Filed: August 24, 2017

Filed on behalf of:
Patent Owner Voip-Pal.com Inc.
By: Kerry Taylor
John M. Carson
KNOBBE, MARTENS, OLSON & BEAR, LLP
2040 Main Street, 14th Floor
Irvine, CA 92614
Tel.: (858) 707-4000
Fax: (858) 707-4001
Email: BoxDigifonica@knobbe.com

UNITED STATES PATENT AND TRADEMARK OFFICE

---

BEFORE THE PATENT TRIAL AND APPEAL BOARD

---

**AT&T SERVICES, INC.**

Petitioner,

v.

**VoIP-PAL.COM, INC.,**

Patent Owner

---

Case No. IPR2017-01384
U.S. Patent 9,179,005

---

# PATENT OWNER'S PRELIMINARY RESPONSE TO PETITION FOR *INTER PARTES* REVIEW

## TABLE OF CONTENTS

**Page No.**


I. INTRODUCTION ..... 1

II. ARGUMENT ..... 4

A. Introduction to Claimed Subject Matter ..... 4

B. Overview of Cited Art ..... 7

1. Overview of Nadeau ..... 7

2. Overview of Kelly ..... 9

3. Overview of Vaziri ..... 11

C. Grounds 1 and 2 fail because the Petition fails to show how the combination of Nadeau and Kelly "produc[es] a public network routing message for receipt by the call controller, said public network routing message identifying a gateway to the public network" ..... 12

1. The "routing instructions" in Nadeau do not identify a gateway to the public network ..... 14

2. The Petitioner's assertion that the "routing instructions" in Nadeau "must" include an identification of the IP-PSTN Gateway is unsupported ..... 16

3. The Petitioner fails to explain how Nadeau would be modified such that a public network routing message is produced which identifies a gateway to the public network as recited in the claims ..... 21

a. Petitioner proposes to use the call packet produced by Kelly's gateway selection process as routing instructions in Nadeau ..... 24

**TABLE OF CONTENTS**
**(*cont'd*)**

**Page No.**


b. Petitioner fails to explain how modifying Nadeau's SLC to produce a call packet as taught by Kelly, leads to "producing a public network routing message for receipt by [a] call controller, said public network routing message identifying a gateway to [a] public network" as claimed ..... 25

i. The Petition has not indicated where the call packet would be sent ..... 26

ii. The Petition fails to explain how the call packet would be modified such that the proposed combination produces a public network routing message for receipt by the call controller, ... identifying a gateway to the public network ..... 27

D. Ground 2 fails because the Petitioner has failed to identify a structure in Nadeau that is functionally equivalent to the "means" recited in Claims 50 and 73 ..... 30

E. The Petitioner's rationale for combining Nadeau-Kelly is simplistic and incomplete, and is not fairly based upon the cited arts' teaching ..... 35

1. Petitioner overlooks that Nadeau does not need Kelly's solution to perform least cost routing, thus there is no motivation to combine ..... 37

2. Petitioner fails to explain why a POSITA would have been motivated to modify Nadeau in a manner that is unsupported by the cited art's teachings ..... 41

**TABLE OF CONTENTS**
**(*cont'd*)**

**Page No.**

3. Petitioner's analysis of the modifications required is too truncated and simplistic to establish a reasonable expectation of success ..... 46

III. CONCLUSION ..... 51

## TABLE OF AUTHORITIES

**Page No(s).**

*Ariosa Diagnostics v. Verinata Health, Inc.*,
805 F.3d 1359 (Fed. Cir. 2015) .....36

*Dynamic Drinkware, LLC v. Nat'l Graphics, Inc.*,
800 F.3d 1375 (Fed. Cir. 2015) .....17

*Innogenetics, N.V. v. Abbott Laboratories*,
512 F.3d 1363 .....36

*Interconnect Planning Corporation v. Feil*
774 F.2d 1132 (1985).....44, 45

*Ex parte Kastelewicz*,
Appeal 2008-004808 (June 9, 2009) .....39, 40

*Kinetic Concepts, Inc., v. Smith and Nephew, Inc.*,
688 F. 3d. 1342 (Fed. Cir. 2012) .....40

*In re Kotzab*,
217 F.3d 1365 (Fed. Cir. 2000) .....35, 36

*KSR Int'l Co. v. Teleflex Inc.*,
550 U.S. 398 (2007).....36, 41

*In re McLaughlin*,
443 F.2d 1392 (C.C.P.A. 1971).....51

*In re NuVasive, Inc.*,
842 F.3d 1376 (Fed. Cir. 2016) .....36

*PAR Pharma., Inc. v. TWI Pharmas., Inc.*,
773 F.3d 1186 (Fed. Cir. 2014) .....17

*Personal Web Technologies, LLC v. Apple, Inc.*,
848 F.3d 987 (Fed. Cir. 2017) .....35, 36

## TABLE OF AUTHORITIES
## (*cont'd*)

**Page No(s).**


*In re Robertson*,
169 F.3d 743, 49 U.S.P.Q.2d 1949 (Fed. Cir. 1999) ..... 18

*Rohm & Haas Co. v. Brotech Corp.*,
127 F.3d 1089 (Fed. Cir. 1997) ..... 47

*Stryker Corp. v. Karl Storz Endoscopy-America, Inc.*,
IPR2015-00764, Paper 13 (P.T.A.B. Sep. 2, 2015) ..... 40

*Tietex Int'l, Ltd. v. Precision Fabrics Group, Inc.*,
IPR2014-01248, Paper 39 (P.T.A.B., Jan. 27, 2016) ..... 17

*In re Warsaw Orthopedic, Inc.*,
832 F.3d 1327 (Fed. Cir. 2016) ..... 36

*In re Wesslau*,
353 F.2d 238, 53 C.C.P.A. 746 (1965) ..... 42, 43


## OTHER AUTHORITIES


35 U.S.C. § 103 ..... 2, 14, 43

35 U.S.C. § 112 ..... 3, 35

35 U.S.C. § 312 ..... 22, 30

35 U.S.C. § 313 ..... 1

35 U.S.C. § 314 ..... 2

37 C.F.R. § 42.6 ..... 18

37 C.F.R. § 42.22 ..... 22, 30

37 C.F.R. § 42.65 ..... 18, 46, 47

37 C.F.R. § 42.104 ..... 22, 30

## TABLE OF AUTHORITIES
## (*cont'd*)

**Page No(s).**

37 C.F.R. § 42.107 .....1

Office Patent Trial Practice Guide, 77 Fed. Reg. .....47

Pursuant to 35 U.S.C. § 313, 37 C.F.R. § 42.107, and the Notice of Filing Date Accorded to Petition (Paper 3), dated May 24, 2017, Voip-Pal.com, Inc. ("Voip-Pal") submits this Preliminary Response to the Petition for *Inter Partes* Review of U.S. 9,179,005 (the '005 Patent) ("Petition," Paper 1) by AT&T Services, Inc. ("AT&T").

## I. INTRODUCTION

Digifonica, a real party-in-interest to this proceeding and wholly owned subsidiary of Patent Owner Voip-Pal, was founded in 2004 with the vision that the Internet would be the future of telecommunications. As a startup company, Digifonica did not have existing customers or legacy systems. Instead, Digifonica had the opportunity to start from a blank slate. Digifonica employed top professionals in the open-source software community. Three Ph.D.s with various engineering backgrounds held the top positions at the Company. Digifonica's engineers developed an innovative software solution for routing communications, which by the mid-2000s it implemented in four nodes spread across three geographic regions. Digifonica's R&D efforts led to several patents, including U.S. Patent No. 9,179,005, which is the subject of the present proceeding.

Petitioner challenges Claims 1, 24-26, 49, 50 and 73 of the '005 Patent on two grounds:

1. Alleged obviousness of Claims 1, 24-26 and 49 under § 103(a) over U.S. Patent No. 6,240,449 to Nadeau ("Nadeau") in view of U.S. Patent No. 6,594,254 to Kelly ("Kelly") ("Ground 1").

2. Alleged obviousness of Claims 50 and 73 under § 103(a) over Nadeau in view of Kelly and U.S. Patent No. 7,715,413 to Vaziri ("Vaziri") ("Ground 2").

Petitioner also submitted a Declaration by Declarant James Bress Ex. 1003 ("Declaration").

As Voip-Pal explains below, Petitioner's arguments and assessments of the cited art fail to establish a reasonable likelihood that Petitioner would prevail as to its allegations, as required under 35 U.S.C. § 314(a). Accordingly, institution of this proceeding should be denied as to both asserted grounds.

Petitioner's principal ground that addresses independent Claims 1 and 26 is Nadeau in view of Kelly. This ground does not establish a reasonable likelihood that the claims will be found obvious because no combination of the references is shown to leads to all elements of the challenged independent claims. By way of example, neither Nadeau nor Kelly, nor their combination, discloses or suggests element [1c] of Claim 1, "when at least one of said calling attributes and at least a portion of said callee identifier meet a public network classification criterion, producing a public network routing message for receipt by the call controller, said public network routing message identifying a gateway to the public network."

