likewise discloses this limitation in a scenario where a *known/recognized* third party calls subscriber TD 110’s SLS number. As discussed in limitation [1.g], when a known third party calls subscriber’s SLS number, SLS platform 115 “queries the central SLS database 116 for the relationship number....” (Ex. 1005, [0067].) SLS platform 115 then calls subscriber’s TD 110 using the relationship number, where “SLS module 105 [of subscriber’s TD 110] may recognize that call originating from a relationship number” and “the relationship number in the calling party field of the call signaling causes the SLS module 105 [of TD 110] to handle the call.” (*Id.*; Ex. 1002, ¶130.)

Lastly, Backhaus discloses that “wherein the first bridge telephone number is associated with the switch such that calls to the first bridge telephone number are automatically routed to the switch.” Backhaus discloses that TD 110 “uses a relationship number to access the SLS platform 115 *over the telephone network 125*.” (Ex. 1005, [0049]; *see also id.*, [0032], [0059]-[0061].) Consistent with as discussed in limitation [1.d], a POSITA would have understood network 125’s local switch (“switch”) necessarily and automatically receives calls directed to a

relationship number (“first bridge telephone number”) before routing the same to SLS platform 115. (Section VIII.A.1(v) (limitation [1.d]); Ex. 1002, ¶¶131-132.)

- iii) [2.b] **“B) transmitting, from the server to the telephone handset via at least one data channel, pre-call information including the first bridge telephone number, whereby the pre-call information allows the telephone handset to accept the incoming call to the secondary telephone number by making a first bridge call using the first bridge telephone number to connect the incoming call to the telephone handset via the switch.”**

Backhaus in view of Winbladh discloses and/or suggests this limitation.

(Ex. 1002, ¶¶133-146.)

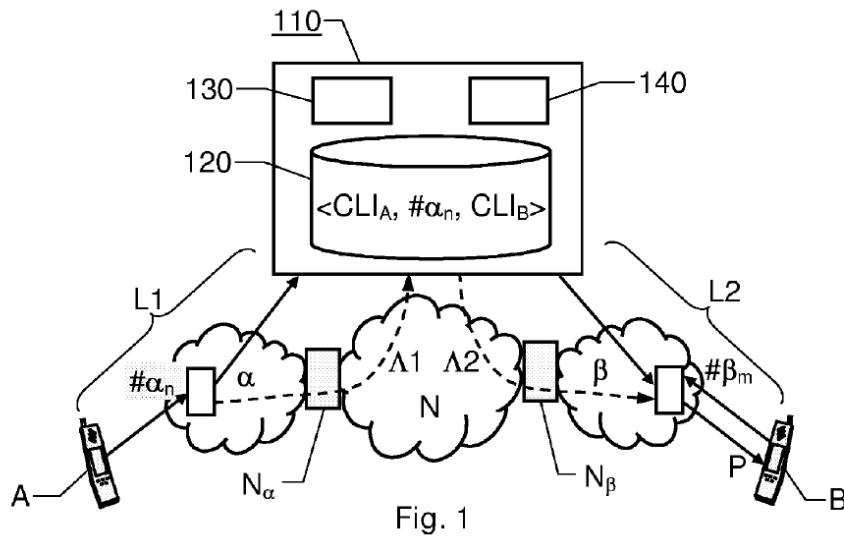
First, Backhaus discloses and/or suggests “transmitting, from the server to the telephone handset via at least one data channel, pre-call information including the first bridge telephone number” in two ways for reasons discussed in limitation [1.g]. (Section VIII.A.1(viii) (limitation [1.g]); *see also, e.g.*, Ex. 1005, [0054]-[0055] (SLS platform 115 transmitting encoded message containing the relationship number to TD 110 via a data channel), [0071]-[0074] (SLS platform transmitting requested relationship number to TD 110 via a data channel); Ex. 1002, ¶¶134-135.)

Second, Backhaus in view of Winbladh discloses and/or suggests “whereby the pre-call information allows the telephone handset to accept the incoming call to the secondary telephone number by making a first bridge call using the first bridge

telephone number to connect the incoming call to the telephone handset via the switch.” As discussed in limitation [1.g], Backhaus discloses that, when third party TD 120A calls subscriber’s SLS number for the first time, SLS platform 115 assigns a relationship number and establishes the second half of the call, where the calling party field “contain[s] the relationship number.” (Section VIII.A.1(viii) (limitation [1.g]; Ex. 1005, [0052]-[0056], [0064]-[0066].) To the extent Backhaus does not disclose “the pre-call information allows the telephone handset to accept the incoming call to the secondary telephone number *by making a first bridge call* using the first bridge telephone number to connect the incoming call to the telephone handset via the switch,” a POSITA would have found these features obvious in view of Winbladh. (Ex. 1002, ¶¶136-138.)

Like Backhaus, Winbladh discloses establishing a telephone connection between terminals A and B. (Ex. 1020, [0028], [0031]-[0032].) As shown in Figure 1, Winbladh discloses a system that “establish[es] a telephone connection between a first terminal A and a second terminal B,” where terminals A and/or B maybe a wireless phone operating on networks α and β . (*Id.*, [0028], [0035], FIG. 1.) The system includes a host resource 110 that routes a call from terminal A to terminal B based on a combination of caller identity and “a first common telephone number $\# \alpha_n$ ” (*id.*, [0029], [0037]-[0051]) and sets up a bi-directional primary connection between the terminals via the first and second legs L1 and L2 (*id.*,

[0031]-[0032]). “[H]ost resource 110 is associated with a database 120, which stores the terminals’ network identities and associated numbers. (*Id.*, [0030], [0036].)



(Ex. 1020, FIG. 1.) Thus, Winbladh is similar to Backhaus, which discloses routing calls between two terminals by establishing two legs of connections via a server associated with a database. Therefore, a POSITA would have been motivated to consider the teachings of Winbladh when implementing Backhaus’s system/method. (Ex. 1002, ¶139.)

