Demonstratives of Petitioner Google LLC

***Inter Partes* Review of U.S. Patent Nos.**

11,218,585, 10,334,094, 11,012,554,
9,667,770, and 10,051,105

IPR2023-00357, -00358, -00359, -00360, -00361

Oral Hearing: May 7, 2024

GOOGLE EXHIBIT 1104
Google LLC v. Flypsi, Inc.
IPR2023-00359

DEMONSTRATIVE EXHIBIT - NOT EVIDENCE

IPR2023-00357 - ’585 Patent - Instituted Grounds

- **Ground 1:** Claims 1, 2, and 4 anticipated by Backhaus
- **Ground 2:** Claim 3 obvious in view of Backhaus and Saksena
- **Ground 3:** Claims 1, 2, and 4 obvious in view of Backhaus and Taylor
- **Ground 4:** Claim 3 obvious in view of Backhaus, Saksena, and Taylor

DEMONSTRATIVE EXHIBIT - NOT EVIDENCE

IPR2023-00358 - ’094 Patent - Instituted Grounds

- **Ground 1:** Claims 1, 2, and 4 anticipated by Backhaus
- **Ground 2:** Claim 3 obvious in view of Backhaus and Saksena
- **Ground 3:** Claims 1, 2, and 4 obvious in view of Backhaus and Taylor
- **Ground 4:** Claim 3 obvious in view of Backhaus, Saksena, and Taylor

DEMONSTRATIVE EXHIBIT - NOT EVIDENCE

IPR2023-00359 - ’554 Patent - Instituted Grounds

- **Ground 1:** Claims 1, 2, and 4 anticipated by Backhaus
- **Ground 2:** Claim 3 obvious in view of Backhaus and Saksena
- **Ground 3:** Claims 1, 2, and 4 obvious in view of Backhaus and Taylor
- **Ground 4:** Claim 3 obvious in view of Backhaus, Saksena, and Taylor

DEMONSTRATIVE EXHIBIT - NOT EVIDENCE

IPR2023-00360 - ’770 Patent - Instituted Grounds

- **Ground 1:** Claims 1-5 obvious in view of Backhaus and Logan
- **Ground 2:** Claim 6 obvious in view of Backhaus, Logan, and Saksena
- **Ground 3:** Claims 1-5 obvious in view of Backhaus, Logan, and Taylor
- **Ground 4:** Claim 6 obvious in view of Backhaus, Logan, Saksena, and Taylor

DEMONSTRATIVE EXHIBIT - NOT EVIDENCE

IPR2023-00361 - ’105 Patent - Instituted Grounds

- **Ground 1:** Claim 1 obvious in view of Backhaus and Logan
- **Ground 2:** Claims 2-4 and 6-11 obvious in view of Backhaus and Winbladh
- **Ground 3:** Claim 5 obvious in view of Backhaus, Winbladh, and Logan
- **Ground 4:** Claim 1 obvious in view of Backhaus, Logan, and Taylor
- **Ground 5:** Claims 2-4 and 6-11 obvious in view of Backhaus, Winbladh, and Taylor
- **Ground 6:** Claim 5 obvious in view of Backhaus, Winbladh, Logan, and Taylor

DEMONSTRATIVE EXHIBIT - NOT EVIDENCE

IPR2023-00357 - ’585 Patent - Claim 1

1. A method of providing telephone service, comprising:

automatically storing electronic information that indicates an association of a secondary telephone number and a primary telephone number with a mobile device in a computer memory associated with a server;

automatically transmitting information that indicates an access telephone number to the mobile device via a data channel;

automatically associating a primary telephone number and access telephone number pairing with a corresponding secondary telephone number and contact telephone number pairing in the computer memory;

receiving, at a switch associated with the server, an outgoing call from the mobile device to the access telephone number via a second channel;

receiving, at the server, information from the switch indicating the outgoing call is being made to the access telephone number from the primary telephone number; and

receiving, at the switch, information from the server directing the switch to:

(a) connect the outgoing call to the contact telephone number of the secondary telephone number and contact telephone number pairing, and

(b) identify a telephone number from which the outgoing call is being made as the secondary telephone number.

DEMONSTRATIVE EXHIBIT - NOT EVIDENCE

IPR2023-00358 - ’094 Patent - Claim 1

1. A method of providing telephone service, comprising:

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;

automatically associating a bridge or access telephone number with each of a plurality of contact telephone numbers in the computer memory;

automatically transmitting information that indicates the association of the bridge or access telephone number with each of a plurality of contact telephone numbers to the handset via a data channel;

automatically associating each primary telephone number and bridge or access telephone number pairing with a corresponding secondary telephone number and contact telephone number pairing in the computer memory;

receiving, at a switch associated with the server, an outgoing call from the handset to the bridge or access telephone number via a second channel;

receiving, at the server, information from the switch indicating the outgoing call is being made to the bridge or access telephone number from the primary telephone number; and

receiving, at the switch, information from the server directing the switch to:

(a) connect the outgoing call to a contact telephone number associated with the primary telephone number and bridge or access telephone number pairing, and

(b) identify a telephone number from which the outgoing call is being made as the secondary telephone number.

DEMONSTRATIVE EXHIBIT - NOT EVIDENCE

IPR2023-00359 - ’554 Patent - Claim 1

1. A method of providing telephone service, comprising:

automatically storing electronic information that indicates an association of a secondary telephone number and a primary telephone number with a mobile device in a computer memory associated with a server;

automatically transmitting information that indicates an access telephone number to the mobile device via a data channel;

automatically associating the telephone access number with a switch associated with the server;

receiving, at the switch associated with the server, an outgoing call from the mobile device to the access telephone number via a second channel;

receiving, at the server, information from the switch indicating the outgoing call is being made to the access telephone number from the primary telephone number; and

receiving, at the switch, information from the server directing the switch to:

(a) connect the outgoing call to a contact telephone number indicated by the mobile device, and

(b) identify a telephone number from which the outgoing call is being made as the secondary telephone number.

DEMONSTRATIVE EXHIBIT - NOT EVIDENCE

IPR2023-00360 - ’770 Patent - Claim 1

1. A method of providing telephone service, the method comprising:

associating a secondary telephone number with a primary telephone number in at least one computer memory device, the primary telephone number being assigned to a handset;

acquiring first digital information from the handset over at least one data channel, the first digital information indicating primary call processing rules for handling calls directed to the primary telephone number;

storing the primary call processing rules in the at least one computer memory device;

acquiring second digital information from the handset over the at least one data channel, the second digital information indicating secondary call processing rules for handling calls directed to the secondary telephone number;

storing the secondary call processing rules in the at least one computer memory device;

receiving an incoming call over at least one voice channel at a switch, the switch being associated with a bridge telephone number such that calls directed to the bridge telephone number are automatically routed to the switch, the incoming call being directed to a handset-associated telephone number, the handset-associated telephone number being the primary telephone number or the secondary telephone number, and;

based on the primary call processing rules or the secondary call processing rules: transmitting pre-call information to the handset over the at least one data channel the pre-call information including the bridge telephone number and the handset-associated telephone number, such that the handset is capable of displaying the handset-associated telephone number to a user and, based on user input, accepting the incoming call by connecting with the switch over the at least one voice channel using the bridge telephone number.

DEMONSTRATIVE EXHIBIT - NOT EVIDENCE

IPR2023-00361 - ’105 Patent - Claim 1

1. A method of providing telephone service, comprising:

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;

automatically storing electronic information that indicates a selection of call processing rules for the primary telephone number in the computer memory;

automatically storing electronic information that indicates a selection of call processing rules for the secondary telephone number in the computer memory;

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;

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;

automatically handing the incoming call in accordance with the accessed call processing rules for the secondary telephone number;

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

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

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.

DEMONSTRATIVE EXHIBIT - NOT EVIDENCE

IPR2023-00361 - ’105 Patent - Claim 2

2. 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:

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

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.

DEMONSTRATIVE EXHIBIT - NOT EVIDENCE

Claim Construction

- "channel" (all proceedings)
- "transmitting pre-call information" (-00360 & -00361 proceedings)
- "a bridge telephone number for connecting the handset to the incoming call at the switch" (-00361 proceeding)

DEMONSTRATIVE EXHIBIT - NOT EVIDENCE

Claim Construction

- "channel" (all proceedings)
- "transmitting pre-call information" (-00360 & -00361 proceedings)
- "a bridge telephone number for connecting the handset to the incoming call at the switch" (-00361 proceeding)

DEMONSTRATIVE EXHIBIT - NOT EVIDENCE

Channel

Patent Owner's Construction

Term	Proposed Construction
channel	A channel does not have to be fully connected on both ends or actually transmitting a particular type of information to qualify as a channel.

-00357 PO Resp. at 6

DEMONSTRATIVE EXHIBIT - NOT EVIDENCE

Channel

The Patents Describe a "Data Channel" and "Voice Channel"

The communications between the server **100** and the handset **340** over the Internet **316** may utilize IP as a protocol opposed to protocols used to establish communications according to CDMA, GSM, or like standards. Such IP governed communications are referred to herein as being conducted over a "data channel." Conversely, communications between the switch **110** and the handset over the PSTN **310** may be transmitted and received in accordance with CDMA, GSM or like standards as opposed to using IP. Such CDMA, GSM or like governed communications, when used to carry voice information, are referred to herein as being conducted over a "voice channel."

-00357, Ex. 1001 at 4:49-60

-00357 Reply at 1; *see also* -00357 Pet. at 37-38

DEMONSTRATIVE EXHIBIT - NOT EVIDENCE

Channel

Dr. Akl's Deposition Testimony

Q. So is it your opinion that regardless of whether you transmit voice traffic or data traffic, the cellular protocol will qualify as voice channel?

A. It does qualify as a voice channel when you're sending voice traffic. That's what the specification describes, an example of a voice channel in the context of CDMA, GSM, LTE, 3G, and/or 4G.

Ex. 1102 at 41:23-42:4

DEMONSTRATIVE EXHIBIT - NOT EVIDENCE

Channel

Dr. Akl's Deposition Testimony

When any of the protocols, like CDMA, GSM, LTE, 3G, and/or 4G, are used to transport data, such as the message or an image, are those protocols qualified as data channel?