(emphasis added). Petitioner argues Nadeau's Service Logic Controller ("SLC") produces a routing message that *necessarily* identifies a gateway to the public network, and also argues in the alternative that Nadeau could be modified to produce a routing message that identifies a gateway to the public network as taught in Kelly's use of a "call packet" to initiate calls. Petition at 16 (asserting Kelly's "call packet" is "analogous to routing instructions"). However, Petitioner's inherency argument is incorrect, and Petitioner failed to recognize that Kelly's "call packet" cannot be used in Nadeau's system. As explained below, even if Nadeau's SLC were modified to produce Kelly's "call packet", the SLC would not only fail to practice the challenged claims, but it would produce an inoperative system. However, Petitioner fails to appreciate this, much less explain what further modifications would need to be made in order for the system to work.

Petitioner also fails to establish a reasonable likelihood that independent Claim 50 will be found obvious because Petitioner failed to identify anything in the cited art that would be equivalent to the functionality identified by the Petitioner's own claim construction (e.g., Block 269 of the '005 Patent). In fact, Nadeau-Kelly fails to provide the means-plus-function elements [50b] and [50c] recited in Claim 50, as interpreted by the Petitioner under 35 U.S.C. § 112, Paragraph 6.

Finally, a person of ordinary skill in the art viewing both Nadeau and Kelly would not have been motivated to combine Nadeau and Kelly as proposed by the

Petitioner in view of Kelly's teaching. Specifically, Petitioner provides only a *de minimis* explanation for why one of ordinary skill would combine the references – "to further reduce the cost of routing over the PSTN" – without any explanation of why Kelly's teachings would be expected to yield such an "improvement." Petition at 16. This superficial reasoning overlooks the fact that Nadeau's system already provided a path for reducing the cost of routing, which path is distinct from the path taught by Kelly. Petitioner's basis for combining the references does not arise from the teachings of the references themselves, but instead only from the insight Petitioner imported from the claims.

In view of the foregoing, the Petition fails to establish a reasonable likelihood that Claims 1, 24-26, 49, 50 and 73 of the '005 Patent are unpatentable. Thus, the Board should not institute trial in this proceeding.

## II. ARGUMENT

### A. Introduction to Claimed Subject Matter

Petitioner has directed most of its analysis to Claims 1 and 50, which recite:

> 1. [1p] A process for producing a routing message for routing communications between a caller and a callee in a communication system, the process comprising:
>
> > [1a] using a caller identifier associated with the caller to locate a caller dialing profile comprising a plurality of calling attributes associated with the caller;

[1b] when at least one of said calling attributes and at least a portion of a callee identifier associated with the callee meet private network classification criteria, producing a private network routing message for receipt by a call controller, said private network routing message identifying an address, on the private network, associated with the callee; and

[1c] when at least one of said calling attributes and at least a portion of said callee identifier meet a public network classification criterion, producing a public network routing message for receipt by the call controller, said public network routing message identifying a gateway to the public network.

50. [50p] A call routing controller apparatus for producing a routing message for routing communications between a caller and a callee in a communication system, the apparatus comprising:

[50a] means for using a caller identifier associated with the caller to locate a caller dialing profile comprising a plurality of calling attributes associated with the caller; and

[50b] means for, when at least one of said calling attributes and at least a portion of a callee identifier associated with the callee meet private network classification criteria, producing a private network routing message for receipt by a call controller, said private network routing message identifying an address, on the private network, associated with the callee; and

[50c] means for, when at least one of said calling attributes and at least a portion of said callee identifier meet a public network classification criterion, producing a public network routing message for receipt by the call controller, said public network routing message identifying a gateway to the public network.

By way of technology background, a public switched telephone network (PSTN) uses traditional telephone technology including dedicated telephone lines

from a service provider to transmit calls over a circuit-switched network. Voice over Internet protocol (VoIP) is used for the delivery of digital voice communications and multimedia sessions over Internet protocol (IP) networks, such as the Internet. Digital information delivered over IP networks is packetized, and transmission occurs as IP packets over a packet-switched network.

The method of Claim 1 is directed to routing communications in a communication system. The method involves routing communications that meet "private network classification criteria" or "a public network classification criterion" based on at least one calling attribute and at least a portion of the callee identifier. However, when a communication meets a classification criterion, a routing message is produced. For example, if the public network classification criterion is met, the method further involves producing a public network routing message for receipt by the call controller, the public network routing message identifying a gateway to the public network, thereby identifying a particular gateway appropriate for communicating with the callee.

Claim 50 recites subject matter generally similar to that recited in Claim 1, but in means plus function language.

## B. Overview of Cited Art

### 1. Overview of Nadeau

Nadeau discloses a method and a system for managing communication sessions originating in either one of a telecommunications network, such as the PSTN network or a mobile telephone network, and a data communications network such as the Internet. Nadeau Abstract. Nadeau discloses that an Automatic Call Setup (ACS) service permits an improved usage of the Internet domain for calling purposes. Specifically the ACS service allows the establishment of a connection from a caller (subscriber) to a called party, transparently using whichever network (PSTN/Mobile, IP) is best, based on conditions specified by the service subscriber and external conditions. Nadeau at 6:16-23.

A Service Logic Controller (SLC) 122 shown in Figure 1, provides Detection Point Functional Elements (DPFEs), such as the PSTN/Mobile network DPFE 106 and the Internet DPFE 114 with call processing instructions (Nadeau 7:20-23). For example, Nadeau discloses that the Internet DPFE 114 is implemented as a VoIP client modified to support the ACS service. *Id.* at 12:34-39.

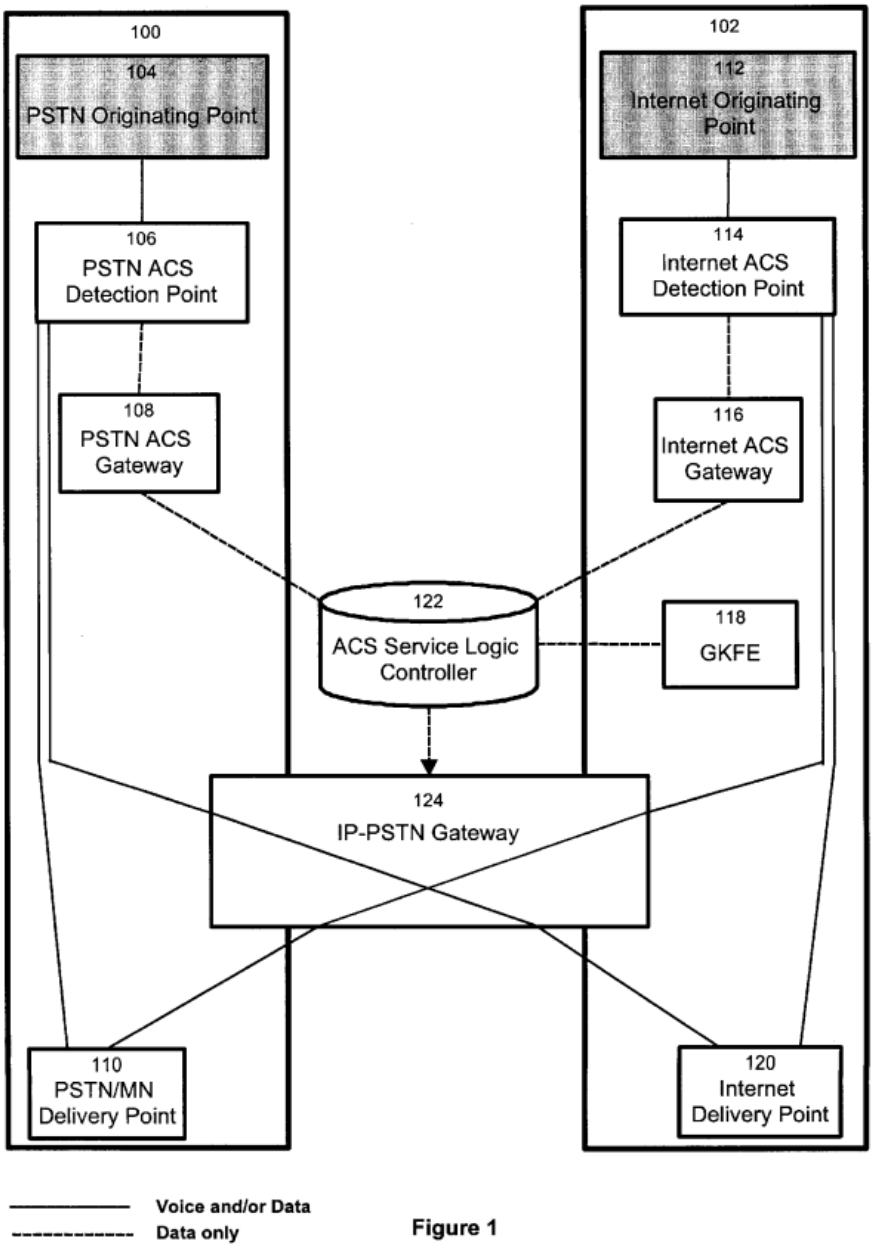


Figure 1

In order to provide the DPFEs with call processing instructions, the SLC consults a particular caller's service profile, consisting in service logic as well as a list of conditions and events to be used to process the caller's incoming calls. Nadeau at 7:23-27.