Winbladh additionally discloses, after connecting terminals A and B, host resource 110 receives a termination request from terminal B, and, in response, disconnects the second leg L2. (Ex. 1020, [0033], [0052]-[0054].) During a threshold period after the disconnection, host resource 110 maintains the first leg L1, *i.e.*, places the first terminal A on-hold. (*Id.*, [0033].) “If a **return call to a**

predefined telephone number is received from the second terminal B before expiry of the threshold period,” host resource 110 establishes a bi-directional secondary connection between the terminals. (*Id.*, [0033]-[0034]; Ex. 1002, ¶140.)

This feature is further discussed in Figure 4. Once a bi-directional primary connection (L1 and L2) has been set up between terminals A and B, terminal B “disconnect[s] the second leg L2, reconnect[s] to the host resource 110 at a local-call rate, and reestablish[es] the connection with the terminal A.” (Ex. 1020, [0056]-[0062].)

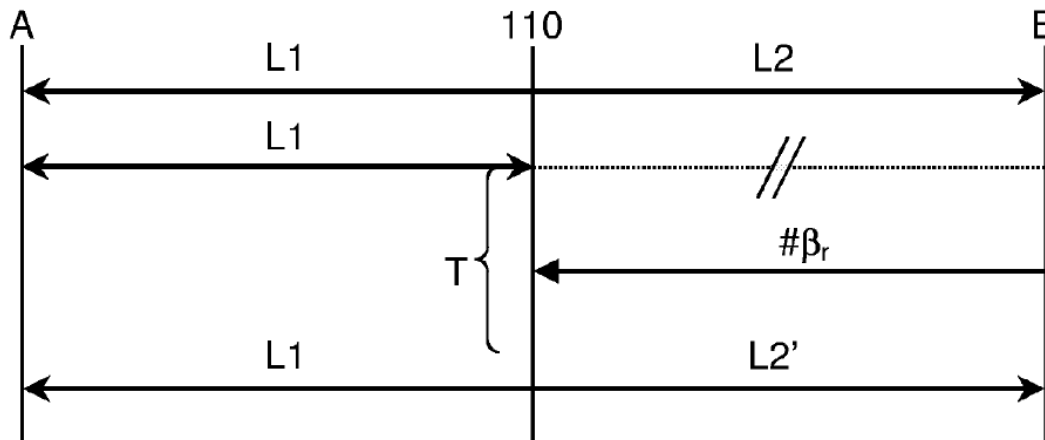


Fig. 4

(Ex. 1020, FIG. 4.) “If a return call to a predefined telephone number #βr” is received from terminal B within the threshold period T, host resource 110 establishes a new second leg L2’ to connect terminals A and B. (*Id.*, [0058]; Ex. 1002, ¶141.)

Accordingly, because Winbladh discloses accepting an incoming call by making a bridge call (from terminal B to host resource 110) using a predefined telephone number #βr to connect the incoming call to terminal B, Winbladh discloses “accept[ing] the incoming call...by making a first bridge call using the first bridge telephone number to connect the incoming call to the telephone handset.” (Ex. 1002, ¶142.)

A POSITA would have been motivated to implement the above-described call-back feature, similar to Winbladh, when implementing Backhaus. A POSITA would have understood that incoming calls that are long distance or international calls are relatively expensive. (Ex. 1002, ¶143; Ex. 1020, [0002] (“expensive long distance rates”), [0055].) Winbladh discloses that the call-back feature allows the second leg to “reconnect to the host resource 110 at a local-call rate.” (*Id.*, [0056]; *see also id.*, [0018].) Thus, it would have been beneficial to implement Winbladh’s call-back feature in Backhaus for reducing costs of long distance calls. (Ex. 1020, [0001] (“cost efficient communication solutions”), [0012] (“highly desirable because thereby both subscribers can be connected at a very low cost (typically a local telephone rate)”), [0018]; Ex. 1002, ¶143.)

It was well known to accept an incoming call by making an outbound call to a bridge number. (Ex. 1021, [0016].) Moreover, like Backhaus that discloses SLS platform 115 providing “pre-call information” that includes the relationship

number (“first bridge number”), Winbladh discloses host resource 110 “notify[ing] the second terminal B” the second common telephone number that allows terminal B to connect to host resource 110 at a local rate. (Ex. 1020, [0051].) Thus, a POSITA would have the skill in implementing, and expectation of success in achieving, the above-discussed Backhaus-Winbladh combination given the well-known call-back process and similarity of the Backhaus and Winbladh’s systems. (Ex. 1002, ¶144.)

Moreover, the Backhaus-Winbladh combination would have involved applications of known technologies (e.g., known use of a server for connecting two legs of a call) according to known methods (e.g., known techniques for connecting to an incoming call by calling the server provided telephone number) to yield the predictable result of the pre-call information allows the handset to accept the incoming call to the secondary telephone number by making a first bridge call using the first bridge telephone number to connect the incoming call to the handset via the switch, which would have reduced the cost of making long distance or international calls. (Ex. 1002, ¶145.) As such, in the modified Backhaus system, a POSITA would have understood the disclosed “pre-call information” containing the relationship number (“first bridge telephone number”) would allow TD 110 (“telephone handset”) to accept the incoming call to its SLS number of by making a first bridge call to SLS platform 115 using the relationship number to connect the

incoming call to TD 110, similar to as described in Winbladh, so as to reconnect with the first leg of the call (between the caller and SLS platform 115) via the local switch in network 125 (“switch”). (Ex. 1002, ¶¶145-146.)

2. Claim 3¹⁰

i) [3.a] “The method of claim 2, wherein: the incoming call is from a calling telephone number; and”

As discussed in limitation [2.a], the incoming call is from a third party having a “calling third party number.” (Section VIII.B.1(ii) (limitation [2.a]); *see also* Ex. 1005, [0064]; Ex. 1002, ¶147.)

ii) [3.b] “the first bridge telephone number stored in the database and to be used for completion of the incoming call is associated with the switch and the calling telephone number, such that calls to the first bridge telephone number from the calling telephone number are automatically routed to the switch.”

Backhaus discloses this limitation. (Ex. 1002, ¶¶148-151.) As discussed in limitation [2.a], Backhaus discloses the relationship number (“first bridge telephone number”) is stored in central SLS database 116 (“database”) to be used for completion of the incoming call, and is also associated with network 125’s local switch (“switch”). (Section VIII.B.1(ii) (limitation [2.a]); Ex. 1002, ¶148.)