A. I don't have an opinion on that.

Ex. 1102 at 35:1-5

DEMONSTRATIVE EXHIBIT - NOT EVIDENCE

Channel

Dr. Akl's Deposition Testimony

Q. So do you agree an IP channel is a data channel?

A. I don't have opinions on that.

Ex. 1102 at 30:2-31:4

DEMONSTRATIVE EXHIBIT - NOT EVIDENCE

Channel

Dr. Akl's Deposition Testimony

Q. Is PSTN a voice channel?

A. PSTN stands for public switch telephone network.

Q. So is PSTN a voice channel?

A. I don't have opinions on that.

Ex. 1102 at 34:4-8

DEMONSTRATIVE EXHIBIT - NOT EVIDENCE

Claim Construction

- "channel" (all proceedings)
- "transmitting pre-call information" (-00360 & -00361 proceedings)
- "a bridge telephone number for connecting the handset to the incoming call at the switch" (-00361 proceeding)

DEMONSTRATIVE EXHIBIT - NOT EVIDENCE

Transmitting Pre-Call Information

Patent Owner Improperly Seeks to Introduce Requirements Into the "Transmitting Pre-Call Information" Limitation

Term	Proposed Construction
[1.g] based on the primary call processing rules or the secondary call processing rules: transmitting pre-call information to the handset over the at least one data channel the pre-call information including the bridge telephone number and the handset-associated telephone number, such that the handset is capable of displaying the handset-associated telephone number to a user and, based on user input, accepting the incoming call by connecting with the switch over the at least one voice channel using the bridge telephone number.	The transmission must occur after the indication of an incoming call is received in step [1.f]. The "pre-call information" must be information relating to the specific call received in step [1.f].

-00360 PO Resp. at 14

DEMONSTRATIVE EXHIBIT - NOT EVIDENCE

Transmitting Pre-Call Information

Patent Owner Improperly Seeks to Introduce Requirements Into the "Transmitting Pre-Call Information" Limitation

Term	Proposed Construction
[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	The transmission must occur after the indication of an incoming call is received in step [1.d]. The "pre-call information" must be information relating to the specific call received in step [1.d].
[2.b] transmitting, from the server to the telephone handset via at least one data channel, pre-call information including the first bridge telephone number …	The transmission must occur after the incoming call is received in step [2.a]. The "pre-call information" must be information relating to the specific call received in step [2.a].

-00361 PO Resp. at 14

DEMONSTRATIVE EXHIBIT - NOT EVIDENCE

Transmitting Pre-Call Information

The Claims Do Not Require Pre-Call Information to be Transmitted After Receiving an Incoming Call

- Flyp's construction violates the "general rule [that], '[u]nless the steps of a method [claim] actually recite an order, the steps are not ordinarily construed to require one.'" *Mformation Techs., Inc. v. Research In Motion Ltd.*, 764 F.3d 1392, 1398 (Fed. Cir. 2014).
- Neither the claim language, "as a matter of logic or grammar," requires an order, nor "the specification directly or implicitly requires' an order of steps." *Mformation*, 764 F.3d at 1398.

-00360 Reply at 3-5; -00361 Reply at 3-5

DEMONSTRATIVE EXHIBIT - NOT EVIDENCE

Transmitting Pre-Call Information

The Specification Confirms Pre-Call Information May Be Received Before the Call Ringing on the Handset

The incoming pre-call information may be received at the handset **340** before or during the call ringing on the handset.

-00360 Ex. 1001 at 6:43-44

-00360 Reply at 5; -00361 Reply at 5; *see also* Ex. 1102 at 113:11-117:7

DEMONSTRATIVE EXHIBIT - NOT EVIDENCE

Transmitting Pre-Call Information

The Specification Confirms a Bridge Telephone Number May Be Used for Multiple Calls

step **406**. The bridge telephone number may be associated with the switch **110**, and calls to the bridge telephone number may be automatically routed to this switch.

-00360 Ex. 1001 at 6:2-4

-00360 Reply at 6; -00361 Reply at 6

DEMONSTRATIVE EXHIBIT - NOT EVIDENCE

Claim Construction

- "channel" (all proceedings)
- "transmitting pre-call information" (-00360 & -00361 proceedings)
- "a bridge telephone number for connecting the handset to the incoming call at the switch" (-00361 proceeding)

DEMONSTRATIVE EXHIBIT - NOT EVIDENCE

A Bridge Telephone Number For Connecting the Handset to the Incoming Call at the Switch

Patent Owner's Construction

Term	Proposed Construction
[1.g] a bridge telephone number for connecting the handset to the incoming call at the switch	The bridge telephone number must be capable of being used by the handset to connect to the specific incoming call previously received in [1.d].

-00361 PO Resp. at 18

DEMONSTRATIVE EXHIBIT - NOT EVIDENCE

A Bridge Telephone Number For Connecting the Handset to the Incoming Call at the Switch

Patent Owner's Construction Should Be Rejected

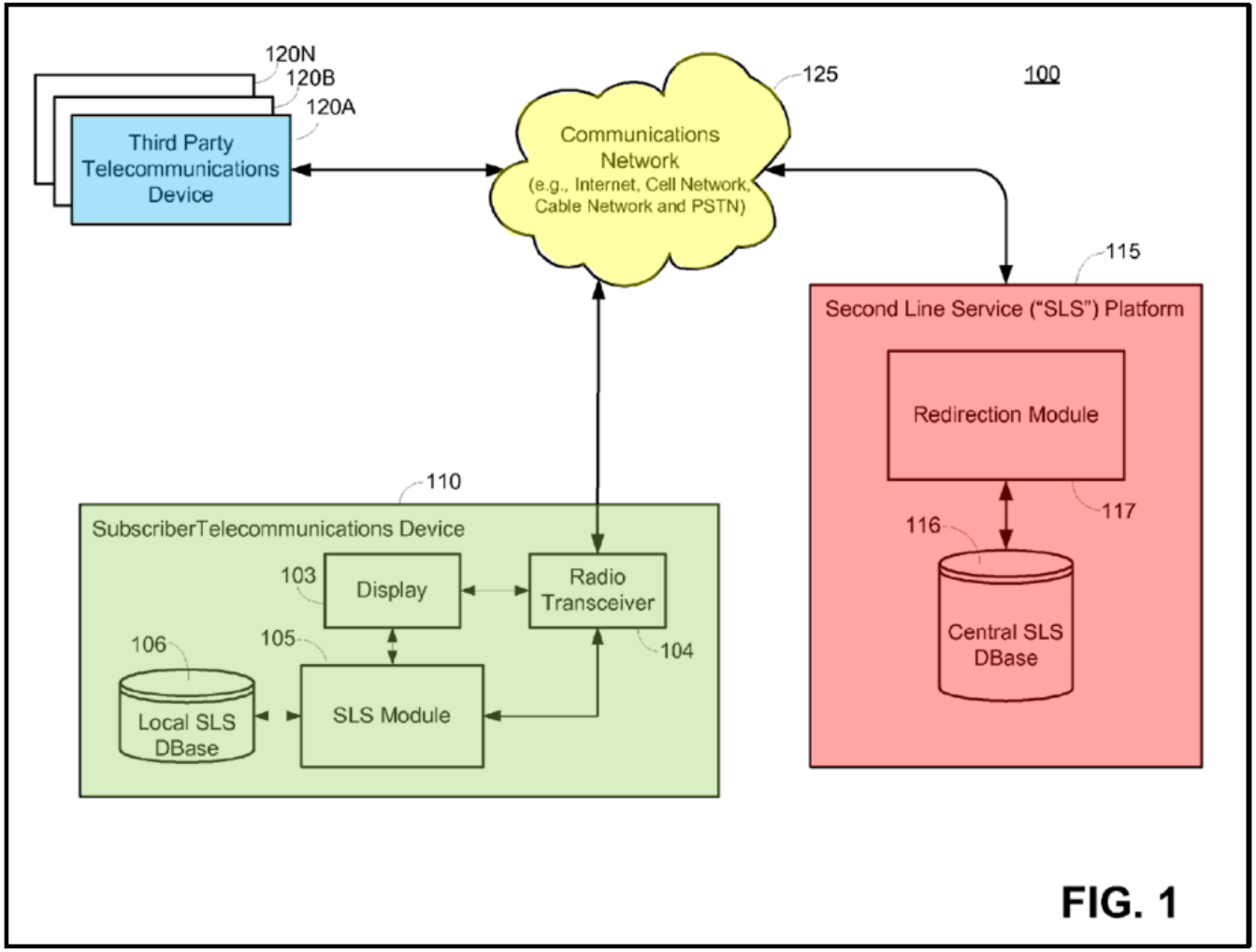
- Disguised attempt to require the claimed "pre-call information" to be transmitted after the incoming call.
  - Improperly carves out situations where the bridge number is received and then used for a future call.

- The claim language does not require which mechanism/component uses the bridge number for the "connecting" process.

-00361 Reply at 6-7

DEMONSTRATIVE EXHIBIT - NOT EVIDENCE

Backhaus



Ex. 1005, FIG. 1 (annotated); -00357 Pet. at 9-10

DEMONSTRATIVE EXHIBIT - NOT EVIDENCE

IPR2023-00357 - ’585 Patent - Instituted Grounds

- **Ground 1:** Claims 1, 2, and 4 anticipated by Backhaus
- **Ground 2:** Claim 3 obvious in view of Backhaus and Saksena
- **Ground 3:** Claims 1, 2, and 4 obvious in view of Backhaus and Taylor
- **Ground 4:** Claim 3 obvious in view of Backhaus, Saksena, and Taylor

DEMONSTRATIVE EXHIBIT - NOT EVIDENCE

IPR2023-00357 - ’585 Patent - Claim 1

1. A method of providing telephone service, comprising:

automatically storing electronic information that indicates an association of a secondary telephone number and a primary telephone number with a mobile device in a computer memory associated with a server;

automatically transmitting information that indicates an access telephone number to the mobile device via a data channel;

automatically associating a primary telephone number and access telephone number pairing with a corresponding secondary telephone number and contact telephone number pairing in the computer memory;

receiving, at a switch associated with the server, an outgoing call from the mobile device to the access telephone number via a second channel;

receiving, at the server, information from the switch indicating the outgoing call is being made to the access telephone number from the primary telephone number; and

receiving, at the switch, information from the server directing the switch to:

(a) connect the outgoing call to the contact telephone number of the secondary telephone number and contact telephone number pairing, and

(b) identify a telephone number from which the outgoing call is being made as the secondary telephone number.