Upon reception of routing instructions from the SLC through a gateway functional element (GWFE), the DPFE will resume call processing according to the received instructions and route the incoming call directly to a DPFE or to the IP/PSTN GWFE 124 if needed. Nadeau at 7:5-9. The objective of the IP/PSTN GWFE 124 is to route calls between network domains. *Id.* at 8:39-42.

### 2. Overview of Kelly

Kelly discloses a method and apparatus for translating a domain name representing a telephone number into a network protocol address. Kelly Abstract. The network of Figure 2 illustrates a hybrid telecommunication environment including both a traditional switched telephone network as well as Internet and Intranet networks and apparatus bridging between the two. Kelly at 5:62-65.

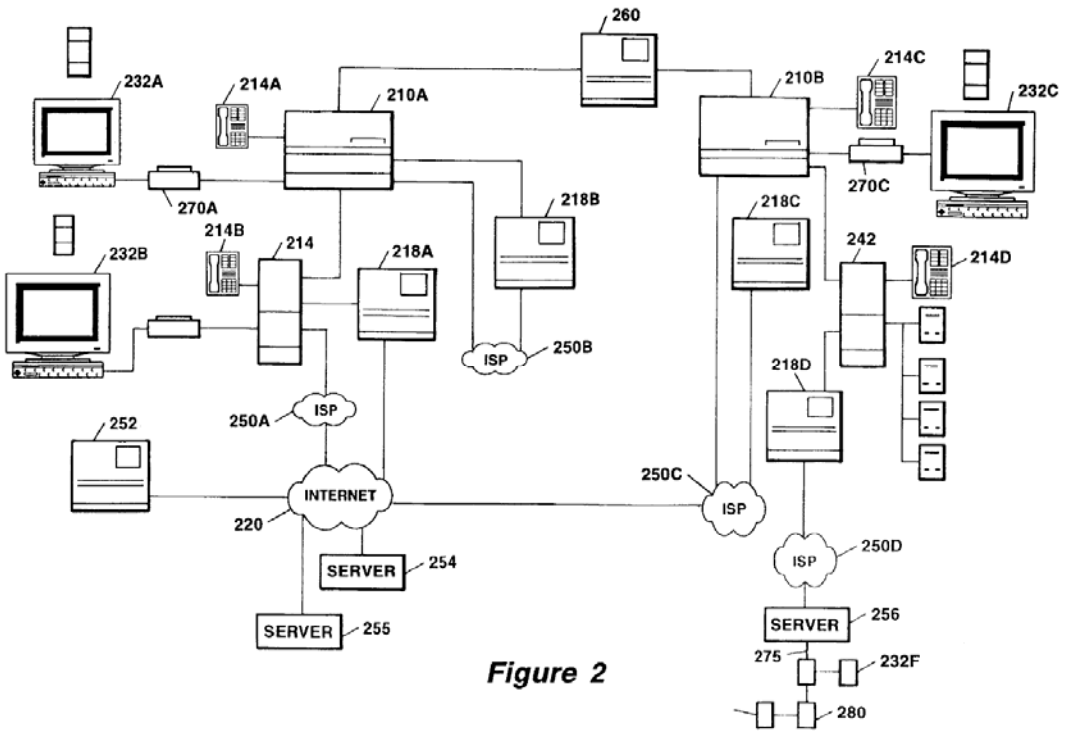


*Figure 2*

For WebPhone client to GATEWAY to PSTN calls, a user enters a traditional phone number through the graphic user interface of the WebPhone client and establishes a call to the specified telephone exchange on a PSTN. Kelly at 11:51-54. Upon receiving the desired telephone number the WebPhone client reverses the number and appends the carrier's domain name resulting in a hybrid telephone/domain name, e.g., having the form "4001-997-561-1.carrier.com". *Id*. at 12:7-11. The hybrid telephone number domain name is passed by the WebPhone client to in an acceptable format the name resolver protocol executing on a DNS name server on the TCIP/IP network. *Id.* at 12:3-14.

Referring to Figure 6 (*infra*), a recursive process of resolving the telephone number domain name previously entered into the WebPhone client to the appropriate IP address of a gateway on a PSTN is illustrated. After step 12 of FIG. 6, the call packet containing the entire telephone number domain name entry "4001.997.561.1.carrier.com" is then sent by the WebPhone 232C to initiate a call session to the IP address of the gateway, e.g., gateway 218C in FIG. 2 (*supra*), and the call is offered. The gateway 218C, depending on available resources, then evaluates the call packet data, responds accordingly by dialing 1-561-997-4001 and accepts the call. A call session is then established. Kelly at 13:22-29; 15:12-17.

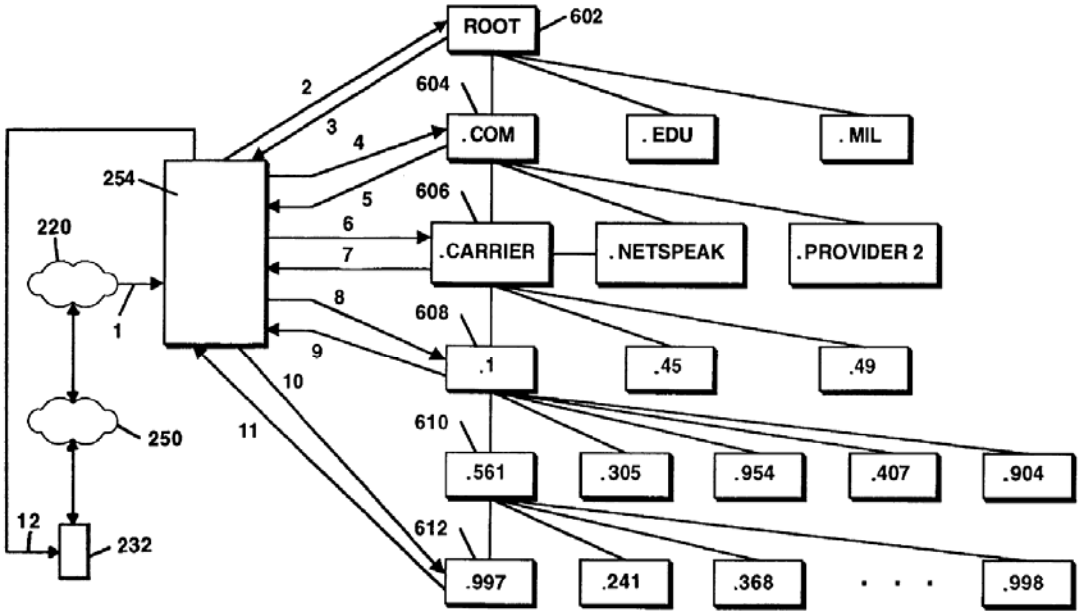


***Figure 6***

### 3. Overview of Vaziri

Vaziri discloses a multi-network exchange system having a first type network (PSTN) and a second type network (Internet) and a multi-network exchange bridge in communication with the first and second type networks for the transfer of electronic information signals (telephone calls) between the first and second type networks. Referring specifically to Figure 2, the Multi-Network Exchange System (MNES) includes one or more MNES bridges 55 and 97 that allow information in the form of voice or fax telephone calls to be exchanged between a PSTN network 90 and a digital communications network 85 such as the Internet, the MNES including a PSTN number translator for parsing dialed digits. Vaziri at 12:34-40, 29:25-36 and Figures 2 and 12.

**C. Grounds 1 and 2 fail because the Petition fails to show how the combination of Nadeau and Kelly "produc[es] a public network routing message for receipt by the call controller, said public network routing message identifying a gateway to the public network"**

Claim 1 recites: "producing a public network routing message for receipt by [a] call controller, said public network routing message identifying a gateway to the public network" and independent claim 50 recites a similar element. Petitioner argues that Nadeau's "routing instructions," produced by Nadeau's Service Logic Controller ("SLC"), are equivalent to a public network routing message. Petition at 27-28. Petitioner then raises two different arguments as to how the "routing instructions" purportedly identify a gateway to the public network. Petition at 28. As detailed below, both arguments fail.

First, Petitioner argues that although Nadeau does not explicitly state that the routing instructions identify the IP-PSTN Gateway to which the call is routed, the routing instructions must include such an identification to complete the call. Petition at 28 (emphasis added). As set out below, Petitioner's argument fails because, contrary to Petitioner's assertions, it is not inherent that the routing instructions in Nadeau must identify the IP-PSTN Gateway to which the call is routed. The Petitioner's inherency argument fails for at least the reason that, as admitted by Petition at 15, Nadeau discloses only one IP-PSTN Gateway to route the call from the VoIP client to the PSTN, and so other components of Nadeau,

such as Nadeau's VoIP client device may be preprogrammed with the IP address of the one IP-PSTN Gateway, in advance of receiving any routing instructions.