¹⁰ According to the Certificate of Correction for the ’105 patent (Ex. 1004, 181), dependent claims 3-6 were corrected to depend from independent claim 2.

Backhaus further discloses the relationship number is associated with the third party number (“the calling telephone number”), “such that calls to the first bridge telephone number from the calling telephone number are automatically routed to the switch.” (Ex. 1002, ¶149.) Backhaus discloses the third party TD 120 “like TD 110, is equipped with SLS capability” and associated with a SLS provider, i.e., third party TD 120 has the same capability as subscriber TD 110 (Ex. 1005, [0037]-[0038], [0051].) Thus, consistent with as discussed in limitation [1.g], SLS platform 115 may assign a relationship number and associate the same with third party TD 120’s number (“the calling telephone number”). (Section VIII.A.1(viii) (limitation [1.g]); *see also, e.g.*, Ex. 1005, [0052]-[0054], [0071]-[0074].) Thus, Backhaus discloses “the first bridge telephone number...is associated with...the calling telephone number.” (Ex. 1002, ¶149.)

Additionally, as discussed in limitation [2.a], Backhaus discloses calls to the relationship number (“first bridge telephone number”) are “automatically routed to the switch” because a local switch in network 125 necessarily and automatically receives calls directed to a relationship number (“first bridge telephone number”) before routing the same to SLS platform 115. (Section VIII.B.1(ii) (limitation [2.a]); Section VIII.A.1(v) (limitation [1.d]); Ex. 1005, [0032], [0049], [0059]-[0061].) Because third party TD 120 has the same capability as subscriber TD 110 (e.g., SLS enabled), calls from third party TD 120 to the relationship number (“first

bridge telephone number”) are likewise routed through network 125’s local switch before routing the same to SLS platform 115. Thus, Backhaus discloses “the first bridge telephone...is associated with the switch and the calling telephone number, such that calls to the first bridge telephone number from the calling telephone number are automatically routed to the switch.” Furthermore, Backhaus discloses “a given relationship number...may be used...for many different SLS subscribers.” (Ex. 1005, [0053]; *see also id.*, [0047].) Thus, the relationship number stored in central SLS database 116, as discussed in limitation [2.a], may be used by subscriber TD 110 and SLS-enabled third party TD 120. (Section VIII.B.1(ii) (limitation [2.a]); Ex. 1002, ¶¶150-151.)

3. Claim 4

- i) **[4.a] “The method of claim 2, wherein the pre-call information transmitted in B) from the server to the telephone handset via the at least one data channel includes display information to cause a display on the telephone handset of at least one of: a calling telephone number of the incoming call; a calling party name; a calling party location; and the secondary telephone number.”**

Backhaus discloses this limitation. (Ex. 1002, ¶152.) As discussed in limitation [2.b], the calling party field of the incoming call signal (“pre-call information”), including the relationship number and the calling third party number (“a calling telephone number of the incoming call”), is provided to subscriber TD 110. (Section VIII.B.1(iii) (limitation [2.b]).) Backhaus discloses “the calling

party field may be populated...with a combination of the newly assigned relationship number and the third party CLID” and “third party CLID is displayed to the subscriber,” which “include[s] rendering the CLID,” and “rendering a name.” (Ex. 1005, [0064]-[0065]; Ex. 1002, ¶152.)

4. Claim 6

- i) **[6.a] “The method of claim 2, further comprising: C) receiving, by the switch, the first bridge call by the telephone handset to the first bridge telephone number and;”**

The Backhaus-Winbladh combination discloses and/or suggests this limitation. As discussed in limitation [2.a], Backhaus discloses the relationship number (“first bridge telephone number”) is associated with the local switch in network 125 (“switch”) such that calls to the relationship number are automatically routed to the switch. (Section VIII.B.1(ii) (limitation [2.a]).) Given the disclosed “first bridge call” is a call to the disclosed “first bridge telephone number,” the call is received by the disclosed “switch.” (Ex. 1002, ¶153.)

- ii) **[6.b] “D) in response to C), bridging, by the switch, the first bridge call to the first bridge telephone number with the incoming call to the secondary telephone number so as to connect the incoming call to the telephone handset.”**

The Backhaus-Winbladh combination discloses and/or suggests this limitation. As discussed in limitation [2.b], the Backhaus-Winbladh combination discloses and/or suggests that, after making the disclosed “first bridge call,” the

modified Backhaus system would connect both legs of the call, i.e., connecting the leg between the caller and SLS platform 115 (first leg) with the leg between SLS platform 115 and the callee (second leg) in order to accept the incoming call directed to the SLS number of subscriber TD 110. (Section VIII.B.1(iii) (limitation [2.b]).) Furthermore, because TD 110 “uses a relationship number to access the SLS platform 115 *over the telephone network 125*,” a POSITA would have understood that network 125’s local switch necessarily bridges/connects the disclosed “first bridge call” (from TD 110 to SLS platform) with the incoming call to the SLS number (from the third party to SLS platform). (Ex. 1005, [0049]; *see also id.*, [0032], [0059]-[0061]; Section VIII.B.1(iii) (limitation [2.b]); Ex. 1002, ¶154.)

5. Claim 7

- i) **[7.a] “The method of claim 6, wherein: in D), the switch connects the incoming call to the telephone handset via a voice channel; and”**

As discussed in limitation [1.d], network 125 includes the PSTN, which includes “a voice switch” that “processes voice-band traffic.” (Section VIII.A.1(v) (limitation [1.d]); Ex. 1011, 62-63, 81; Ex. 1007, [0004].) The ’105 patent indicates that communications over the PSTN are an exemplary voice channel. (Ex. 1001, 4:35-46, 5:58-59, 6:65-67.) 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.)

Because calls are routed through network 125, where the disclosed switch establishes a voice channel through the disclosed PSTN, to facilitate voice communication in the connected call, Backhaus discloses limitation [7.a]. (Ex. 1002, ¶¶155-156.)