DEMONSTRATIVE EXHIBIT - NOT EVIDENCE

"Transmitting … Access Telephone Number … to the Mobile Device Via a Data Channel"

Backhaus Discloses an Access Telephone Number

TD **110**. As will be explained in more detail, the SLS module **105** leverages the app to translate any number calling the subscriber, or called by the subscriber, into the appropriate Relationship Number. The application run by the SLS module **105** on subscriber TD **110** uses a relationship number to access the SLS platform **115** over the telephone network **125**.

Ex. 1005 at [0049]

DEMONSTRATIVE EXHIBIT - NOT EVIDENCE

"Transmitting … Access Telephone Number … to the Mobile Device Via a Data Channel"

Backhaus Discloses the Access Telephone Number Is Transmitted Via a Data Channel (Petition's "Second Way")

125. At block **446**, it is deduced by the SLS platform **115** that the subscriber associated with the calling SLS client desires to use the SLS service to call a third party with which no relationship number has been associated with the actual third party number. The SLS module **105** has provided the request for the new relationship number, along with the third party number it desires to call, to the SLS platform **115** via the communication. The central SLS database **116** is queried at block **446** to determine the next available relationship number for the subscriber's given SLS number.

Ex. 1005 at [0071]

-00357 Pet. at 25-26; -00357 Reply at 4-5

DEMONSTRATIVE EXHIBIT - NOT EVIDENCE

"Transmitting … Access Telephone Number … to the Mobile Device Via a Data Channel"

Backhaus Discloses the Access Telephone Number Is Transmitted Via a Data Channel (Petition's "Second Way")

[0072] It is envisioned that the SLS module **105** may communicate with the SLS platform **115** in some embodiments to obtain a relationship number for a third party that has not previously been called via a session-based protocol such as, but not limited to, an unstructured supplementary services data ("USSD") protocol. As is understood in the art of tele-

Ex. 1005 at [0072]

-00357 Pet. at 25-26; -00357 Reply at 4-5

DEMONSTRATIVE EXHIBIT - NOT EVIDENCE

"Transmitting … Access Telephone Number … to the Mobile Device Via a Data Channel"

Backhaus Discloses the Access Telephone Number Is Transmitted Via a Data Channel (Petition's "Second Way")

[0073] Moreover, USSD is offered herein for exemplary purposes and is not meant to limit the type of communications protocol that may be used by certain embodiments. For example, it is envisioned that short message service ("SMS") protocol, multimedia messaging service ("MMS") protocol, and/or other protocols may be used by some embodiments. It is envisioned that an IP-based interaction over the TD's data service may be used by some embodiments. As would be

Ex. 1005 at [0073]

-00357 Pet. at 25-26; -00357 Reply at 4-5

DEMONSTRATIVE EXHIBIT - NOT EVIDENCE

"Transmitting … Access Telephone Number … to the Mobile Device Via a Data Channel"

Backhaus's Disclosure Is Consistent with the Challenged Patent

embodiments, reference is made to a data channel. A preferred data channel may be an Internet Protocol (IP) channel, which is not a conventional telephone voice channel. How-

Ex. 1001 at 4:19-26

The communications between the server **100** and the handset **340** over the Internet **316** may utilize IP as a protocol opposed to protocols used to establish communications according to CDMA, GSM, or like standards. Such IP governed communications are referred to herein as being conducted over a "data channel." Conversely, communica-

Ex. 1001 at 4:49-54

-00357 Pet. at 25-26; -00357 Reply at 4-5

DEMONSTRATIVE EXHIBIT - NOT EVIDENCE

"Transmitting … Access Telephone Number … to the Mobile Device Via a Data Channel"

Backhaus Discloses the Access Telephone Number Is Transmitted Via a Data Channel (Petition's "Second Way")

[0074] At block **448**, the determined next available relationship number is returned to the SLS module **105** of the subscriber TD **110**. At block **450**, the central SLS database

Ex. 1005 at [0074]

-00357 Pet. at 25-26; -00357 Reply at 4-5

DEMONSTRATIVE EXHIBIT - NOT EVIDENCE

"Transmitting … Access Telephone Number … to the Mobile Device Via a Data Channel"

Patent Owner Incorrectly Characterizes Backhaus

[0074]). Backhaus paragraphs 72 and 73 mention alleged data protocols, but never once mention the relationship number. Ex. 1005, [0072]-[0073]. Backhaus paragraph 74 describes a new, separate step of transmitting a relationship number (block 448) and never identifies what protocol is used or how this specific transmission occurs. *Id.*, [0074]. Thus, Backhaus does not anticipate because it

-00357 Sur-Reply at 11

DEMONSTRATIVE EXHIBIT - NOT EVIDENCE

"Transmitting … Access Telephone Number … to the Mobile Device Via a Data Channel"

Backhaus Discloses the Access Telephone Number Is Transmitted Via a Data Channel (Petition's "First Way")

[0055] 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**. In some embodiments, the calling party field may contain the relationship number established by the SLS platform **115** (in this example, 1.678.222.0001) and the actual primary number of the calling third party (in this example, 1.305.229.9999), separated by a dialable separator such as a "star" character. In other embodiments, the calling party field

Ex. 1005 at [0055]

-00357 Pet. at 22-25; -00357 Reply at 5-10; *see also* Ex. 1005 at [0052], [0056], [0073]

DEMONSTRATIVE EXHIBIT - NOT EVIDENCE

IPR2023-00357 - ’585 Patent - Claim 1

1. A method of providing telephone service, comprising:

automatically storing electronic information that indicates an association of a secondary telephone number and a primary telephone number with a mobile device in a computer memory associated with a server;

automatically transmitting information that indicates an access telephone number to the mobile device via a **data channel**;

automatically associating a primary telephone number and access telephone number pairing with a corresponding secondary telephone number and contact telephone number pairing in the computer memory;

receiving, at a switch associated with the server, an outgoing call from the mobile device to the access telephone number via a **second channel**;

receiving, at the server, information from the switch indicating the outgoing call is being made to the access telephone number from the primary telephone number; and

receiving, at the switch, information from the server directing the switch to:

(a) connect the outgoing call to the contact telephone number of the secondary telephone number and contact telephone number pairing, and

(b) identify a telephone number from which the outgoing call is being made as the secondary telephone number.

DEMONSTRATIVE EXHIBIT - NOT EVIDENCE

"Channel" Limitations

Patent Owner's "Channel" Limitations Argument Not Relevant to Petition's "Second Way"

Petitioner's Reply

> As an initial matter, however, all of Flyp's arguments are directed to the "first way" that the Petitioner addressed limitation [1.b]. (POR, 23-28.) For instance, Flyp

-00357 Reply at 10-11

Patent Owner's Sur-Reply

> The Reply first defends its inconsistent positions by arguing that only its "first way" argument is inconsistent. Reply at 10-11. But even if this were true, the fact that the Petition stated an internally inconsistent theory undermines all of its arguments and specifically undermines the expert's credibility, which is something that the Board may consider in evaluating all grounds of the Petition.

-00357 Sur-Reply at 11-12

DEMONSTRATIVE EXHIBIT - NOT EVIDENCE

"Channel" Limitations

Petition's "First Way" Is Consistent

Flyp is also incorrect. For one, Flyp relies on the same incorrect representation of the "first way" discussed above in Sections II and III.A.2. For example, contrary to Flyp's suggestion, the "first way" relies on a channel different from the "second channel," i.e., IP-based communications for establishing the relationship between various numbers and databases, to address the claimed "data channel." (POR, 23-24; *see also* Pet., 22-25 (the "first way" for limitation [1.b]).)

-00357 Reply at 11

DEMONSTRATIVE EXHIBIT - NOT EVIDENCE

"Channel" Limitations

Petition's "First Way" Is Consistent

Flyp's assertion that there is "no relevant difference between these two call legs," e.g., "both [legs] have a calling party field," is divorced from Backhaus's disclosure. (POR, 25.) According to Backhaus, when SLS platform 115 establishes a call leg to subscriber TD 110 (as described in the "first way" of addressing limitation [1.b]), the SLS platform sends a "**calling party field**" (a **"specially encoded message"**) containing a combination of a relationship number and a third party number for setting up the phone's database, **which may be transmitted using IP ("data channel")**. (Pet., 22-25; *see also* Ex. 1005, [0055].) On the other hand, when subscriber TD 110 establishes a call leg to SLS platform 115 (as discussed for limitation [1.d]), Backhaus does not disclose transmitting such a "calling party field" or "encoded message" for setting up the phone's database. Thus, contrary to

-00357 Reply at 11

DEMONSTRATIVE EXHIBIT - NOT EVIDENCE

IPR2023-00357 - ’585 Patent - Claim 1

1. A method of providing telephone service, comprising:

automatically storing electronic information that indicates an association of a secondary telephone number and a primary telephone number with a mobile device in a computer memory associated with a server;

automatically transmitting information that indicates an access telephone number to the mobile device via a data channel;

automatically associating a primary telephone number and access telephone number pairing with a corresponding secondary telephone number and contact telephone number pairing in the computer memory;

receiving, at **a switch** associated with the server, an outgoing call from the mobile device to the access telephone number via a second channel;

receiving, at the server, information from **the switch** indicating the outgoing call is being made to the access telephone number from the primary telephone number; and

receiving, at **the switch**, information from the server directing **the switch** to:

(a) connect the outgoing call to the contact telephone number of the secondary telephone number and contact telephone number pairing, and

(b) identify a telephone number from which the outgoing call is being made as the secondary telephone number.