Petitioner apparently recognizes the weakness of its own inherency argument because Petitioner proposes a second, alternative, argument that Kelly teaches a gateway selection process that includes the IP address of the gateway to initiate a call session (Petition at 28) and that it was obvious to modify the SLC of Nadeau to perform the gateway selection process taught in Kelly. *Id*.

However, Petitioner's second argument also fails because, as set out below, (a) combining the references as proposed by the Petitioner would be inoperative unless other changes are made, and (b) Petitioner has failed to specify how the proposed combination of Nadeau and Kelly would be made such that the combination produces "a public network routing message for receipt by [a] call controller, said public network routing message identifying a gateway to the [a] public network," as recited in the claims.

In particular, Petitioner proposes to modify Nadeau's Service Logic Controller ("SLC") to, *inter alia*, produce Kelly's "call packet" (*see* Petition at 16, 27-28), but, as detailed below, simply modifying Nadeau's SLC to produce Kelly's "call packet" as proposed by Petitioner, without further changes, would not result in routing a call to the public network as asserted by Petitioner. As set out below, Petitioner has not described, and it is not clear, what further modifications of

Nadeau's SLC and/or Kelly's "call packet" would be necessary in order for Petitioner's proposed combination to actually perform the above-noted step recited in the claims.

Thus, Grounds 1 and 2 fail because Petitioner has failed to demonstrate that the proposed combination of Nadeau and Kelly would perform the above-noted claim element. In particular, the "routing instructions" in Nadeau do not identify a gateway to the public network, and the Petitioner has not shown how the proposed modification of Nadeau with the teachings of Kelly would result in a public network routing message identifying a gateway to the public network.

Accordingly, the information presented in the Petition does not demonstrate a reasonable likelihood that the claims are unpatentable under 35 U.S.C. § 103(a) having regard to the cited references.

**1. <u>The "routing instructions" in Nadeau do not identify a gateway to the public network</u>**

The Petition asserts that Nadeau discloses a "public network routing message," based on Nadeau's disclosure of "routing instructions" generated by the SLC 122, and also asserts that the IP-PSTN Gateway 124 represents the "gateway to the public network" recited in the claims of the '005 Patent. Petition at 28. However, there is no disclosure in Nadeau that the "routing instructions" generated by the SLC 122 identify IP-PSTN Gateway 124 and a POSITA would understand

that there is no need to identify the Gateway 124 if the VoIP client 114 in Nadeau only uses one gateway.

The Petitioner has admitted that "*Nadeau* does not explicitly state that the routing instructions identify the IP-PSTN Gateway …". Petition at 28 (emphasis added). The Petition also admits that "[t]he system in Nadeau, however, includes only one gateway to route the call to the PSTN …" Petition at 15 (emphasis added). Because there is only one gateway to the PSTN to route the call, identification of the IP-PSTN Gateway does not need to occur by the SLC when the call is classified. For example, the VoIP client 114 can be preprogrammed with information identifying the IP-PSTN Gateway. Alternatively, Internet ACS Gateway 116 can be preprogrammed with such information. Thus, there is no need for the "routing instructions" from the SLC 122 to identify IP-PSTN Gateway 124.

Nadeau uses the term "routing instructions" and "routing information" interchangeably. See for example Nadeau at 9:38-40 ("The ACS system will then complete the call according to the *routing instructions* stored by the user") (emphasis added) and 9:56-10:20 ("The Subscriber Database 204 as shown in FIG. 2 contains a record for each such subscriber, … such as: … *routing information*;") (emphasis added). Thus, while Nadeau does not provide any explicit disclosure as to the contents of the "routing instructions" used for an IP to PSTN call, Nadeau does disclose the contents of "routing information" stored by the SLC 122 and

Nadeau does not teach that "routing instructions" would include anything other than the contents of Nadeau's "routing information". Nadeau discloses that the "routing information" stored in a subscriber's directory entry for PSTN routing is simply a "directory number (DN)" of the called individual, whereas the entry for Internet destinations is "an IP address or pseudo-address." Nadeau at 9:20-23. This means that Nadeau's "routing instructions" for public network routing is simply a directory number (DN). Thus, Nadeau does not disclose that anything identifying the IP-PSTN Gateway is required for Internet-to-PSTN routing.

**2. The Petitioner's assertion that the "routing instructions" in Nadeau "must" include an identification of the IP-PSTN Gateway is unsupported**

As noted above, the Petitioner admits that Nadeau does not explicitly disclose that the "routing instructions" identify the IP-PSTN Gateway, and instead argues that such an identification is inherent. The Petition states that:

> Although *Nadeau* does not explicitly state that the routing instructions identify the IP-PSTN Gateway to which the call is routed, a POSITA knew that the routing instructions must include such an identification to complete the call. (EX1003 at ¶¶ 236–238.)

Petition at 28 (emphasis added)

The Petitioner's latter assertion (i.e., "the routing instructions must include...") is untrue. As explained above in Section 1, Nadeau suggests that a

directory number (DN) alone is the "routing information" required for a PSTN call and, as explained below, because there is only one IP-PSTN Gateway 124 in Nadeau used by the VoIP client 114 to make calls to the PSTN, there are working configurations of Nadeau where routing instructions need not identify the gateway.

The Petitioner bears the burden of proving inherency by a preponderance of evidence. "[T]he burden of proof is on the petitioner to prove unpatentability by a preponderance of the evidence, and that burden never shifts to the patent owner." *Dynamic Drinkware, LLC v. Nat'l Graphics, Inc.*, 800 F.3d 1375, 1378 (Fed. Cir. 2015). See also *Tietex Int'l, Ltd. v. Precision Fabrics Group, Inc.*, IPR2014-01248, Paper 39 at 11 (Final Written Decision P.T.A.B., Jan. 27, 2016) ("[…] Petitioner must provide evidence establishing that the claimed [features] are inherent in the prior art...". Thus, Patent Owner has no burden to prove that the alleged properties are *not* inherent in the cited art.

To rely on inherency, Petitioner must prove that the missing claim limitations are <u>necessarily</u> present in Nadeau. "A party must, therefore, meet a high standard in order to rely on inherency to establish the existence of a [missing] claim limitation in the prior art in an obviousness analysis – the limitation at issue necessarily must be present, or the natural result of the combination of elements explicitly disclosed by the prior art." *PAR Pharma., Inc. v. TWI Pharmas., Inc.*, 773 F.3d 1186, 1195–96 (Fed. Cir. 2014). "To establish inherency, the extrinsic

evidence 'must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill. Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient.'" *In re Robertson*, 169 F.3d 743, 745, 49 U.S.P.Q.2d 1949, 1950-51 (Fed. Cir. 1999).

The Petitioner's assertion of inherency cited above provides no reasoning or evidence other than a citation to the Declaration at ¶¶ 236–238. Apart from the fact that this constitutes an improper incorporation by reference (*see* 37 C.F.R. § 42.6(a)(3)), the cited paragraphs of the Declaration fail to establish that "routing instructions must include such an identification to complete the call." Instead, the expert Declarant provides merely conclusory assertions which should be given no weight because: (1) they overlook, or are inconsistent with, certain important aspects of Nadeau's disclosure, and (2) they are wholly unsupported by the brief citations to Nadeau that the Declarant provides. 37 C.F.R. § 42.65(a).

The Declarant asserts that if the routing instructions did not include an identifier for the destination, then the caller's VoIP client 114 (also referred to as a Detection Point Functional Element or "DPFE"; *see* Nadeau at 12:39) and Nadeau's "ACS Gateway" would not know where to route the call based on the routing instructions, thus defeating the purpose of the routing instructions.

Declaration at ¶ 237 (emphasis added). The Declarant concludes that, therefore, an IP address acting as an identifier for identifying the IP-PSTN Gateway "must" be included in the routing instructions. *Id.* at ¶¶ 236, 238.

The Declarant's reference to the ACS Gateway 116 as needing to know "where to route the call" is inaccurate and misleading since Nadeau's ACS Gateway does not route calls. Rather, Nadeau teaches that the VoIP client device 114 (i.e., DPFE) routes calls. *See* Nadeau at 7:5-9 and in Figure 1 (showing call paths). Therefore the ACS Gateway does not need to know where to route a call.

Insofar as Petitioner's argument applies to the caller's VoIP client device 114 (i.e., the DPFE) Petitioner's argument fails for at least two reasons. First, as set out above, Declarant's statements contradict Nadeau's own disclosure since, as explained above in Section 1, Nadeau suggests that a directory number (DN) *alone* is the "routing information" required for a PSTN call. Nadeau at 9:20-23.