- ii) **[7.b] “a voice channel protocol for communications between the switch and the telephone handset over the voice channel includes at least one of a CDMA standard, a GSM standard, a 3G standard, a 4G standard and an LTE standard.”**

Backhaus discloses this limitation. Backhaus discloses that the telecommunication devices are wireless devices that may operate under 3G and 4G standards. (Ex. 1005, [0029].) Thus, given that the connected voice call is established between the calling and the called wireless devices and via the local switch in network 125, a voice channel protocol for communication between the switch and TD 110 over the voice call includes a voice channel protocol under the 3G or 4G standard. (Ex. 1002, ¶157.)

6. Claim 8

- i) **[8.a] “The method of claim 6, wherein: the incoming call to the secondary telephone number is from a first contact telephone number;”**

Backhaus discloses a third party may call subscriber’s SLS number (“the incoming call to the secondary telephone number”). (Ex. 1005, [0062]-[0063].)

When processing the incoming call, “SLS platform 115 associate[s] a new relationship number with the calling third party number and the subscriber's primary number and SLS number,” and updates “the central SLS database 116...to include the newly created record—*the calling third party is listed as a contact of the subscriber* [“a first contact telephone number”] in Table 310.” (*Id.*, [0064]; Ex. 1002, ¶158.)

- ii) **[8.b] “the first bridge telephone number to be used for completion of the incoming call is associated with the switch and the first contact telephone number; and”**

As discussed in limitation [2.a], Backhaus discloses that the relationship number (“first bridge telephone number”) is stored in central SLS database 116 to be used for completion of the incoming call, and is also associated with the local switch in network 125 (“switch”). (Section VIII.B.1(ii) (limitation [2.a]); *see also* Section VIII.B.2(ii) (limitation [3.b]).) As discussed in limitation [8.a], “SLS platform 115 associate[s] a new relationship number [“first bridge telephone number”] with the calling third party number [“first contact telephone number”]” and records such an association in SLS database 116 (Table 310 of Figure 3A). (Ex. 1005, [0064]; Section VIII.B.6(i) (limitation [8.a]); *see also* Section VIII.B.2(ii) (limitation [3.b]) (Backhaus disclosing that the relationship number is associated with the third party number); Ex. 1002, ¶¶159-160.)

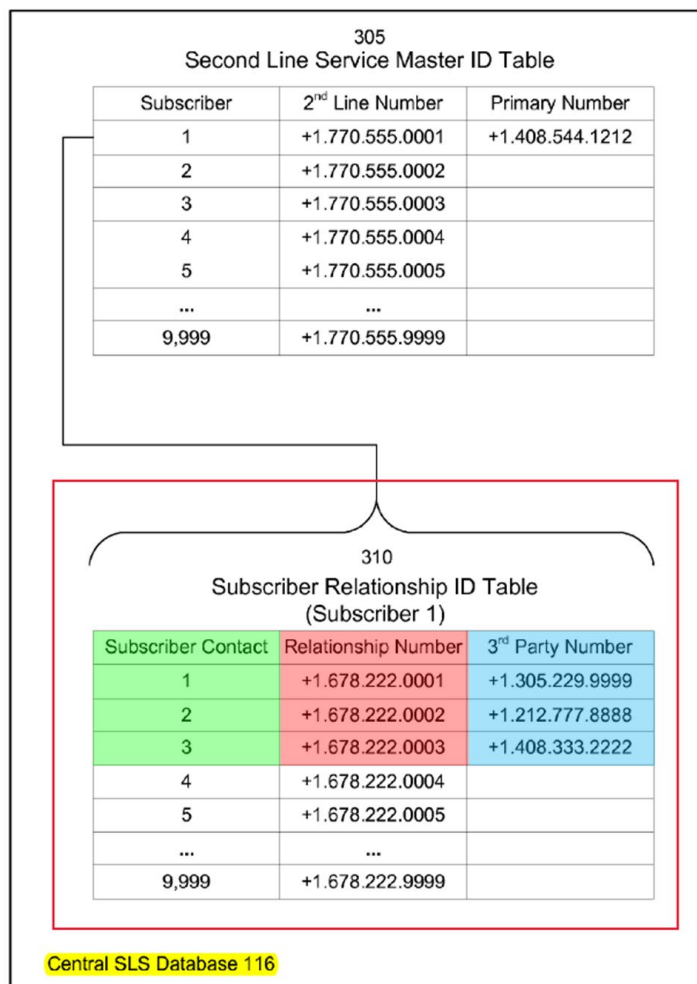


FIG. 3A

(Ex. 1005, FIG. 3A (annotated).)

- iii) **[8.c] “the method further comprises: E) receiving, by the server from the telephone handset via the at least one data channel, an outgoing call request to a first contact telephone number to be called by the telephone handset using the secondary telephone number;”**¹¹

Backhaus discloses this limitation. (Ex. 1002, ¶¶161-162.) As discussed in limitation [1.g], Backhaus discloses TD 110 (“telephone handset”) providing a “request for the new relationship number, along with the third party number it desires to call,” i.e., the claimed “a [second] contact telephone number,” to the SLS platform 115 (“server”). (Ex. 1005, [0071]; (Section VIII.A.1(viii) (limitation [1.g])).) The request is “an outgoing call request to a [second] contact telephone number to be called by the telephone handset *using the secondary telephone number*” because a relationship number is used by a subscriber who intends to call a third party number using the subscriber’s SLS number. (Ex. 1005, [0059], [0071]; *see also id.*, [0049]; Ex. 1002, ¶161.)

As discussed in limitation [1.g], Backhaus discloses such a request for the relationship number may be made using an “IP-based interaction” (an example of

¹¹ The recitation, “an outgoing call request to *a first contact telephone number*,” appears to be a clear error that should instead refer to “an outgoing call request to *a second contact telephone number*,” consistent with limitation [8.d]. Petitioner has interpreted limitation [8.c] accordingly.

the claimed “data channel”). (Ex. 1005, [0072]-[0073]; Section VIII.A.1(viii) (limitation [1.g]); Ex. 1002, ¶162.)