DEMONSTRATIVE EXHIBIT - NOT EVIDENCE

"Switch" Limitations

Backhaus Discloses Communications Over a PSTN

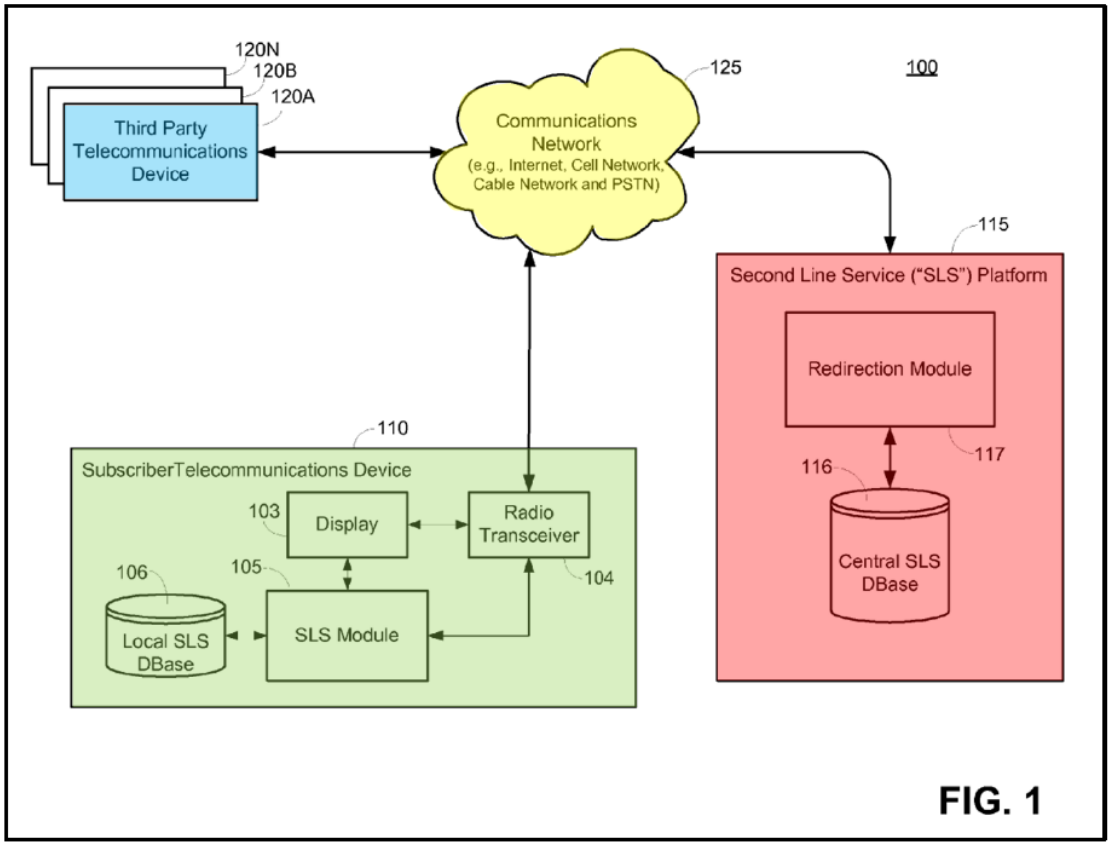
communications network **125**. Notably, communications network **125** envisions any and all networks for transmitting and terminating communications between telecommunications devices such as, but not limited to, cellular networks, PSTNs, cable networks and the Internet. Methods for effecting the

Ex. 1005 at [0032]

DEMONSTRATIVE EXHIBIT - NOT EVIDENCE

"Switch" Limitations

Backhaus Discloses Communications Over a PSTN



Ex. 1005 at FIG. 1

-00357 Pet. at 33

DEMONSTRATIVE EXHIBIT - NOT EVIDENCE

"Switch" Limitations

The PSTN Includes a Local Switch, as Dr. Lin Explained

79. A person of ordinary skill in the art would have also understood that calls are established and routed through the PSTN by SSPs in network 125, including the use of a local SSP. A local SSP is a switch that connects to a telecommunication device or server so as to allow the device/server to access the PSTN. (Ex. 1011, 6-7 (describing that calls are established and routed by switches across the PSTN, including a calling party's local switch and a destination's local switch), 82 (disclosing that a local exchange/switch "provides network access for the subscriber").) For example and consistent with a skilled person's knowledge, Ex.

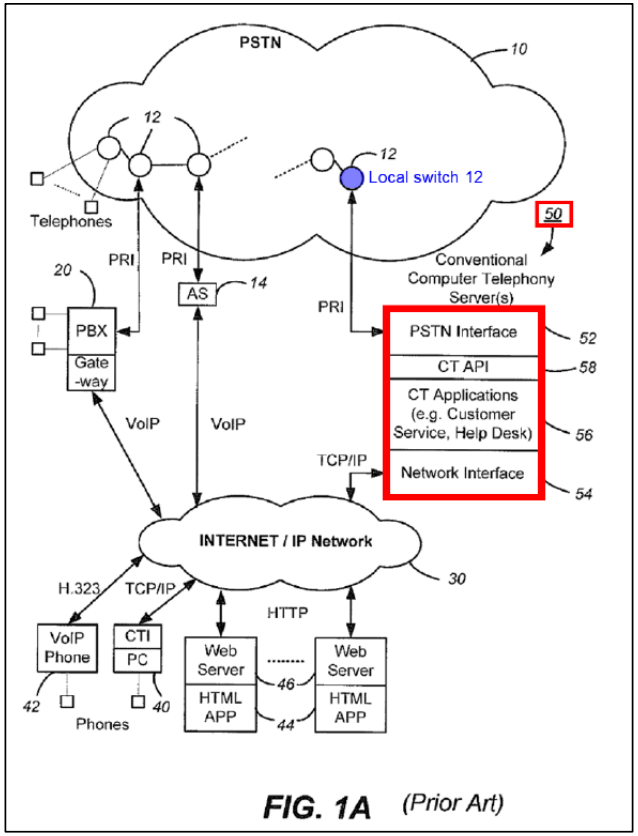
-00357 Ex. 1002 at ¶ 79

-00357 Pet. at 35-36

DEMONSTRATIVE EXHIBIT - NOT EVIDENCE

"Switch" Limitations

The State of the Art Confirms Use of a Local Switch



Ex. 1007 at FIG. 1A (annotated)

-00357 Pet. at 35-36; -00357 Ex. 1002 at ¶ 79

DEMONSTRATIVE EXHIBIT - NOT EVIDENCE

"Switch" Limitations

The State of the Art Confirms Use of a Local Switch

For example, if a subscriber wishes to place a call, the call must be signaled to the subscriber's local switch. The initial signal in this process is the off-hook condition the subscriber causes by lifting the handset. The action of lifting the handset signals to the network that the subscriber wishes to engage telephony services. The local switch should then acknowledge the request for telephony services by sending back a dial tone, which informs the subscriber that he can proceed to dial the called party number. The subscriber has a certain amount of time to respond to the dial tone by using the telephone keypad to signal the digits that comprise the called party number. The network signals that it is receiving the dialed digits with silence (as opposed to a dial tone).

Up to this point, the signaling is known as *subscriber signaling* and takes place between the subscriber and the local switch. Subscriber signaling is also known as *access signaling*. The "Subscriber Signaling" section of this chapter further describes subscriber signaling.

Ex. 1011 at 6

bi-directionally. When a circuit is reserved between both parties, the destination local switch places a ringing signal to alert the called party about the incoming call. This signal is classified as subscriber signaling because it travels between a switch (the called party's local switch) and a subscriber (the called party). A ringing indication tone is sent to the calling party telephone to signal that the telephone is ringing. If the called party wishes to engage the call, the subscriber lifts the handset into the off-hook condition. This moves the call from the set-up phase to the call phase.

Ex. 1011 at 7

-00357 Pet. at 35-36; -00357 Ex. 1002 at ¶ 79

DEMONSTRATIVE EXHIBIT - NOT EVIDENCE

"Switch" Limitations

The PSTN Includes a Local Switch, as Dr. Lin Explained

(Ex. 1007, FIG. 1A (annotated).) Thus, in Backhaus, given that the outgoing calls are routed through network 125 (which includes the PSTN) to SLS platform 115, a person of ordinary skill in the art would have understood that a local switch (the claimed "switch") in network 125 necessarily receives the outgoing calls before routing the same to SLS platform 115. Moreover, Backhaus discloses that the local

-00357 Ex. 1002 at ¶ 79

-00357 Pet. at 35-36

DEMONSTRATIVE EXHIBIT - NOT EVIDENCE

"Switch" Limitations

The Petition Consistently Relied on the Local Switch of the SLS Platform 115

Limitation 1(d)

(Ex. 1007, FIG. 1A (annotated).) Thus, in Backhaus, given that the outgoing calls are routed through network 125 (which includes the PSTN) to SLS platform 115, a POSITA would have understood that a local switch (the claimed "switch") in network 125 necessarily receives the outgoing calls before routing the same to SLS platform 115. Moreover, Backhaus discloses that the local switch in network 125

-00357 Pet. at 36

DEMONSTRATIVE EXHIBIT - NOT EVIDENCE

"Switch" Limitations

The Petition Consistently Relied on the Local Switch of the SLS Platform 115

Limitation 1(e)

number." (Ex. 1005, [0059]; Section IX.A.1(v) (limitation [1.d]).) The local switch (the claimed "switch") in network 125 necessarily receives the outgoing call before routing the same to SLS platform 115 (including the claimed "server"). (Ex. 1005, [0059]; *see also id.*, [0049]; Section IX.A.1(v) (limitation [1.d]).)

-00357 Pet. at 39

DEMONSTRATIVE EXHIBIT - NOT EVIDENCE

"Switch" Limitations

The Petition Consistently Relied on the Local Switch of the SLS Platform 115

Limitation 1(f)

with third party TD 120A."); Section IX.A.1(iv) (limitation [1.c]).) Additionally, as discussed in limitation [1.d], calls are established and routed by components in network 125 including the local switch that is associated with SLS platform 115. (Section IX.A.1(v) (limitation [1.d]); *see also* Ex. 1007, [0004] ("External digital communication systems typically communicate with the PSTN by interfacing with an exchange such as [local switch] 12"); Ex. 1011, 6-7 (describing that calls are established and routed by switches, including a calling party's local switch and a destination local switch), 82 (disclosing that in the PSTN a local exchange or switch "provides network access for the subscriber"); Ex. 1002, ¶83.)

-00357 Pet. at 40-41

DEMONSTRATIVE EXHIBIT - NOT EVIDENCE

"Switch" Limitations

Patent Owner's Position Is Unsupported by the Evidence

> Here, the Petition's inherency argument fails because using the same switch to perform all three limitations is merely a possibility or a probability. The Petition never provides a single reason why it would be necessary to use the same switch. It is not *necessary*, and therefore it is not inherent. Indeed, at least one alternative

-00357 PO Resp. at 29

> Specifically, in Backhaus, a call could be received at a first switch (as the Petition alleges in relation to limitation [1.d]), but the Backhaus server could direct a *different* switch to connect the outgoing call (conflicting with limitation [1.f]).