Second, Declarant's logic is flawed on its face because the Declarant has not established that the caller's VoIP client can only receive the gateway identification information from the SLC 122 and that the caller's VoIP client can only receive this information from the routing instructions. For example, since there is only a single IP-PSTN Gateway, its identification could be preconfigured into the caller's VoIP client. Indeed, Nadeau discloses that the VoIP client is configurable to store addresses of Internet destinations (such as dedicated servers providing the

Microsoft Internet Locator Service) and to automatically communicate with those destinations under certain conditions. Nadeau at 10:51-55. Given Nadeau's disclosure that the VoIP client is configurable to store addresses, the VoIP client could simply store the IP address of the IP-PSTN Gateway 124 as part of its configuration, thus defeating the Petitioner's inherency argument.

In support of Declarant's argument that the "purpose of the routing instructions is to instruct the DPFE and ACS Gateway where to route a call," Declarant cites to four passages of Nadeau in (7:1–9, 7:20–27, 12:59–61 and 11:27-31), but nothing that the Declarant has cited undermines the understanding that a directory number (DN) alone is all of the "routing information" that is required for a PSTN public network call. Nadeau at 9:20-23.

In summary, neither the Petition nor the Declaration provide any evidence or reasoning that establishes that the content of a routing instruction for a PSTN call must include an identification of the IP-PSTN Gateway 124. Nadeau itself suggests that a directory number (DN) alone is the only "routing information" required for a PSTN call, and, as explained above, because there is only one IP-PSTN Gateway 124 used by the VoIP client 114, there are working configurations wherein routing instructions need not identify the gateway. Thus, Petitioner has not established that Nadeau discloses or suggests, expressly or inherently, at least "producing a public network routing message for receipt by [a] call controller, said

public network routing message identifying a gateway to [a] public network," as recited in the claims.

Petitioner appears to tacitly acknowledge that identification of the Gateway 124 in the routing instructions is not necessarily inherent in Nadeau because the Petition does not rely on this argument to provide the missing claim element, but instead proposes a combination with Kelly specifically for this purpose.

**3. The Petitioner fails to explain how Nadeau would be modified such that a public network routing message is produced which identifies a gateway to the public network as recited in the claims**

The Petition attempts to rely on Kelly's teaching of a gateway selection process, and in particular, Kelly's production of a "call packet" for gateway calls, to modify Nadeau's system in order to provide the features of "producing a public network routing message for receipt by [a] call controller, said public network routing message identifying a gateway to [a] public network" which are missing from Nadeau. Petition at 27-28. However, Petitioner's argument fails because the Petitioner merely asserts broadly that certain functions described in Kelly would be performed by the SLC of Nadeau without considering or describing various significant further modifications of the SLC that would be necessary in order for the combined references to actually perform "producing a public network routing message for receipt by [a] call controller, said public network routing message identifying a gateway to [a] public network" as recited in the claims. Thus,

Petitioner fails to specify where each element of the claims is found in the proposed combination of the cited references, as required by 37 C.F.R. § 42.104(b)(4), and also fails to provide "a detailed explanation of the significance of the evidence including material facts, and the governing law, rules, and precedent" as required by 37 C.F.R. § 42.22(a)(2).

It is neither the Board's nor Patent Owner's responsibility to remedy the inadequacies of a Petition that fails to meet the requirements of asserting its unpatentability grounds "with particularity." 35 U.S.C. § 312(a)(3). This burden rests solely with Petitioner who, in this case, has not carried their burden to properly articulate how the SLC of Nadeau would be modified to incorporate the gateway selection process of Kelly to arrive at the subject matter of the claims.

Regarding the modification of Nadeau in view of Kelly, the Petition states:

> *Kelly* teaches a gateway selection process that (1) transforms a dialed telephone number (e.g., 1-561-997-4001) into a hybrid telephone number domain name (e.g., 4001-997561-1.carrier.com) ([*Kelly*] at 11:54–12:11); (2) uses successive portions of the hybrid telephone number domain name to retrieve references to name servers that contain an IP address of a carrier gateway ([*Kelly*] at 12:32–57); and (3) <u>produces a call packet, analogous to routing instructions,</u> containing the hybrid telephone number domain name and the IP address of the carrier gateway to effect the call ([*Kelly*] at 13:21–26).

> A POSITA would have been motivated to modify the SLC of *Nadeau* to perform the gateway selection process taught in *Kelly* [...] Modifying the SLC of *Nadeau* simply involves the known technique of programming the SLC to perform the gateway selection process taught by *Kelly*. (EX1003 at ¶ 196.) A POSITA could have made this modification with a reasonable expectation of success without undue experimentation. (*Id*.)
>
> Petition at 15-17 (emphasis added)

Thus, Petitioner proposes to modify the Service Logic Controller (SLC) of Nadeau by programming the SLC to perform the three-step gateway selection process of Kelly, and Petitioner asserts that it would be routine to do so.

However, as explained below, Petitioner's instructions to merely modify Nadeau's SLC to perform the gateway selection process of Kelly are insufficient for showing that the modified system of Nadeau produces routing instructions identifying a gateway to the public network as recited in the claims. The Petition is materially flawed because it merely asserts that certain functions described in Kelly would be performed by the SLC of Nadeau without acknowledging that other significant modifications are necessary for the subject matter of the claims to be performed in the manner alleged in the Petition.

For example, regarding step (3) of the gateway selection process (i.e., producing a call packet from Kelly, which the Petition states is "analogous to

routing instructions"), Petitioner has not provided guidance regarding how merely programming Nadeau's SLC to produce the call packet of Kelly as proposed by Petitioner would result in the SLC "producing a public network routing message for receipt by [a] call controller, said public network routing message identifying a gateway to [a] public network," as recited in the claims. Rather, as explained below, contrary to Petitioner's assertions, in view of Kelly's teachings regarding the call packet and differences between the Nadeau system and the Kelly system, it is not clear that the Petitioner's proposed modifications would result in the modified Nadeau system providing the above-noted subject matter of the claims as argued by Petitioner.

**a. Petitioner proposes to use the call packet produced by Kelly's gateway selection process as routing instructions in Nadeau**

As set out above, Petitioner describes Kelly's "gateway selection process" as consisting of three specific steps that conclude with step (3), producing a "call packet," and Petitioner argues that a POSITA would have found it obvious to modify the SLC of Nadeau to perform this process. Petition at 15-16. Petitioner considers the "call packet" to be analogous to "routing instructions" (Petition at 16), a term taken by the Petitioner from Nadeau, which describes the messages sent by the SLC to a VoIP client (i.e., DPFE 114) through ACS Gateway 116 to route calls either to an Internet destination (e.g., a VoIP client) or to a PSTN destination

(e.g., a phone designated by a directory number [DN]). Nadeau at 7:1-12, 9:38-46, 11:27-32.

Thus, Petitioner argues that a skilled person would have been motivated to modify the SLC of Nadeau to perform the gateway selection process taught in Kelly, including production of a "call packet" to initiate a call session, which the Petitioner has indicated is "analogous to routing instructions" and serves "to initiate a call session to the IP address of the gateway." Petition at 16 and 27-28, citing EX1006 at 12:55-57, 12:32-35 and 13:22-26 (emphasis added). Petitioner therefore concludes that producing Kelly's "call packet" (i.e., "routing instructions") in Nadeau's SLC would create a modified SLC that "produces routing instructions that identify the IP-PSTN Gateway by including its IP address." Petition at 28. This is the basis for Petitioner's belief that the Nadeau-Kelly combination "produc[es] a public network routing message for receipt by [a] call controller, said public network routing message identifying a gateway to [a] public network" as recited in the claims.

**b. Petitioner fails to explain how modifying Nadeau's SLC to produce a call packet as taught by Kelly, leads to "producing a public network routing message for receipt by [a] call controller, said public network routing message identifying a gateway to [a] public network" as claimed**

The Petitioner wrongly asserts that programming the SLC of Nadeau to produce a "call packet" is a simple matter, and that the modified SLC would

provide the same features and achieve the same result as achieved in Kelly's system. Petition at 17-18. Contrary to Petitioner's assertions, numerous questions about how such programming could be done such that the proposed combination performs claim limitation "produc[es] a public network routing message for receipt by [a] call controller, said public network routing message identifying a gateway to [a] public network" are left unanswered by Petitioner. In particular, as detailed below, Petitioner has failed to recognize that directing one skilled in the art to simply program the SLC to produce Kelly's "call packet" would not provide that person with enough guidance to provide a working SLC that would perform the above-noted claim element as asserted by Petitioner. *See also* Section II.E.3, *infra*.

**i. <u>The Petition has not indicated where the call packet would be sent</u>**

As set out above, Petitioner has proposed that the SLC be programmed to produce Kelly's call packet, which Petitioner considers analogous to "routing instructions". (See Petition at 16-17). However, the Petition does not provide an analysis of where the call packet would be sent. This is an important issue because, while Kelly teaches that the call packet is sent to a gateway, Nadeau teaches that routing instructions are sent to the VoIP client (DPFE).