- iv) **[8.d] “F) retrieving, by the server from the database, a second bridge telephone number to be used for completion of an outgoing call from the secondary telephone number to the second contact number, wherein the second bridge telephone number is associated with the switch such that calls to the second bridge telephone number are automatically routed to the switch;”**

Backhaus discloses that TD 110 may be associated with multiple relationship numbers and multiple third party numbers, where the associations are stored in central SLS database 116. (Ex. 1005, [0045], FIG. 3A; Ex. 1002, ¶¶163-165.)

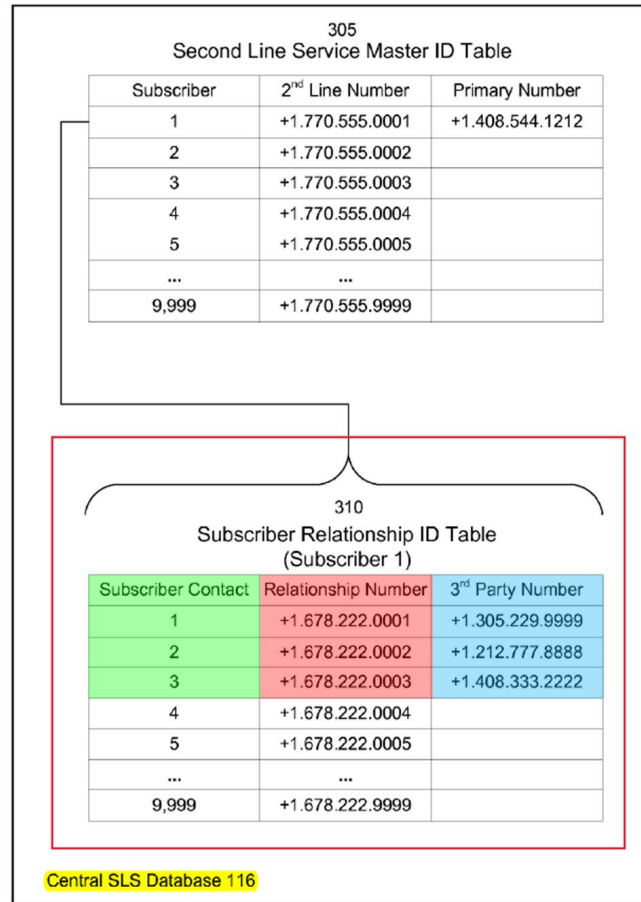


FIG. 3A

(Ex. 1005, FIG. 3A (annotated).) Thus, in addition to the disclosed “first bridge telephone number” (discussed in claim 2) and the disclosed “first contact telephone number” (discussed in limitation [8.a]), Backhaus discloses a “second bridge telephone number” and a “second contact telephone number.” (Ex. 1002, ¶163.)

Additionally, Backhaus discloses, when the subscriber intends to call a third party with which no relationship number has been associated with the third party number (“second contact telephone number”), that SLS platform 115 (“server”) queries central SLS database 116 (“database”) to determine the next available

relationship number (“second bridge telephone number”) for the subscriber’s SLS number (“secondary telephone number”) from which the outgoing call is made. (Ex. 1005, [0071]; *see also id.*, [0070].) Thus, Backhaus discloses “retrieving, by the server from the database, a second bridge telephone number to be used for completion of an outgoing call from the secondary telephone number to the second contact number.” (Ex. 1002, ¶164.)

The relationship numbers are used to access the SLS platform 115 over the telephone network 125, which includes the local switch. (Ex. 1005, [0049], [0059]-[0061].) Thus, similar to as discussed in limitation [2.a], Backhaus likewise discloses “wherein the second bridge telephone number is associated with the switch such that calls to the second bridge telephone number are automatically routed to the switch.” (Section VIII.B.1(ii) (limitation [2.a]); Ex. 1002, ¶165.)

- v) **[8.e] “G) transmitting, by the server to the telephone handset via the at least one data channel, outgoing pre-call information including the second bridge telephone number, whereby the outgoing pre-call information causes the telephone handset to automatically make a second bridge call to the second bridge telephone number; and”**

Backhaus discloses that SLS platform 115 (or SLS server 205 therein, “server”) provides the next available relationship number (“outgoing pre-call information including the second bridge telephone number”) to subscriber TD 110—following TD 110’s request of a relationship number as discussed in

limitation [8.d]. (Ex. 1005, [0074]; *see also id.*, [0039]-[0040], FIG. 2, [0071]-[0074]; Section VIII.B.6(iv) (limitation [8.d]).) Consistent with as discussed in limitation [2.b], the disclosed “outgoing pre-call information” is transmitted “via the at least one data channel.” (Section VIII.B.1(iii) (limitation [2.b]); Ex. 1005, [0072]-[0072].) Thus, Backhaus discloses “transmitting, by the server to the telephone handset via the at least one data channel, outgoing pre-call information including the second bridge telephone number.” (Ex. 1002, ¶¶166-167.)

Backhaus also discloses “whereby the outgoing pre-call information causes the telephone handset to automatically make a second bridge call to the second bridge telephone number.” Backhaus explains that, while the subscriber dials the third party number, SLS module 105 of subscriber’s TD 110 translates the called third party number to the relationship number and calls the relationship number to connect to SLS platform 115 (“a second bridge call to the second bridge telephone number”)—even though TD 110 may display that it is calling the third party number. (Ex. 1005, [0059]; Ex. 1002, ¶167.)

- vi) **[8.f] “H) bridging, by the switch, the second bridge call to the second bridge telephone number with the outgoing call from the secondary telephone number to the first contact telephone number so as to connect the outgoing call to the telephone handset.”¹²**

Backhaus discloses that, by calling the relationship number (“the second bridge call to the second bridge telephone number”), network 125 routes the call to the SLS platform 115 (first leg of the call). (Ex. 1005, [0059].) SLS platform 115 then “cause[s] the calling number to be reflected as the SLS number” and calls the third party number (“the outgoing call from the secondary telephone number to the [second] contact telephone number”) (second leg of the call). (*Id.*, [0060], [0069]-[0070].) Once the third party handset answers the call, the two legs of the call are connected. (*Id.*, [0060], [0070]; *see also id.*, [0056].) Because the two legs of the call are both routed through network 125 and thus the local switch therein to connect with SLS platform 115, the disclosed “switch” necessarily connects the

¹² Similar to as discussed above for limitation [8.c], the recitation, “the outgoing call from the secondary telephone number to the *first* contact telephone number,” appears to be a clear error that should instead refer to “the outgoing call from the secondary telephone number to the *second* contact telephone number,” consistent with limitation [8.d]. Petitioner has interpreted limitation [8.f] accordingly.

two legs of call when connecting the outgoing call to TD 110. (Ex. 1005, [0049], [0051], FIG. 1; Ex. 1002, ¶168.)