-00357 PO Resp. at 30

-00357 PO Resp. at 29-30

DEMONSTRATIVE EXHIBIT - NOT EVIDENCE

"Switch" Limitations

Dr. Akl Admits Backhaus Uses a Conventional PSTN

109. Backhaus clearly teaches that call routing is done through the conventional PSTN (or other conventional network such as a cellular network) for calls to both the primary and SLS numbers:

Ex. 1103 at ¶ 109

DEMONSTRATIVE EXHIBIT - NOT EVIDENCE

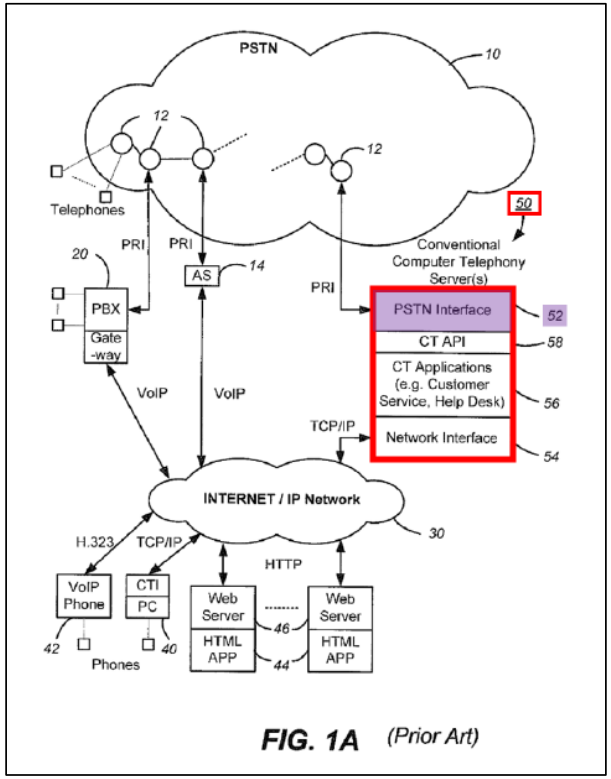
IPR2023-00357 - ’585 Patent - Instituted Grounds

- **Ground 1:** Claims 1, 2, and 4 anticipated by Backhaus
- **Ground 2:** Claim 3 obvious in view of Backhaus and Saksena
- **Ground 3:** Claims 1, 2, and 4 obvious in view of Backhaus and Taylor
- **Ground 4:** Claim 3 obvious in view of Backhaus, Saksena, and Taylor

DEMONSTRATIVE EXHIBIT - NOT EVIDENCE

"Switch" Limitations

A Switch Separate From the PSTN Meeting the Claimed "Switch" Would Have Been Obvious



Ex. 1007 at FIG. 1A (annotated)

-00357 Pet. at 50-51; -00357 Ex. 1002 at ¶ 95

DEMONSTRATIVE EXHIBIT - NOT EVIDENCE

"Switch" Limitations

A Switch Separate From the PSTN Meeting the Claimed "Switch" Would Have Been Obvious

[0008] Telephony or Computer Telephony Integration (CTI) involves using a computer to control and manage a phone or a telephone system. When applied to a phone or a terminal equipment, CTI provides added features to an end user's phone. When applied to a telephone system whether as part of the PSTN or part of an IP telephony network system, CTI is usually implemented with a CT (Computer Telephony) server, such as CT server **50**. Such a server executes telephony applications that can provide custom services such as interactive voice response, customer service or help desk for an organization. The 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. Similarly, it can also be configured to

Ex. 1007 at [0008]

-00357 Pet. at 50-52; -00357 Ex. 1002 at ¶¶ 95-96

DEMONSTRATIVE EXHIBIT - NOT EVIDENCE

"Switch" Limitations

A Switch Separate From the PSTN Meeting the Claimed "Switch" Would Have Been Obvious

> 98. A person of ordinary skill in the art 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.

-00357 Ex. 1002 at ¶ 98

-00357 Pet. at 52-54; *see also* -00357 Reply at 18-19; Ex. 1102 at 87:16-88:8

DEMONSTRATIVE EXHIBIT - NOT EVIDENCE

"Switch" Limitations

Patent Owner's Admissions Regarding the Scope of a "Switch"

And in any event, Dialpad's underlying premise is flawed: the fact that "switch" may describe a broad category of well-known structures in the art, including mechanical switches and software switches, does not mean it is indefinite. This is so because "the inference of indefiniteness simply

Ex. 1009 at 23

channel using the bridge telephone number." In other words, the claims describe the switch in the same way as the extrinsic evidence and the specification: as an element in the communications networks that facilitates connections between transmitters and receivers.

Ex. 1009 at 22

-00357 Reply at 17-18

DEMONSTRATIVE EXHIBIT - NOT EVIDENCE

"Switch" Limitations

Dr. Akl's Admissions Regarding the Scope of a "Switch"

Q. So can you give me an example of a switch?

A. Yeah, I can give you an example of a switch. A switch would be maybe a combination of hardware and software or hardware or software that's going to, you know, take an input and provide an output. But that would be an example. But I have not articulated a definition.

Ex. 1102 at 89:13-19

DEMONSTRATIVE EXHIBIT - NOT EVIDENCE

IPR2023-00358 and IPR2023-00359

- The disputed issues in IPR2023-00358 and IPR2023-00359 are substantively identical to those in IPR2023-00357

DEMONSTRATIVE EXHIBIT - NOT EVIDENCE

IPR2023-00358 - ’094 Patent - Claim 1

1. A method of providing telephone service, comprising:

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;

automatically associating a bridge or access telephone number with each of a plurality of contact telephone numbers in the computer memory;

automatically transmitting information that indicates the association of the bridge or access telephone number with each of a plurality of contact telephone numbers to the handset via a data channel;

automatically associating each primary telephone number and bridge or access telephone number pairing with a corresponding secondary telephone number and contact telephone number pairing in the computer memory;

receiving, at a switch associated with the server, an outgoing call from the handset to the bridge or access telephone number via a second channel;

receiving, at the server, information from the switch indicating the outgoing call is being made to the bridge or access telephone number from the primary telephone number; and

receiving, at the switch, information from the server directing the switch to:

(a) connect the outgoing call to a contact telephone number associated with the primary telephone number and bridge or access telephone number pairing, and

(b) identify a telephone number from which the outgoing call is being made as the secondary telephone number.

DEMONSTRATIVE EXHIBIT - NOT EVIDENCE

IPR2023-00358 - ’094 Patent - Claim 1

1. A method of providing telephone service, comprising:

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;

automatically associating a bridge or access telephone number with each of a plurality of contact telephone numbers in the computer memory;

automatically transmitting information that indicates the association of the bridge or access telephone number with each of a plurality of contact telephone numbers to the handset via a **data channel**;

automatically associating each primary telephone number and bridge or access telephone number pairing with a corresponding secondary telephone number and contact telephone number pairing in the computer memory;

receiving, at a switch associated with the server, an outgoing call from the handset to the bridge or access telephone number via a **second channel**;

receiving, at the server, information from the switch indicating the outgoing call is being made to the bridge or access telephone number from the primary telephone number; and

receiving, at the switch, information from the server directing the switch to:

(a) connect the outgoing call to a contact telephone number associated with the primary telephone number and bridge or access telephone number pairing, and

(b) identify a telephone number from which the outgoing call is being made as the secondary telephone number.

DEMONSTRATIVE EXHIBIT - NOT EVIDENCE

IPR2023-00358 - ’094 Patent - Claim 1

1. A method of providing telephone service, comprising:

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;

automatically associating a bridge or access telephone number with each of a plurality of contact telephone numbers in the computer memory;

automatically transmitting information that indicates the association of the bridge or access telephone number with each of a plurality of contact telephone numbers to the handset via a data channel;

automatically associating each primary telephone number and bridge or access telephone number pairing with a corresponding secondary telephone number and contact telephone number pairing in the computer memory;

receiving, at **a switch** associated with the server, an outgoing call from the handset to the bridge or access telephone number via a second channel;

receiving, at the server, information from **the switch** indicating the outgoing call is being made to the bridge or access telephone number from the primary telephone number; and

receiving, at **the switch**, information from the server directing the switch to:

(a) connect the outgoing call to a contact telephone number associated with the primary telephone number and bridge or access telephone number pairing, and

(b) identify a telephone number from which the outgoing call is being made as the secondary telephone number.

DEMONSTRATIVE EXHIBIT - NOT EVIDENCE

IPR2023-00359 - ’554 Patent - Claim 1

1. A method of providing telephone service, comprising:

automatically storing electronic information that indicates an association of a secondary telephone number and a primary telephone number with a mobile device in a computer memory associated with a server;

automatically transmitting information that indicates an access telephone number to the mobile device via a data channel;

automatically associating the telephone access number with a switch associated with the server;

receiving, at the switch associated with the server, an outgoing call from the mobile device to the access telephone number via a second channel;

receiving, at the server, information from the switch indicating the outgoing call is being made to the access telephone number from the primary telephone number; and

receiving, at the switch, information from the server directing the switch to:

(a) connect the outgoing call to a contact telephone number indicated by the mobile device, and

(b) identify a telephone number from which the outgoing call is being made as the secondary telephone number.

DEMONSTRATIVE EXHIBIT - NOT EVIDENCE

IPR2023-00359 - ’554 Patent - Claim 1

1. A method of providing telephone service, comprising:

automatically storing electronic information that indicates an association of a secondary telephone number and a primary telephone number with a mobile device in a computer memory associated with a server;

automatically transmitting information that indicates an access telephone number to the mobile device via a **data channel**;

automatically associating the telephone access number with a switch associated with the server;

receiving, at the switch associated with the server, an outgoing call from the mobile device to the access telephone number via a **second channel**;

receiving, at the server, information from the switch indicating the outgoing call is being made to the access telephone number from the primary telephone number; and

receiving, at the switch, information from the server directing the switch to:

(a) connect the outgoing call to a contact telephone number indicated by the mobile device, and

(b) identify a telephone number from which the outgoing call is being made as the secondary telephone number.