If the teachings of Kelly were followed without further modifications, the modified SLC would be programmed to send the call packet to the IP-PSTN

Gateway 124. However, Petitioner equates Nadeau's VoIP client (i.e., DPFE) 114 and ACS gateway 116, not Nadeau's IP-PSTN Gateway 124, to the call controller recited in the claims. Petition at 28 ("collectively, a call controller"). Thus, such a combination would not produce a public network routing message for receipt by the call controller as recited in the claims since the call packet, if sent to the IP-PSTN Gateway 124, would not be a public routing message "produced for receipt by [a] call controller".

Accordingly, the Petitioner appears to assume that the call packet produced by the modified SLC would be sent to the VoIP client (i.e., DPFE) of Nadeau. However, as detailed below, because the call packet in Kelly is configured to be sent to a gateway, not a VoIP client device, Petitioner's modification not only represents a change to the destination of the call packet, unsupported by Kelly's teaching, but it also raises questions regarding further modifications required to the form and content of the call packet when produced by the modified SLC in Nadeau.

**ii. <u>The Petition fails to explain how the call packet would be modified such that the proposed combination produces a public network routing message for receipt by the call controller, ... identifying a gateway to the public network</u>**

As set forth above, the Petition appears to assume that the SLC is modified to send the "call packet" of Kelly, not to the IP-PSTN gateway as taught by Kelly,

but to the VoIP client device of Nadeau (i.e., DPFE 114 through the ACS Gateway). But Kelly's call packet is normally addressed to, and configured to be sent to, an IP-PSTN gateway (Kelly at 13:22-26, 15:12-17), and so further modification of Kelly's call packet is required. However, absent any relevant teachings in the references and given Petitioner's scant guidance, it is unclear what modifications would be made such that the combination "produc[es] a public network routing message for receipt by [a] call controller, said public network routing message identifying a gateway to [a] public network," as recited in the claims.

Petitioner asserts that Kelly's disclosed "routing instructions" (i.e., a "call packet") include the IP address of the gateway. Petition at 28. However, Kelly does not disclose that the contents of the call packet include the IP address of the gateway (See, e.g., 13:22-26, 15:12-17). As best understood by the Patent Owner, Petitioner's reliance on the call packet as including the IP address of the IP-PSTN gateway is apparently based on Petitioner's understanding that because the call packet is sent to the IP-PSTN gateway it therefore includes an address field that identifies the IP address of the gateway.

However, as set out above, Petitioner's proposed modification of the SLC would cause the call packet be sent to the VoIP client and not the IP-PSTN gateway. But, if one wanted to take a call packet produced by following the

method disclosed by Kelly and send it to the VoIP client, the call packet would need to be readdressed, and readdressing Kelly's call packet to the VoIP client would *overwrite* the gateway address in the call packet. Accordingly, contrary to the Petition's assertions at 28, use of such a modified call packet would not result in producing routing instructions that identify the IP-PSTN Gateway by including its IP address.

Therefore, the call packet must be modified in some additional way, not taught by Kelly or Nadeau, in order for Petitioner's proposed combination of Nadeau and Kelly to produce a public network routing message identifying a gateway to the public network. Petitioner's only guidance regarding the modification of Nadeau's SLC to send the call packet, however, is merely the assertion that it was obvious to modify the SLC to perform the gateway selection process taught in Kelly (Petition at 28). However, a POSITA would be left guessing as to what particular modification of the call packet would be made such that the combination performs the above-noted subject matter recited in the claims as asserted by Petitioner.

Thus, Petitioner's argument fails because the Petitioner merely asserts broadly that certain functions described in Kelly would be performed by the SLC of Nadeau but Petitioner fails to set forth the modifications that would be necessary in order for the combined references to perform "producing a public network

routing message for receipt by [a] call controller, said public network routing message *identifying a gateway to [a] public network,*" (emphasis added) as recited in Claim 1. Similar claim elements are recited in Claim 50. Accordingly, Petitioner fails to specify where each element of the claims is found in the proposed combination of the cited references, as required by 37 C.F.R. § 42.104(b)(4), and also fails to provide "a detailed explanation of the significance of the evidence including material facts, and the governing law, rules, and precedent" as required by 37 C.F.R. § 42.22(a)(2).

It is neither the Board's nor Patent Owner's responsibility to remedy the inadequacies of a Petition that fails to meet the requirements of asserting its unpatentability grounds "with particularity." 35 U.S.C. § 312(a)(3). This burden rests solely with Petitioner which, in this case, has not carried its burden to properly articulate how the SLC of Nadeau would be modified to incorporate the gateway selection process of Kelly to arrive at the subject matter of the claims.

**D. Ground 2 fails because the Petitioner has failed to identify a structure in Nadeau that is functionally equivalent to the "means" recited in Claims 50 and 73**

The Petition does not demonstrate how Claim 50 is obvious because the Petition does not identify a structure in Nadeau that meets the "means for..." recited in claim elements [50b] and [50c]. Claim 73 depends from Claim 50 and thus is not shown to be obvious for similar reasons.

Claim 50 recites several means plus function elements, and the Petition at pages 36-61 attempts to provide constructions for various means plus function elements of Claim 50. For claim element [50c] ("means for, ... producing a public network routing message for receipt by [a] call controller..."), the Petitioner points to a processor programmed to perform blocks including block 269 of Figure 8B of the '005 Patent. Petition at 52-53 (identifying "processor programmed to implement one or more branches of the algorithm illustrated in Figure 8B that leads to the end of block 408..."); *id.* at 54 (block 269 is highlighted); *id.* at 55 (concluding that the modified SLC "determines that a callee identifier... does not have a DID bank table record, such as an entry in the caller profile (**block 269**)).

Petitioner points again to Block 269 of Figure 8B as the structure corresponding to claim element [50b] ("means for, ... producing a private network routing message for receipt by a call controller..."). *Id.* at 38-39 ("processor programmed..."), 42 (block 269 is highlighted), 44 (expressly citing block 269).

Block 269 in the '005 Patent classifies a call as either a "Private System Call" or a "Public System Call" depending on whether the "callee identifier" has a "DID bank table record". '005 Patent at Fig. 8B, 22:61-63 ("Block 269 classifies the call, depending on whether or not the formatted callee identifier has a DID bank table record"); *see also id.* at 2:57-63, 5:1-8, 20:18-35. Petitioner argues that both "means" in claim elements [50b] and [50c] are met by Nadeau's disclosure of

determining whether or not there is an "entry in the caller profile". Petition at 44 ("The SLC can determine that a caller profile includes a directory entry for a particular callee... [and can] determine whether there is an entry in the caller profile for a callee with that directory number."); see also *id*. at 55 ("The SLC can determine based on the reformatted number that a callee does not have an entry in the caller profile. (EX1005 at 11:13–20.)" The Petition expressly equates this step of determining in Nadeau to "**block 269**" of the '005 Patent. *Id*. at 44, 55.

But Petitioner has not shown that the existence of an entry in the caller profile determines the outcome of call classification in either scenario. Specifically, the existence of an "entry in the caller profile" in Nadeau does not by itself lead to any particular routing outcome. Nadeau discloses that if "routing information" is *not* available, then a default routing algorithm is used, which can lead to routing over either PSTN or IP. Nadeau at 11:15-20. Conversely, if "routing information" *is* available, this can also lead to routing over either PSTN or IP. Nadeau at 10:3-20. Thus, determining whether an entry exists in Nadeau's caller profile is not equivalent to Block 269 in the '005 Patent, and the Petitioner identifies no other structure in either Nadeau or Kelly corresponding to Block 269.

The Petition's arguments implicitly acknowledge that an entry in Nadeau's caller profile is not what is used to classify a call. For example, the Petitioner argues with respect to claim element [50c]:

> The SLC can determine... that a callee does not have an entry in the caller profile. (EX1005 at 11:13–20.)... For an IP-originated call, if the callee does not have an entry in the call profile the SLC completes the call over the PSTN ***if an IP address of the callee is not available***. (*Id*. at 11:18–20.) Thus, the SLC determines that a callee identifier, such as a dialed telephone number, does not have a DID bank table record, such as an entry in the caller profile (block 269).
>
> Petition at 53-54 (emphasis added)

Thus, by the Petitioner's own admission, the basis of classifying of the call is whether an IP address is available, not whether an entry in the caller profile exists. This is confirmed by the portion of Nadeau cited by the Petitioner:

> If no routing information is available, the system uses a default routing algorithm:
>
> For PSTN-originated calls: complete the call on the PSTN;
>
> For IP-originated calls:
>
> complete the call on IP ***if an address is available***;
>
> complete the call on the PSTN through a gateway.
>
> Nadeau at 11:15-20 (emphasis added)

Similarly, the Petitioner explains with respect to claim element [50b]:

> The formatted directory number can then be used to determine whether there is an entry in the caller profile for a callee with that directory number. (*Id*. at 9:66–10:2.) Therefore, the SLC can determine that a formatted callee identifier, such as the callee's

> formatted telephone number, has a DID bank table record, such as a directory entry in a caller profile (**block 269**).
>
> The entry in the profile can include an IP address of the callee. (*Id*. at 9:55–10:3.) The SLC ***can*** complete the call to that IP address rather than to the formatted directory number. (*Id*. at 10:12, 12:59–61.)
>
> *Id.* at 44 (emphasis added)

Here the Petitioner merely asserts that the SLC can complete the call to an IP address if an entry (i.e., routing information) is available, not that it will do so. Indeed, Nadeau clearly discloses the possibility of completing a call to the PSTN through the use of the routing information in the subscriber directory. Nadeau at 10:15-16 ("complete to called party directory number using PSTN"), 10:8-10 (time of day, or day of week routing), 6:31-32 ("automatically avoids using Internet for completing a call in high Internet traffic periods"), and 6:27-29.