7. Claim 9

- i) **[9.a] “The method of claim 8, wherein: the switch connects the outgoing call to the telephone handset via a voice channel; and”**

Backhaus discloses this limitation for the reasons as discussed in limitation [7.a] because the outgoing call described here is likewise connected through network 125 that includes the PSTN, which the '105 patent indicates as an exemplary voice channel. (Section VIII.B.5(i) (limitation [7.a]); Ex. 1002, ¶169.)

- ii) **[9.b] “a voice channel protocol for communications between the switch and the telephone handset over the voice channel includes at least one of a CDMA standard, a GSM standard, a 3G standard, a 4G standard and an LTE standard.”**

Backhaus discloses this limitation for the reasons as discussed in limitation [7.b]. (Section VIII.B.5(ii) (limitation [7.b]); Ex. 1002, ¶170.)

8. Claim 10

- i) [10.a] **“The method of claim 8, further comprising: I) assigning, by the server, the second bridge telephone number associated with the switch and the first contact telephone number such that the combination of the primary telephone number and the second bridge telephone number is uniquely associated with the secondary telephone number and the first contact telephone number; and”**¹³

As discussed in limitation [8.d], the disclosed “second bridge telephone number” is associated with the disclosed “switch.” (Section VIII.B.6(iv) (limitation [8.d]).) Moreover, consistent with as shown in Figure 3A, each relationship number (“second bridge telephone number”) is associated with a corresponding third party number (“second contact telephone number”).

¹³ Similar to as discussed above for limitations [8.c] and [8.f], the recitation, “*first* contact telephone number” in limitation [10.a] and below in [10.b] appears to be a clear error that should instead refer to “*second* contact telephone number,” consistent with limitation [8.d]. Petitioner has interpreted this limitation accordingly.

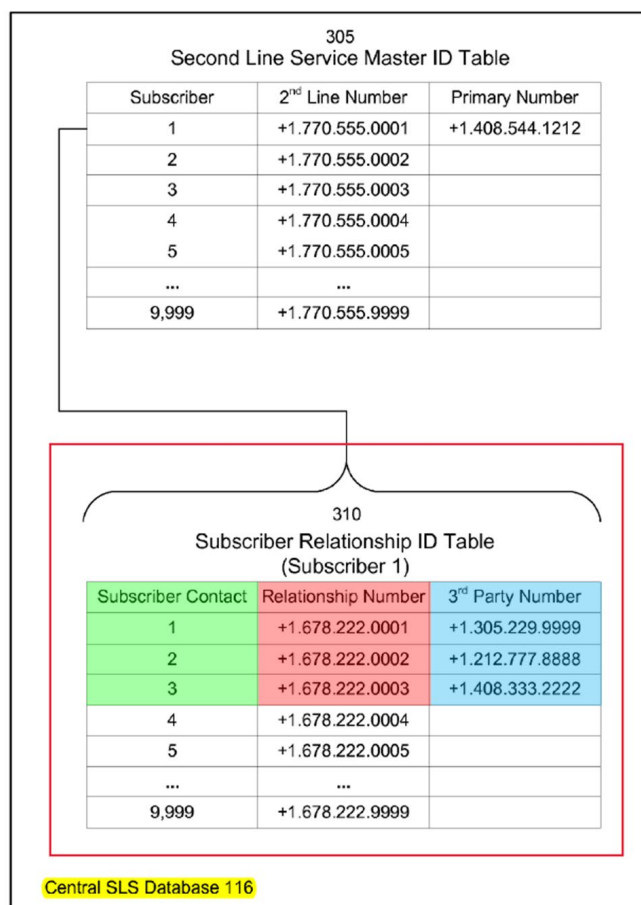


FIG. 3A

(Ex. 1005, FIG. 3A (annotated).) Thus, Backhaus discloses “the second bridge telephone number” is “associated with the switch and the [second] contact telephone number.” (Ex. 1002, ¶¶171-174.)

Moreover, Backhaus discloses the relationship number (“second bridge telephone number”) is determined/assigned by SLS platform 115 (“server”). (Ex. 1005, [0071].) Furthermore, Backhaus discloses SLS platform 115 creates in central SLS database 116 a relationship (as shown in Table 310) that associates the combination of a subscriber’s primary number and relationship number (“second

bridge telephone number”) with the combination of a subscriber’s SLS number (“secondary telephone number”) and third party number (“the [second] contact telephone number”). (Ex. 1005, [0053], FIG. 3A.) Because a relationship number may be assigned for each different third party contact number, the combinations of numbers (discussed above) are “uniquely associated with” one another. (Ex. 1005, FIG. 3A (Table 310 showing a relationship number is assigned to each different third party contact number); Ex. 1002, ¶¶172-174.)

- ii) **[10.b] “J) storing, by the server in the database, information that associates the second bridge telephone number with the primary telephone number, the secondary telephone number, and the first contact telephone number.”**

As discussed in limitation [10.a], Backhaus discloses SLS platform 115 creates a relationship in central SLS database 116 (Table 310) that associates the combination of a subscriber’s primary number and relationship number (“second bridge telephone number”) with the combination of a subscriber’s SLS number (“secondary telephone number”) and third party number (“the [second] contact telephone number”). (Section VIII.B.8(ii) (limitation [10.a]); Ex. 1005, [0053], FIG. 3A; Ex. 1002, ¶175.)

9. Claim 11

- i) **[11.a] “The method of claim 10, wherein the telephone handset includes an address file comprising a plurality of contact telephone numbers including at least the first contact telephone number, and wherein:”**

Backhaus discloses that multiple third party numbers as shown in Table 315 in Figure 3B are saved in local SLS database 106 of subscriber TD 110. (Ex. 1005, [0041]-[0042], FIG. 3; Ex. 1002, ¶¶176-177.)