DEMONSTRATIVE EXHIBIT - NOT EVIDENCE

IPR2023-00359 - ’554 Patent - Claim 1

1. A method of providing telephone service, comprising:

automatically storing electronic information that indicates an association of a secondary telephone number and a primary telephone number with a mobile device in a computer memory associated with a server;

automatically transmitting information that indicates an access telephone number to the mobile device via a data channel;

automatically associating the telephone access number with **a switch** associated with the server;

receiving, at **the switch** associated with the server, an outgoing call from the mobile device to the access telephone number via a second channel;

receiving, at the server, information from **the switch** indicating the outgoing call is being made to the access telephone number from the primary telephone number; and

receiving, at the switch, information from the server directing **the switch** to:

(a) connect the outgoing call to a contact telephone number indicated by the mobile device, and

(b) identify a telephone number from which the outgoing call is being made as the secondary telephone number.

DEMONSTRATIVE EXHIBIT - NOT EVIDENCE

IPR2023-00360 - ’770 Patent - Instituted Grounds

- **Ground 1:** Claims 1-5 obvious in view of Backhaus and Logan
- **Ground 2:** Claim 6 obvious in view of Backhaus, Logan, and Saksena
- **Ground 3:** Claims 1-5 obvious in view of Backhaus, Logan, and Taylor
- **Ground 4:** Claim 6 obvious in view of Backhaus, Logan, Saksena, and Taylor

DEMONSTRATIVE EXHIBIT - NOT EVIDENCE

IPR2023-00360 - ’770 Patent - Claim 1

1. A method of providing telephone service, the method comprising:

associating a secondary telephone number with a primary telephone number in at least one computer memory device, the primary telephone number being assigned to a handset;

acquiring first digital information from the handset over at least one data channel, the first digital information indicating primary call processing rules for handling calls directed to the primary telephone number;

storing the primary call processing rules in the at least one computer memory device;

acquiring second digital information from the handset over the at least one data channel, the second digital information indicating secondary call processing rules for handling calls directed to the secondary telephone number;

storing the secondary call processing rules in the at least one computer memory device;

receiving an incoming call over at least one voice channel at a switch, the switch being associated with a bridge telephone number such that calls directed to the bridge telephone number are automatically routed to the switch, the incoming call being directed to a handset-associated telephone number, the handset-associated telephone number being the primary telephone number or the secondary telephone number, and;

based on the primary call processing rules or the secondary call processing rules: transmitting pre-call information to the handset over the at least one data channel the pre-call information including the bridge telephone number and the handset-associated telephone number, such that the handset is capable of displaying the handset-associated telephone number to a user and, **based on user input, accepting the incoming call by connecting with the switch** over the at least one voice channel **using the bridge telephone number**.

DEMONSTRATIVE EXHIBIT - NOT EVIDENCE

"Based on User Input, Accepting the Incoming Call by Connecting with the Switch … Using the Bridge Telephone Number"

Backhaus Discloses Using the Relationship Number to Connect an Incoming Call

the third party CLID and subscriber's SLS number. At block **424**, the subscriber's primary number, as also identified from the query of block **422**, is called by the SLS platform **115**. At block **426**, the call is received at the subscriber's TD **110** and the SLS module **105** recognizes that it originated from the SLS platform **115**. It is envisioned that some embodiments of a SLS module **105** may recognize that an incoming call is from the SLS platform **115** by virtue of the call originating from a relationship number. At block **426**, the relationship number in the calling party field of the call signaling causes the SLS module **105** to handle the call and display the associated third party CLID for the benefit of the subscriber (the third party CLID may be queried from the local SLS database **106** by use of the relationship number).

Ex. 1005 at [0067]

-00360 Pet. at 45-47; -00360 Ex. 1002 at ¶¶ 103-104; -00360 Reply at 6-8; *see also* Ex. 1005 at [0052]-[0055]

DEMONSTRATIVE EXHIBIT - NOT EVIDENCE

"Based on User Input, Accepting the Incoming Call by Connecting with the Switch … Using the Bridge Telephone Number"

Backhaus Discloses Connecting the Incoming Call Based on User Input

[0068] At block **428** the subscriber is alerted to the incoming call and at block **430** the call is connected to the subscriber TD **110** by the SLS platform **115** when the subscriber answers the call. It is envisioned that, if the subscriber elects not to answer a call to the SLS number, the SLS module **105** in some embodiments may use a voicemail service or message service in response to the unanswered call. That is, it is envisioned

Ex. 1005 at [0068]

-00360 Pet. at 45-47; -00360 Ex. 1002 at ¶¶ 103-104; -00360 Reply at 6-8

DEMONSTRATIVE EXHIBIT - NOT EVIDENCE

IPR2023-00360 - ’770 Patent - Claim 1

1. A method of providing telephone service, the method comprising:

associating a secondary telephone number with a primary telephone number in at least one computer memory device, the primary telephone number being assigned to a handset;

acquiring first digital information from the handset over at least one data channel, the first digital information indicating primary call processing rules for handling calls directed to the primary telephone number;

storing the primary call processing rules in the at least one computer memory device;

acquiring second digital information from the handset over the at least one data channel, the second digital information indicating secondary call processing rules for handling calls directed to the secondary telephone number;

storing the secondary call processing rules in the at least one computer memory device;

receiving an incoming call over at least one voice channel at a switch, the switch being associated with a bridge telephone number such that calls directed to the bridge telephone number are automatically routed to the switch, the incoming call being directed to a handset-associated telephone number, the handset-associated telephone number being the primary telephone number or the secondary telephone number, and;

based on the primary call processing rules or the secondary call processing rules: **transmitting pre-call information to the handset over the at least one data channel** the pre-call information including the bridge telephone number and the handset-associated telephone number, such that the handset is capable of displaying the handset-associated telephone number to a user and, based on user input, accepting the incoming call by connecting with the switch over the at least one voice channel using the bridge telephone number.

DEMONSTRATIVE EXHIBIT - NOT EVIDENCE

"Transmitting Pre-Call Information to the Handset Over the at Least One Data Channel"

Backhaus Discloses Pre-Call Information Is Transmitted Over a Data Channel (Petition's "Second Way")

125. At block **446**, it is deduced by the SLS platform **115** that the subscriber associated with the calling SLS client desires to use the SLS service to call a third party with which no relationship number has been associated with the actual third party number. The SLS module **105** has provided the request for the new relationship number, along with the third party number it desires to call, to the SLS platform **115** via the communication. The central SLS database **116** is queried at block **446** to determine the next available relationship number for the subscriber's given SLS number.

Ex. 1005 at [0071]

-00360 Pet. at 43-46

DEMONSTRATIVE EXHIBIT - NOT EVIDENCE

"Transmitting Pre-Call Information to the Handset Over the at Least One Data Channel"

Backhaus Discloses Pre-Call Information Is Transmitted Over a Data Channel (Petition's "Second Way")

[0072] It is envisioned that the SLS module **105** may communicate with the SLS platform **115** in some embodiments to obtain a relationship number for a third party that has not previously been called via a session-based protocol such as, but not limited to, an unstructured supplementary services data ("USSD") protocol. As is understood in the art of tele-

Ex. 1005 at [0072]

-00360 Pet. at 43-46

DEMONSTRATIVE EXHIBIT - NOT EVIDENCE

"Transmitting Pre-Call Information to the Handset Over the at Least One Data Channel"

Backhaus Discloses Pre-Call Information Is Transmitted Over a Data Channel (Petition's "Second Way")

[0073] Moreover, USSD is offered herein for exemplary purposes and is not meant to limit the type of communications protocol that may be used by certain embodiments. For example, it is envisioned that short message service ("SMS") protocol, multimedia messaging service ("MMS") protocol, and/or other protocols may be used by some embodiments. It is envisioned that an IP-based interaction over the TD's data service may be used by some embodiments. As would be

Ex. 1005 at [0073]

-00360 Pet. at 43-46

DEMONSTRATIVE EXHIBIT - NOT EVIDENCE

"Transmitting Pre-Call Information to the Handset Over the at Least One Data Channel"

Backhaus Discloses Pre-Call Information Is Transmitted Over a Data Channel (Petition's "Second Way")

[0074] At block **448**, the determined next available relationship number is returned to the SLS module **105** of the subscriber TD **110**. At block **450**, the central SLS database

Ex. 1005 at [0074]

-00360 Pet. at 43-46

DEMONSTRATIVE EXHIBIT - NOT EVIDENCE

"Transmitting Pre-Call Information to the Handset Over the at Least One Data Channel"

Backhaus Discloses that After TD 110 Acquired the Relationship Number, the Call Routing Process Starts Over

the third party CLID. Notably, after blocks **448** and/or **450**, the method **400** may return to the start of method **400** at block **402** as the SLS module **105** of the subscriber TD **110** has acquired a new relationship number in association with a third party CLID. Consequently, using the newly acquired rela-

Ex. 1005 at [0074]

[0020] FIGS. **4A-4D** collectively illustrate an exemplary method for routing calls between a third party TD and a subscriber TD.

Ex. 1005 at [0020]

-00360 Pet. at 43-46; -00360 Reply at 9-10

DEMONSTRATIVE EXHIBIT - NOT EVIDENCE

"Transmitting Pre-Call Information to the Handset Over the at Least One Data Channel"

Backhaus Meets Patent Owner's Incorrect Temporal Requirement

[0066] It is envisioned that the steps taken at block **414** of the method **400** may differ in some embodiments. For instance, when a third party call to a subscriber SLS number is received at the SLS platform **115**, and the third party calling number is not yet associated with a relationship number, the SLS platform **115** may assign a next relationship number as described relative to blocks **410-412** then redirect the call to the subscriber TD **110**. The SLS module **105** of the subscriber TD **110**, having no record of the new relationship number in its local database **106**, may display the calling number as "unknown caller" on the display of the subscriber TD **110**. At the same time, the SLS module **105** may establish a data connection over network **125** with the SLS platform **115** for the purpose of acquiring the third party calling number associated with the new relationship number. Once the actual third party calling number is acquired, the SLS module **105** may update the local database **106** and change the display from "unknown caller" to the actual third party calling number.