Nadeau thus discloses that routing information can be used to route a call to *either* PSTN or VoIP destinations, and that a lack of routing information can also lead to routing to *either* PSTN or VoIP destinations. Merely ascertaining whether or not "routing information" is available in the caller's profile, does not determine how a call is classified. Thus, Nadeau's system does not classify a call based on whether or not "routing information" is present in a caller's profile.

In contrast, Block 269 of the '005 Patent discloses classifying a call based on whether or not the callee identifier has an entry in a database. '005 Patent at

Fig. 8B, 22:61-63 ("Block 269 classifies the call, depending on whether or not the formatted callee identifier has a DID bank table record"), 2:57-63, 5:1-8, 20:18-35.

The Petition fails to identify anything equivalent to the functionality of at least Block 269 of the '005 Patent in the cited references, which is part of the "means" recited in claim elements [50b] and [50c] according to the Petitioner's own claim construction of these elements under 35 U.S.C. § 112, Paragraph 6.

Thus, Nadeau, whether alone or combined with Kelly, fails to disclose or suggest "means for, ... producing a private network routing message for receipt by a call controller..." or ("means for, ... producing a public network routing message for receipt by [a] call controller..." as recited in claim element [50d] and [50e], thus Petitioner fails to establish a *prima facie* case of obviousness for Claim 50.

In view of the foregoing, Ground 2 fails with respect to Claims 50 and 73.

## E. The Petitioner's rationale for combining Nadeau-Kelly is simplistic and incomplete, and is not fairly based upon the cited arts' teaching

The Petitioner's rationale for combining Nadeau with Kelly is unsupported by evidence, is not fairly based upon the references' teachings, and simplistically glosses over difficulties that a POSITA attempting the combination would face.

As reiterated recently in *Personal Web Technologies, LLC v. Apple, Inc.*, 848 F.3d 987, 991 (Fed. Cir. 2017), a finding of obviousness "cannot be predicated on the mere identification in [the prior art] of individual components of claimed

limitations". See *In re Kotzab*, 217 F.3d 1365, 1371 (Fed. Cir. 2000). A finding of obviousness also requires that a person of ordinary skill in the art would have been motivated to combine the prior art *in the way* claimed by patent claims at issue and would have had a reasonable expectation of success in doing so. See *In re NuVasive, Inc.*, 842 F.3d 1376, 1381-82 (Fed. Cir. 2016); *In re Warsaw Orthopedic, Inc.*, 832 F.3d 1327, 1333-34 (Fed. Cir. 2016); *Ariosa Diagnostics v. Verinata Health, Inc.*, 805 F.3d 1359, 1364-67 (Fed. Cir. 2015).

The Supreme Court, in *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398 (2007) ("*KSR*"), indicated that a finding of obviousness requires an explicit analysis based on an "apparent reason to combine the known elements *in the fashion* claimed by the patent at issue", or in other words, "a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements *in the way* the claimed new invention does," but warned of the need to guard against falling prey to "hindsight bias [and] *ex post* reasoning." *KSR*, 550 U.S. at 401-403, 421; *see also Innogenetics, N.V. v. Abbott Laboratories*, 512 F.3d 1363 n.3 ("be careful not to allow hindsight reconstruction").

While the Petition provides some limited reasoning as to why the Petitioner believes a POSITA might have wanted to modify Nadeau to include the gateway selection process taught in Kelly, the alleged motivation to combine Nadeau with Kelly fails to justify the specific modifications proposed, at least because:

1. Nadeau's system *already* contains least cost routing functionality and there is no evidence that incorporating Kelly's method would be an improvement, thus there would be no need or motivation for a POSITA to incorporate Kelly's method into Nadeau to redundantly provide already available functionality;

2. Petitioner fails to explain why a POSITA would have been motivated to modify Nadeau in a manner that is unsupported by the cited art's teachings; and

3. Petitioner's analysis of the modifications required is too truncated and simplistic, such that it misrepresents the prospect of the combination proposed having a reasonable expectation of success without further modification.

**1. Petitioner overlooks that Nadeau does not need Kelly's solution to perform least cost routing, thus there is no motivation to combine**

The Petition concedes that Nadeau expressly discloses "least cost routing," (citing Nadeau at 10:11-16). Petition at 15-16. However, the Petition bases its motivation to combine argument on the fact that a single IP-PSTN Gateway 124 is shown in Figure 1 of Nadeau: "[t]he system in *Nadeau*, however, includes only one gateway to route the call to the PSTN, so the cost for PSTN routing is controlled by that gateway alone." *Id.* at 15 (emphasis added). (citing Figure 1 of Nadeau, which shows a single IP-PSTN Gateway 124). The Petition alleges that "*Kelly* recognizes that costs may be further reduced by selecting a gateway that provides lower cost routing compared to other gateways" (citing Kelly at 13:39-57). *Id.*

(emphasis added). The Petition concludes that a "POSITA would have been motivated to modify the SLC of *Nadeau* to perform the gateway selection process taught in *Kelly* to further reduce the cost of routing over the PSTN as recognized by *Kelly*." *Id*. (emphasis added).

In essence, the Petitioner's argument is based on the Petitioner's explicitly stated assumption that, "Kelly teaches a way to improve the cost savings desired by *Nadeau* ...". Petition at 16 (emphasis added). But this assumption is asserted by Petitioner, and paraphrased by the Declarant (Declaration at ¶ 195), without any supporting evidence. First, no proof is offered for the proposition that "*Kelly* recognizes that costs may be *further* reduced," (*id.* at ¶ 194) since Kelly's invention relates to a different system architecture than Nadeau, and there is nothing to indicate that Kelly is even *aware* of, let alone trying to "further" improve, Nadeau's system. *Compare* Nadeau at Figure 1 and Kelly at Figure 2. Second, "least cost routing" in Nadeau is not merely "desired," it is a feature that Nadeau explicitly states is *already* present in Nadeau's system. Nadeau at 10:11, 6:1. Third, the fact that Nadeau discloses the VoIP client 114 as communicating with a single IP-PSTN Gateway 124 is not evidence that causing the VoIP client to route to another gateway would necessarily lead to lower PSTN toll costs. The Petitioner and its Declarant present no evidence that Nadeau considered the IP-PSTN Gateway 124 to be a merely an isolated local gateway unable to reach

remote locations, nor is there any evidence that the IP-PSTN Gateway 124 could have only routed a call to a particular PSTN location via one particular route. On the contrary, given Nadeau's express disclosure of "least cost routing," the IP-PSTN Gateway 124 should be understood as capable of routing in more than one way to a particular PSTN destination, and that it facilitates use of the "least cost" route to each PSTN destination. The Petitioner is not entitled to ascribe problems to Nadeau's system that are unsupported by Nadeau's disclosure, and then to propose a "solution" from Kelly which may not provide any benefit over Nadeau's existing infrastructure.

Thus, there is no credible evidence of record in either the Petition or the Declaration that Nadeau's system was *deficient* in its least cost routing functionality, as assumed by the Petitioner, and the Petitioner's allegations about "further" cost savings that would accrue to Nadeau's system from incorporating *Kelly*'s process are entirely speculative. A POSITA would not be motivated to modify Nadeau to add functionality equivalent to functionality Nadeau already had. *Ex parte Kastelewicz*, Appeal 2008-004808 (June 9, 2009) (Board struck down Examiner's alleged motivation to combine the references cited):

> "[W]e see no deficiency in the teachings of 3GPP that would have led an artisan familiar with mobile telephone session protocols to look to Nuutinen's teaching of authentication. While the Examiner

> proffers that the digital signature of Nuutinen would provide *authentication* for the receiver of the message (Ans. 4), we find 3GPP ***already teaches*** *authentication*... Thus, we find an artisan possessing common sense would have had no reason to look to Nuutinen for a teaching of authentication."
>
> *Id*. at 13 (emphasis added)

*See also Stryker Corp. v. Karl Storz Endoscopy-America, Inc.*, IPR2015-00764, Paper 13 at 13, (Decision denying Institution, P.T.A.B. Sep. 2, 2015) ("we fail to see, and Petitioner does not adequately explain, why it would be obvious to add a translator to redundantly perform the function that Petitioner maintains is performed by the interconnect devices and network computer"); and *Kinetic Concepts, Inc., v. Smith and Nephew, Inc.*, 688 F. 3d. 1342, 1369 (Fed. Cir. 2012) ("Because each device independently operates effectively [i.e., accomplishing similar functions, namely, draining fluids], a person having ordinary skill in the art, who was merely seeking to create a better device to drain fluids from a wound, would have no reason to combine the features of both devices into a single device.").