315 Subscriber Relationship ID Table		
Subscriber Contact	Relationship Number	3 rd Party Number
1	+1.678.222.0001	+1.305.229.9999
2	+1.678.222.0002	+1.212.777.8888
3	+1.678.222.0003	+1.408.333.2222
4	+1.678.222.0004	
5	+1.678.222.0005	
...	...	
9,999	+1.678.222.9999	

Local SLS Database 106

FIG. 3B

(Ex. 1005, FIG. 3B (annotated).)

As discussed in limitation [8.b], the association of the disclosed “first bridge telephone number” and the disclosed “first contact telephone number” is stored in SLS database 116 of SLS platform 115, as shown in Table 310 of Figure 3A. (Section VIII.B.6(ii) (limitation [8.b]); Ex. 1005, [0064].)

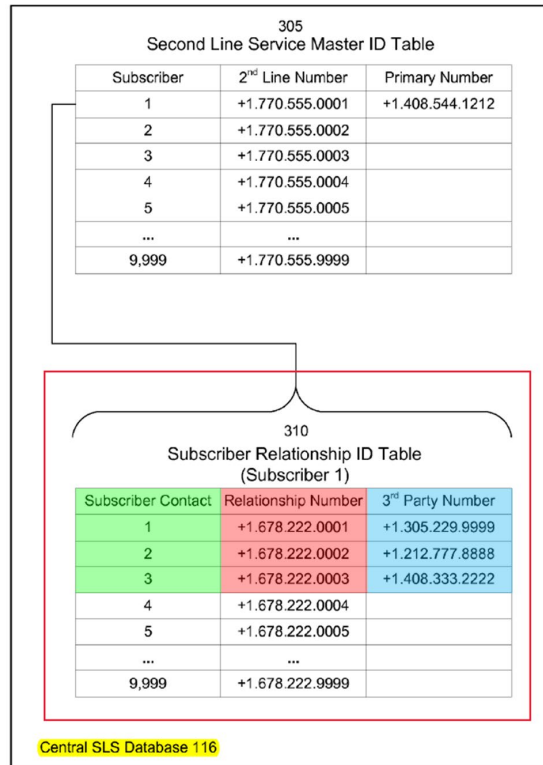


FIG. 3A

(Ex. 1005, FIG. 3A (annotated).) Consistent with as shown in Table 310 (FIG. 3A) and Table 315 (FIG. 3B), Backhaus discloses that tables 310 and 315 have the same record. (Ex. 1005, [0057].) Thus, local SLS database 106 (Table 315 of Figure 3B) of subscriber TD 110 (“telephone handset”) “includes an address file comprising a plurality of contact telephone numbers including at least the first contact telephone number.” (Ex. 1002, ¶177.)

- ii) **[11.b] “in J), the information stored in the database maps a unique combination of the secondary telephone number and one contact telephone number of the plurality of contact telephone numbers to a corresponding combination of the primary telephone number and a unique bridge telephone number for each contact telephone number of the plurality of contact telephone numbers.”**

Consistent with as discussed in limitation [10.a], SLS platform 115 creates a relationship in central SLS database 116 (Table 310) that uniquely associates the combination of a subscriber's SLS number (“secondary telephone number”) and third party number (“one contact telephone number of the plurality of contact telephone numbers”) with a corresponding combination of a subscriber's primary number (“primary telephone number”) and a relationship number (“a unique bridge telephone number”) for each third party number of the plurality of third party numbers. (Section VIII.B.8(i) (limitation [10.a]).) Indeed, as shown in Table 310, a unique relationship number is associated with each of the plurality of third party numbers. (Ex. 1005, FIG. 3A; Ex. 1002, ¶178.)

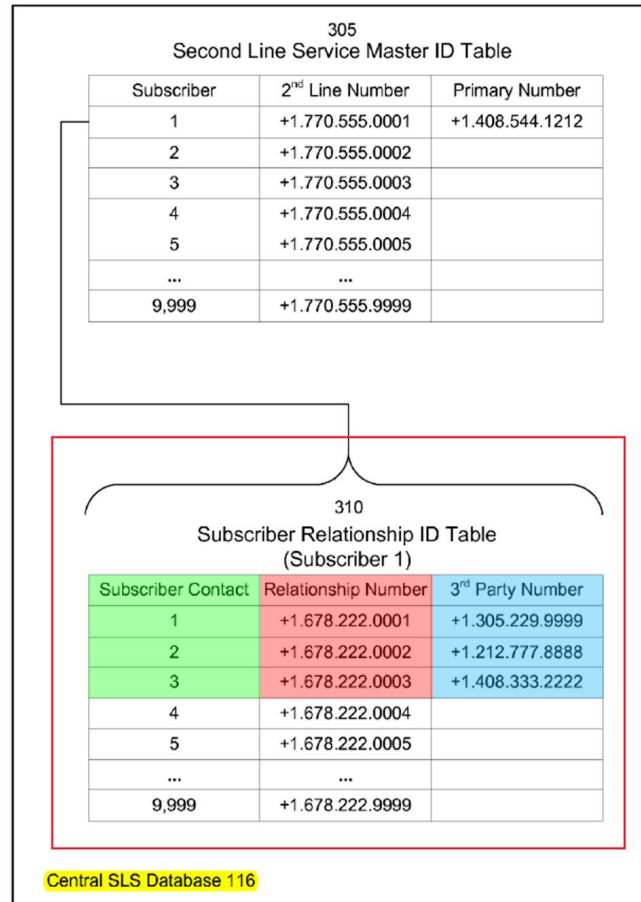


FIG. 3A

(Ex. 1005, FIG. 3A (annotated).)