Ex. 1005 at [0066]

-00360 Pet. at 12, 45-47; -00360 Reply at 10-11

DEMONSTRATIVE EXHIBIT - NOT EVIDENCE

"Transmitting Pre-Call Information to the Handset Over the at Least One Data Channel"

Backhaus Discloses Pre-Call Information Is Transmitted Over a Data Channel (Petition's "First Way")

[0055] 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**. In some embodiments, the calling party field may contain the relationship number established by the SLS platform **115** (in this example, 1.678.222.0001) and the actual primary number of the calling third party (in this example, 1.305.229.9999), separated by a dialable separator such as a "star" character. In other embodiments, the calling party field

Ex. 1005 at [0055]

-00360 Pet. at 37-43

DEMONSTRATIVE EXHIBIT - NOT EVIDENCE

IPR2023-00360 - ’770 Patent - Claim 1

1. A method of providing telephone service, the method comprising:

associating a secondary telephone number with a primary telephone number in at least one computer memory device, the primary telephone number being assigned to a handset;

acquiring first digital information from the handset over at least one data channel, the first digital information indicating primary call processing rules for handling calls directed to the primary telephone number;

storing the primary call processing rules in the at least one computer memory device;

acquiring second digital information from the handset over the at least one data channel, the second digital information indicating secondary call processing rules for handling calls directed to the secondary telephone number;

storing the secondary call processing rules in the at least one computer memory device;

receiving an incoming call over at least one voice channel at a switch, the switch being associated with a bridge telephone number such that calls directed to the bridge telephone number are automatically routed to the switch, the incoming call being directed to a handset-associated telephone number, the handset-associated telephone number being the primary telephone number or the secondary telephone number, and;

based on the primary call processing rules or the secondary call processing rules: transmitting pre-call information to the handset over the at least one data channel the pre-call information including the bridge telephone number and the **handset-associated telephone number**, such that the handset is capable of displaying the handset-associated telephone number to a user and, based on user input, accepting the incoming call by connecting with the switch over the at least one voice channel using the bridge telephone number.

DEMONSTRATIVE EXHIBIT - NOT EVIDENCE

"The Handset-Associated Telephone Number"

Backhaus Envisions Various Data Being Displayed for the Benefit of the Subscriber

110. The call signal may include the calling line identification ("CLID"), i.e. the phone number, associated with third party TD **120** such that when the call is received at subscriber TD **110**, the CLID may be displayed for the benefit of the subscriber on display component **103**. Notably, although the exemplary embodiments described in the present disclosure use the CLID as an example of data that may be displayed for the benefit of the user of a subscriber TD **110**, it will be understood that any data associated with the third party TD **120**, subscriber TD **110**, SLS platform **115** or the like may be rendered for the benefit of the user of the system **100** and, as such, only describing that the CLID is displayed will not limit the scope of what is envisioned by the disclosure. Moreover, it is envisioned that any data uniquely associated with a call to a primary number or an SLS number may be displayed for the benefit of a subscriber to the system **100**.

Ex. 1005 at [0033]

-00360 Pet. at 42-43, 45; -00360 Ex. 1002 at ¶¶ 98-99, 102

DEMONSTRATIVE EXHIBIT - NOT EVIDENCE

"The Handset-Associated Telephone Number"

A POSITA Would Have Been Motivated to Include the Primary and/or SLS Number, as Dr. Lin Explained

subscriber." (*Id.*) Consistent with Backhaus, a person of ordinary skill in the art would have been motivated and found it beneficial to include the primary number and/or an SLS number in its transmission of pre-call information because such information would have enabled subscriber TD 110 to display whether it is the primary number or SLS number(s) that the calling party intends to call, allowing the subscriber to determine whether the call is for a personal or business matter, for example, particularly when the subscriber has multiple SLS numbers. (Ex. 1005, [0055] ("populat[ing] the calling party field, or provide other metadata, that serves to trigger recognition of the incoming call as a call directed to the SLS number of the subscriber"), [0104] ("a subscriber may have multiple phone numbers associated with one device"), [0133] ("a subscriber TD may have multiple SLS numbers").)

Ex. 1002 at ¶ 98

-00360 Pet. at 42-43, 45; -00360 Ex. 1002 at ¶¶ 98-99, 102

DEMONSTRATIVE EXHIBIT - NOT EVIDENCE

IPR2023-00360 - ’770 Patent - Claim 1

1. A method of providing telephone service, the method comprising:

associating a secondary telephone number with a primary telephone number in at least one computer memory device, the primary telephone number being assigned to a handset;

acquiring first digital information from the handset over at least one data channel, the first digital information indicating primary call processing rules for handling calls directed to the primary telephone number;

storing the primary call processing rules in the at least one computer memory device;

acquiring second digital information from the handset over the at least one data channel, the second digital information indicating secondary call processing rules for handling calls directed to the secondary telephone number;

storing the secondary call processing rules in the at least one computer memory device;

receiving an incoming call over **at least one voice channel** at a switch, the switch being associated with a bridge telephone number such that calls directed to the bridge telephone number are automatically routed to the switch, the incoming call being directed to a handset-associated telephone number, the handset-associated telephone number being the primary telephone number or the secondary telephone number, and;

based on the primary call processing rules or the secondary call processing rules: transmitting pre-call information to the handset over the **at least one data channel** the pre-call information including the bridge telephone number and the handset-associated telephone number, such that the handset is capable of displaying the handset-associated telephone number to a user and, based on user input, accepting the incoming call by connecting with the switch over the at least one voice channel using the bridge telephone number.

DEMONSTRATIVE EXHIBIT - NOT EVIDENCE

The “Channel” Limitations

- The disputed issues in IPR2023-00360 for this limitation are substantively identical to those in IPR2023-00357

DEMONSTRATIVE EXHIBIT - NOT EVIDENCE

IPR2023-00360 - ’770 Patent - Claim 1

1. A method of providing telephone service, the method comprising:

associating a secondary telephone number with a primary telephone number in at least one computer memory device, the primary telephone number being assigned to a handset;

acquiring first digital information from the handset over at least one data channel, the **first digital information indicating primary call processing rules** for handling calls directed to the primary telephone number;

storing the primary call processing rules in the at least one computer memory device;

acquiring second digital information from the handset over the at least one data channel, the second digital information indicating secondary call processing rules for handling calls directed to the secondary telephone number;

storing the secondary call processing rules in the at least one computer memory device;

receiving an incoming call over at least one voice channel at a switch, the switch being associated with a bridge telephone number such that calls directed to the bridge telephone number are automatically routed to the switch, the incoming call being directed to a handset-associated telephone number, the handset-associated telephone number being the primary telephone number or the secondary telephone number, and;

based on the primary call processing rules or the secondary call processing rules: transmitting pre-call information to the handset over the at least one data channel the pre-call information including the bridge telephone number and the handset-associated telephone number, such that the handset is capable of displaying the handset-associated telephone number to a user and, based on user input, accepting the incoming call by connecting with the switch over the at least one voice channel using the bridge telephone number.

DEMONSTRATIVE EXHIBIT - NOT EVIDENCE

Acquiring "First Digital Information Indicating Primary Call Processing Rules" from the Handset

Backhaus at Least Suggests Primary Call Processing Rules

the call. It is envisioned that, if the subscriber elects not to answer a call to the SLS number, the SLS module **105** in some embodiments may use a voicemail service or message service in response to the unanswered call. That is, it is envisioned that an SLS service may provide features and services dedicated to the SLS subscriber and separate from similar features and services associated with the subscriber's primary number.

Ex. 1005 at [0068]

-00360 Pet. at 16-25; -00360 Ex. 1002 at ¶¶ 67-79

DEMONSTRATIVE EXHIBIT - NOT EVIDENCE

Acquiring "First Digital Information Indicating Primary Call Processing Rules" from the Handset

Logan Discloses Primary Call Processing Rules

number. Calls are received at each number when the user cellular telephone is located at the predetermined location, or it is the predetermined time of day. When calls are received to one of the virtual numbers, or to the base number, outside of the permitted receipt time, as provided by the user preferences, the call is routed to a voicemail database by the system server, which implements a call forwarding application.

Ex. 1015 at [0011]

-00360 Pet. at 16-25; -00360 Ex. 1002 at ¶¶ 67-79

DEMONSTRATIVE EXHIBIT - NOT EVIDENCE

Acquiring "First Digital Information Indicating Primary Call Processing Rules" from the Handset

Logan Discloses Primary Call Processing Rules

[0011] This invention overcomes disadvantages of the prior art by providing a system and method for call forwarding, employing virtual phone numbers associated with landline and other discrete telephone units, in which a cellular telephone user, based upon his or her unique user preferences, can control the forwarding of calls from the caller to a series of virtual numbers, as well as the users cellular telephone "base" or owned number (i.e. the number that is the user cellular telephone-specific number). The forwarding of calls

Ex. 1015 at [0011]

-00360 Pet. at 16-25; -00360 Ex. 1002 at ¶¶ 67-79

DEMONSTRATIVE EXHIBIT - NOT EVIDENCE

Acquiring "First Digital Information Indicating Primary Call Processing Rules" from the Handset

Logan Discloses Primary Call Processing Rules

number **103** via data stream **1 13**. These incoming calls are all forwarded through the network **120** via data stream **125** to a system server **130** and then forwarded to the user's cell-phone—but only when that user is in the appropriate location, or meets other user-specified preferences.

Ex. 1015 at [0026]

-00360 Pet. at 16-25; -00360 Ex. 1002 at ¶¶ 67-79

DEMONSTRATIVE EXHIBIT - NOT EVIDENCE

Acquiring "First Digital Information Indicating Primary Call Processing Rules" from the Handset

Logan Discloses Primary Call Processing Rules

[0027] In an illustrative embodiment, if the GPS-enabled MNC phone indicates to the server that the user is at the office, the virtual phone number forwards any calls coming to the virtual office number to the user's cellphone. The same applies for a virtual home number. If the user is not at the appropriate location, then the call is not forwarded and goes into the voicemail database. In this manner, the distraction of receiving home phone calls at the office on one's cellphone, or business-related calls when not in the office would be eliminated.

Ex. 1015 at [0027]

-00360 Pet. at 16-25; -00360 Ex. 1002 at ¶¶ 67-79

DEMONSTRATIVE EXHIBIT - NOT EVIDENCE

Acquiring "First Digital Information Indicating Primary Call Processing Rules" from the Handset

Logan Discloses Primary Call Processing Rules

[0029] In the initial set-up of the system, a user, via his MNC (Multi Number Cellphone) **140** can enter a set of preferences that are transmitted to the system server **130** via datastream **134**. These preferences notify the system server of which calls a user desires to receive. The preferences may be specified based on location of the user, for example. In such a case, the location information of the user is also transmitted to the system server **130** via datastream **134**. The preferences may also be set-up by a user on an alternate device, such as a Personal Computer (PC).