**C. Ground 3: Backhaus in view of Winbladh and Logan Renders
Claim 5 Obvious**

1. Claim 5

- i) [5.a] “The method of claim 2, further comprising: C) receiving, at the server from the telephone handset via the at least one data channel, user input information indicative of a user input to the telephone handset regarding call handling choices for the incoming call; and”

The Backhaus-Winbladh combination in view of Logan discloses and/or suggests this limitation. (Ex. 1002, ¶¶179-180.) As discussed in claim 2, a POSITA would have been motivated to implement Winbladh’s teachings in Backhaus for features associated with accepting an incoming call by making a bridge call using a bridge telephone number to connect the incoming call to the handset. (Section VIII.B.1(iii) (limitation [2.b]); Ex. 1002, ¶179.)

For reasons discussed in limitation [1.h], a POSITA would have been motivated to implement Logan’s teachings associated with user-specified call processing rules in the Backhaus-Winbladh combination. As discussed in limitation [1.h], the Backhaus-Logan combination discloses and/or suggests receiving, at the server from user’s handset via the data channel, a user’s input to the handset regarding selection of a call processing rule. (Section VIII.A.1(ix) (limitation [1.h]); *see also* Ex. 1015, [0011], [0029], [0046], [0055], claim 2; Ex. 1002, ¶180.)

- ii) **[5.b] “D) processing, by the server, the user input information, wherein D) comprises at least one of: delivering a responsive text message; dropping the incoming call; and responding to the incoming call with a custom voice message.”**

The Backhaus-Winbladh combination in view of Logan discloses and/or suggests this limitation. For example, as explained in limitation [1.b], Logan discloses server 130 forwards incoming calls to a user’s handset—“but only when

that user is in the appropriate location, or meets other user-specified preferences”—otherwise, the calls may be forwarded to a voicemail database.

(Section VIII.B.1(iii) (limitation [1.b]; Ex. 1015, [0026]-[0027], FIG. 1.)

Moreover, Logan discloses the voicemail may be customized. (Ex. 1015, [0030]; Ex. 1002, ¶181.)

D. Grounds 4-6: Each of the Above Prior Art Combinations in view of Taylor Renders Obvious the Challenged Claims

Grounds 1-3 demonstrate how combinations of prior art stemming from Backhaus discloses and/or suggests claims 1-11. (Sections VIII.A-C.) To the extent 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, ¶¶182-188.)

Like Backhaus, Logan, and Winbladh, Taylor provides telephone services through communication networks. (Ex. 1007, [0004].) Taylor discloses a computer telephony (CT) server 50 providing “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].) Thus, Taylor is similar to Backhaus, 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.

(VIII.A.1 (claim 1); VIII.B.1 (claim 2).) Thus, a POSITA would have been motivated to consider Taylor. (Ex. 1002, ¶183.)

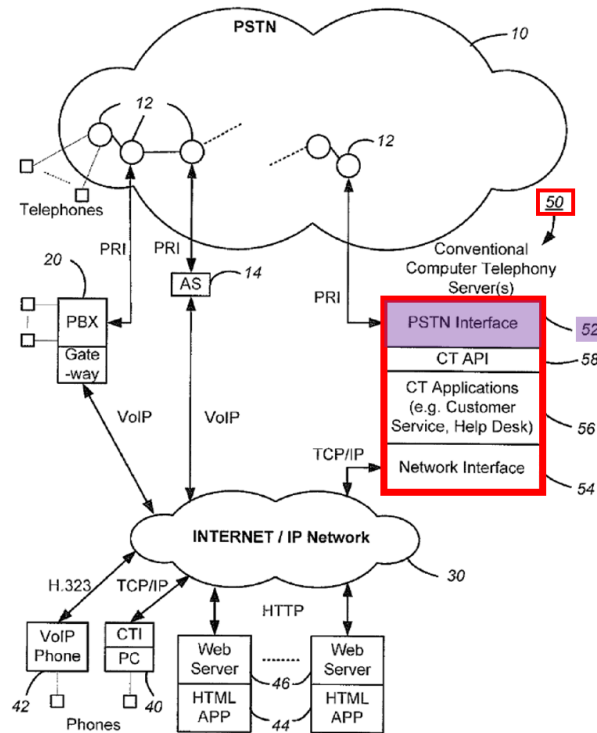


FIG. 1A (Prior Art)

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

Taylor discloses that when CT server 50 connects to networks, e.g., the PSTN or the Internet, an interface is used in order to receive/process calls. 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].) A POSITA would have understood that PSTN interface 52 disclosed in Taylor is

similar to the switch described in the '105 patent that likewise receives/processes calls associated with a specific number, e.g., a bridge number. (Ex. 1001, 2:8-10 (“connecting the handset to the incoming call at the switch”), 5:48-60, 6:2-4; *see also* Ex. 1009, 19-23; Ex. 1002, ¶184.)

A POSITA would have been motivated to include a PSTN interface (like in Taylor) when implementing Backhaus’s system. Backhaus discloses several telecommunication networks for connecting calls through network 125, e.g., cellular networks, PSTNs, cable networks and the Internet. (Ex. 1005, [0032].) A POSITA would have understood the PSTN is well known for providing reliable communications to a large number of landline/wireless devices/users as well as providing sophisticated phone/data services. (Ex. 1011, 81.) 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 a connection when implementing Backhaus’s system—such that SLS platform 115 could provide the disclosed second line services to device users connected to the PSTN, known to provide reliable communications. (Ex. 1002, ¶185.)

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, ¶¶186-187.)

Accordingly, to the extent Backhaus is read not to disclose the claimed “switch,” it would have been obvious to further modify Backhaus to implement a PSTN interface in light of Taylor and a POSITA’s contemporaneous knowledge. (Ex. 1002, ¶¶187-188.)

IX. DISCRETIONARY DENIAL IS NOT APPROPRIATE

A. The Board Should Not Deny Institution Under § 325

While the ’105 patent was at issue in *Dialpad, Inc., v. Flypsi, Inc.*, IPR2022-01049 (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 ’105 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 2024.¹⁴ 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.)

¹⁴ 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.

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*, 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).

X. CONCLUSION

Petitioner requests institution of IPR for claims 1-11 of the ’105 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. 10,051,105 contains, as
measured by the word-processing system used to prepare this paper, 13,975 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. 10,051,105 and supporting exhibits to be served via express mail on the Patent Owner at the following correspondence address of record as listed on PAIR:

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