Ex. 1015 at [0029]

-00360 Pet. at 16-25; -00360 Ex. 1002 at ¶¶ 67-79

DEMONSTRATIVE EXHIBIT - NOT EVIDENCE

Acquiring "First Digital Information Indicating Primary Call Processing Rules" from the Handset

Dr. Akl Admits Logan's Server Routes Calls Based on a User's Preference

Q. So do you agree that in Logan the user preference dictate whether a call goes to the base number or instead goes to the voicemail?

A. I think the user preference can provide the time where, if a call is outside that time, it's going to go to voicemail and not ring any number, whether it's base or virtual.

Ex. 1102 at 104:11-18

DEMONSTRATIVE EXHIBIT - NOT EVIDENCE

IPR2023-00361 - ’105 Patent - Instituted Grounds

- **Ground 1:** Claim 1 obvious in view of Backhaus and Logan
- **Ground 2:** Claims 2-4 and 6-11 obvious in view of Backhaus and Winbladh
- **Ground 3:** Claim 5 obvious in view of Backhaus, Winbladh, and Logan
- **Ground 4:** Claim 1 obvious in view of Backhaus, Logan, and Taylor
- **Ground 5:** Claims 2-4 and 6-11 obvious in view of Backhaus, Winbladh, and Taylor
- **Ground 6:** Claim 5 obvious in view of Backhaus, Winbladh, Logan, and Taylor

DEMONSTRATIVE EXHIBIT - NOT EVIDENCE

IPR2023-00361 - ’105 Patent - Claim 1

1. A method of providing telephone service, comprising:

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;

automatically storing electronic information that indicates a selection of call processing rules for the primary telephone number in the computer memory;

automatically storing electronic information that indicates a selection of call processing rules for the secondary telephone number in the computer memory;

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;

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;

automatically handing the incoming call in accordance with the accessed call processing rules for the secondary telephone number;

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

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

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.

DEMONSTRATIVE EXHIBIT - NOT EVIDENCE

IPR2023-00361 - ’105 Patent - Claim 1

1. A method of providing telephone service, comprising:

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;

automatically storing electronic information that indicates a selection of call processing rules for the primary telephone number in the computer memory;

automatically storing electronic information that indicates a selection of call processing rules for the secondary telephone number in the computer memory;

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;

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;

automatically handing the incoming call in accordance with the accessed call processing rules for the secondary telephone number;

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

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

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.

DEMONSTRATIVE EXHIBIT - NOT EVIDENCE

IPR2023-00361 - ’105 Patent - Claim 1

1. A method of providing telephone service, comprising:

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;

automatically storing electronic information that indicates a selection of call processing rules for the primary telephone number in the computer memory;

automatically storing electronic information that indicates a selection of call processing rules for the secondary telephone number in the computer memory;

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;

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;

automatically handing the incoming call in accordance with the accessed call processing rules for the secondary telephone number;

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

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

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.

DEMONSTRATIVE EXHIBIT - NOT EVIDENCE

IPR2023-00361 - ’105 Patent - Instituted Grounds

- **Ground 1:** Claim 1 obvious in view of Backhaus and Logan
- **Ground 2:** Claims 2-4 and 6-11 obvious in view of Backhaus and Winbladh
- **Ground 3:** Claim 5 obvious in view of Backhaus, Winbladh, and Logan
- **Ground 4:** Claim 1 obvious in view of Backhaus, Logan, and Taylor
- **Ground 5:** Claims 2-4 and 6-11 obvious in view of Backhaus, Winbladh, and Taylor
- **Ground 6:** Claim 5 obvious in view of Backhaus, Winbladh, Logan, and Taylor

DEMONSTRATIVE EXHIBIT - NOT EVIDENCE

IPR2023-00361 - ’105 Patent - Claim 2

2. 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:

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

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.

DEMONSTRATIVE EXHIBIT - NOT EVIDENCE

Combination of Backhaus and Winbladh

Winbladh's System

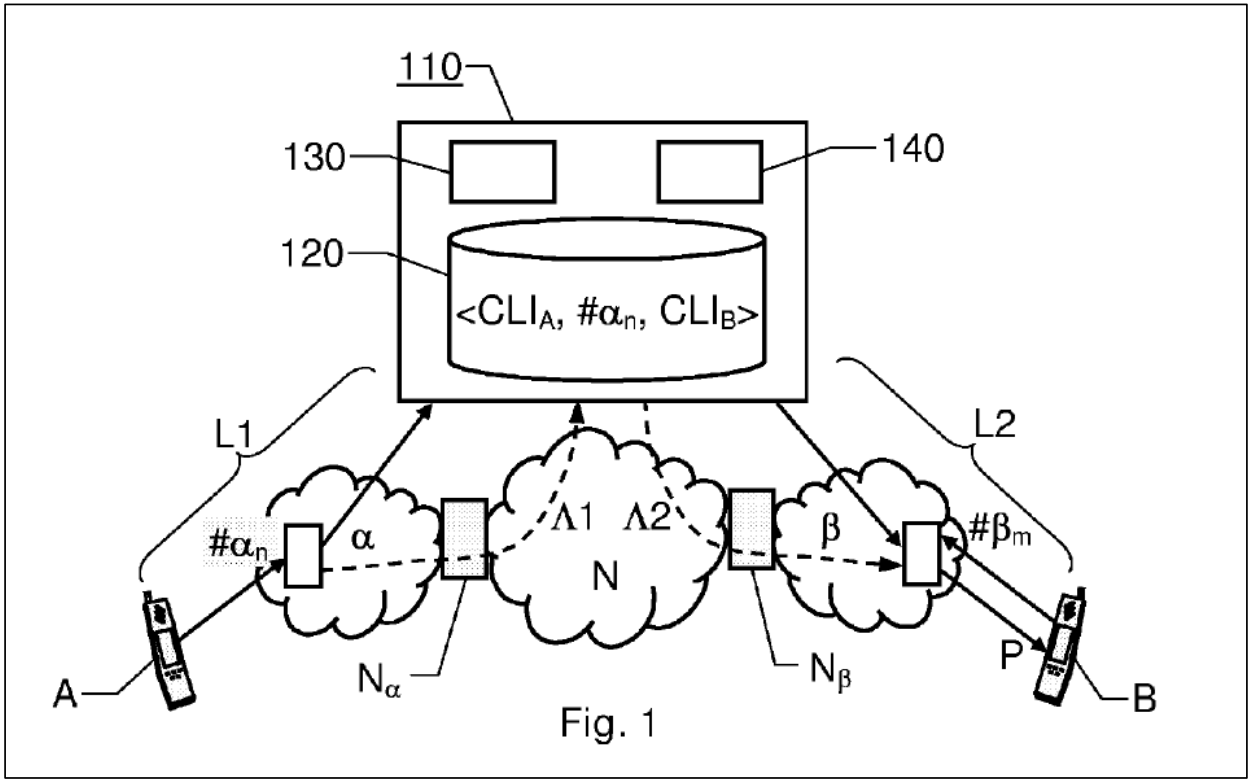


Fig. 1

Ex. 1020 at FIG. 1

Combination of Backhaus and Winbladh

Winbladh's Process

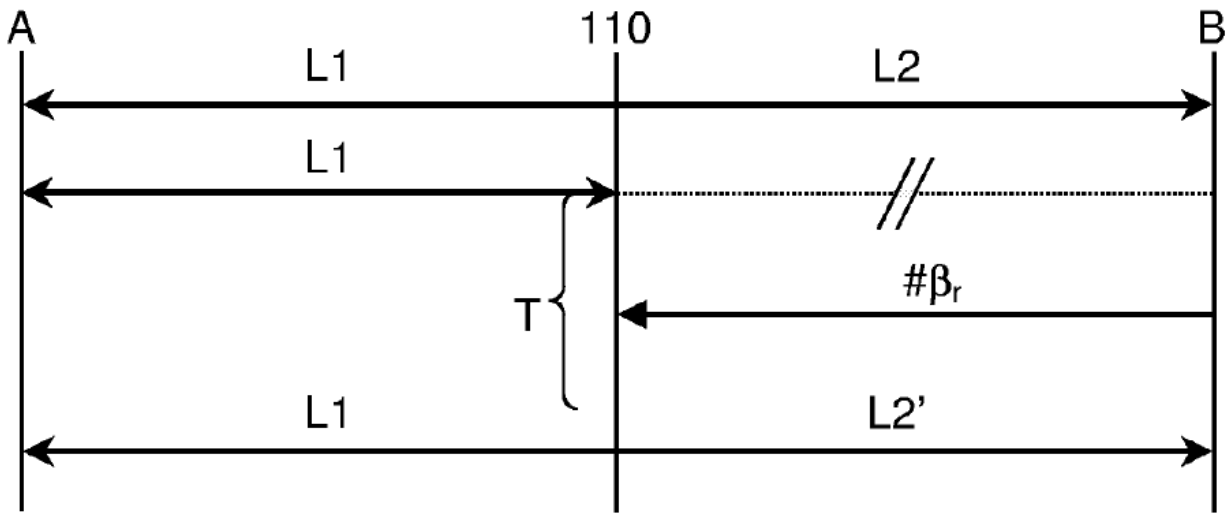


Fig. 4

Ex. 1020 at FIG. 4

-00361 Pet. at 48-50; *see also* Ex. 1020 at [0055]-[0062].

DEMONSTRATIVE EXHIBIT - NOT EVIDENCE

Combination of Backhaus and Winbladh

Winbladh's Process

[0055] FIG. **4** shows a node sequence diagram illustrating a reconnect procedure according to one preferred embodiment of the invention, which allows reduction of the costs for the terminating subscriber. As mentioned above, it can normally be expected that the terminating subscriber be charged a collect-call rate when receiving calls via the host resource **110** of the proposed system. For long distance calls, this rate may be relatively expensive. An incitement therefore exists to accomplish an alternative connection, which is associated with lower costs.

[0056] In FIG. **4**, we assume that a two-legged L**1**, L**2** bi-directional primary connection has been set up between the first terminal A and the second terminal B. According to one preferred embodiment of the invention, as soon as such a connection exists, the terminal B may disconnect the second leg L**2**, reconnect to the host resource **110** at a local-call rate, and reestablish the connection with the terminal A.

Ex. 1020 at [0055]-[0056]

-00361 Pet. at 48-52; *see also* -00361 Reply at 18-23; -00361 Ex. 1002 at ¶¶ 143-146

DEMONSTRATIVE EXHIBIT - NOT EVIDENCE