Petitioner's proposed modification to Nadeau thus appears to be superfluous and based on unproven and speculative benefits. The Petition fails to provide sound reasoning based on *evidence* that a POSITA would have been motivated *at all* to modify Nadeau's system to incorporate Kelly's gateway selection process.

**2. Petitioner fails to explain why a POSITA would have been motivated to modify Nadeau in a manner that is unsupported by the cited art's teachings**

Petitioner fails to provide articulated reasoning with rational underpinning to support the legal conclusion of obviousness as required in by *KSR Int'l Co.*, 550 U.S. at 418. In particular, Petitioner fails to provide facts, data, or plausible reasoning as to why a POSITA would have combined Nadeau and Kelly in the *very specific* way proposed by the Petitioner to arrive at the claimed features.

After describing Kelly's "gateway selection process", the Petition has a single paragraph setting out the alleged motivation to combine Nadeau and Kelly:

> A POSITA would have been motivated to modify the ***SLC*** of *Nadeau* to perform the gateway selection process taught in *Kelly* to further reduce the cost of routing over the PSTN as recognized by *Kelly*. (EX1003 at ¶¶ 192–195.) *Nadeau* explains that it would be desirable to find a least cost routing path for a VoIP call to avoid "paying unnecessary toll charges." (EX1005 at 2:3–6; *see also id*. at 6:30, 10:11–16.) *Kelly* teaches a way to improve the cost savings

> desired by *Nadeau*: select a gateway that "minimize[s] the toll charges" by performing the gateway selection process taught in *Kelly*.
>
> Petition at 16 (emphasis added)

The quoted paragraph asserts that a POSITA would have been motivated to modify the SLC of Nadeau to perform the gateway selection process taught in Kelly. However, Petitioner does not provide any reasons as to why the POSITA would make such a specific modification (i.e., to modify the SLC rather than to modify another device in Nadeau's system, such as the VoIP client or the ACS Gateway, for example). The remainder of the paragraph does not refer to the SLC at all, but rather to the alleged general desirability of certain cost savings.

While Petitioner asserts that a "POSITA would have been motivated to modify the SLC of *Nadeau* to perform the gateway selection process taught in *Kelly*" (Petition at 16), Petitioner's proposed *Nadeau-Kelly* combination is an artificial construct which extracts selected teachings of Kelly out of their original context in Kelly's system (e.g., a VoIP *client* device) and transplants them into a completely different context in Nadeau's system (e.g., an SLC *server*), without even addressing the question of whether a POSITA would have found this obvious.

The Petitioner fails to evaluate Nadeau's and Kelly's teachings *as a whole* to see if the proposed modification is consistent with what these references would have fairly suggested to one of ordinary skill in the art. *In re Wesslau*, 353 F.2d

238, 53 C.C.P.A. 746 (1965) (emphasis added): "The ever present question in cases within the ambit of 35 U.S.C. § 103 is whether the subject matter as a whole would have been obvious to one of ordinary skill in the art following the teachings of the prior art at the time the invention was made. It is impermissible within the framework of section 103 to pick and choose from any one reference only so much of it as will support a given position, to the exclusion of other parts necessary to the full appreciation of what such reference fairly suggests to one of ordinary skill in the art."

The "gateway selection process" described at columns 11-13 of Kelly, which the Petition cites, is described as being performed by a "*client* application" on a WebPhone *client* device. Kelly at 11:50-12:14, 12:32-36, 13:3-46; *see also* 10:45-49 (emphasis added) ("a client application requests [an address] translation"), which may include a multi-step "iterative solution" (*id. at* 10:48-54) in which "the WebPhone client is involved [in address resolution] at multiple subdomain levels" (*id. at* 13:5-12) (emphasis added). Kelly's patent, by way of background, states its purpose that "a need currently exists for a mechanism which enables translation of a conventional telephone number from a ***client*** task... into a network protocol address representing a gateway" (*id*. at 3:25-30) (emphasis added), where the algorithm also includes *client* interactive features such as the ability for a user to directly specify a carrier or gateway to use (*id. at* 13:57-14:14; Fig. 7).

The Petitioner does not give any explanation for why a gateway selection process that Kelly discloses as operating as a *client application* with interactive user features on a VoIP *client* device, would be transplanted by a POSITA to an SLC *server* in Nadeau. Indeed, such a modification is counterintuitive. A server such as the SLC of Nadeau provides different functionality, and needs to process different information, compared to a client device such as the WebPhone of Kelly, such that one skilled in the art would immediately recognize that trying to modify Nadeau's SLC to function as per the WebPhone of Kelly would pose difficulties (some examples are discussed *infra* in Section II.E.3).

For example, according to the teachings of Nadeau, the SLC is not included in the call path between the caller and the callee, whereas the WebPhone of Kelly acts as an originating point for calls made using it. *See* Nadeau (Figure 1) and Kelly (Figure 6). This results in significant differences in how the SLC and WebPhone may be implemented. For example, the SLC is not able to merely send a call packet to a gateway with which it wishes for a call to be initiated, as described in Kelly (13:22-26), since the SLC is not involved in the call path.

*Interconnect Planning Corporation v. Feil* 774 F.2d 1132, 1143 (1985), "Not only must the claimed invention as a whole be evaluated, but so also must the references as a whole, so that their teachings are applied in the ***context*** of their

significance to a technician at the time--a technician without our knowledge of the solution."

Also, Nadeau already has a candidate device in the VoIP client (i.e., DPFE 114) that could be modified and which is more akin to Kelly's WebPhone client than is Nadeau's SLC server. The Petitioner fails to explain why the POSITA would not simply have modified the VoIP client (DPFE 114) to implement the gateway selection functions of Kelly's WebPhone client before even considering translating its functionality into a different context, i.e., the SLC server.

Even assuming *arguendo* that it was desirable to implement Kelly's method in Nadeau, the Petitioner has not explained why the "technician without our knowledge of the solution" would have been motivated to modify the SLC *server* of Nadeau to perform the process of Kelly's WebPhone *client*, especially given the choice to modify a similar VoIP client (DPFE 114) is already present in Nadeau.

In summary, the Petitioner asserts that a POSITA would be *generally* motivated to add Kelly's gateway selection process, but fails to explain why the POSITA, if unaware of the Patent Owner's invention, would have been motivated to ignore what the cited art's teachings would fairly suggest as to *where* in Nadeau's system to implement the gateway selection process, and would instead transplant the process into a new context, which would not have been obvious.

### 3. Petitioner's analysis of the modifications required is too truncated and simplistic to establish a reasonable expectation of success

The Petition vaguely asserts that the proposed modification to Nadeau's SLC server based on Kelly's gateway selection process could have been made "easily" and with "predictable results", and would "simply involve programming the SLC to perform the gateway selection process taught by Kelly":

> A POSITA could have easily made this modification because it is merely a combination of prior art elements according to known methods to yield predictable results. (EX1003 at ¶ 196.) [...] Modifying the SLC of *Nadeau* simply involves the known technique of programming the SLC to perform the gateway selection process taught by *Kelly*. (EX1003 at ¶ 196.) A POSITA could have made this modification with a reasonable expectation of success without undue experimentation. (*Id*.)
>
> Petition at 16 (emphasis added)

The Petition refers to the Declaration at ¶ 196, which appears to be merely a collection of repetitive, unsupported, conclusory statements. The Declaration repeatedly states that the modification would merely require "programming the SLC" but does not provide any description of what the programming would entail or why the programming would have a reasonable expectation of success. These statements in the Declaration should be given little or no weight. See 37 C.F.R. § 42.65(a) ("Expert testimony that does not disclose the underlying facts or data on

which the opinion is based is entitled to little or no weight.); Office Patent Trial Practice Guide, 77 Fed. Reg. at 48,763 ("Affidavits expressing an opinion of an expert must disclose the underlying facts or data upon which the opinion is based."); *Rohm & Haas Co. v. Brotech Corp.*, 127 F.3d 1089, 1092 (Fed. Cir. 1997) (nothing in the Federal Rules of Evidence or Federal Circuit jurisprudence requires the fact finder to credit unsupported assertions of an expert witness).

While the Petition (and similarly the Declarant) assert that the modification would "simply involve... programming the SLC to perform the gateway selection process taught by *Kelly*" (Petition at 16-17; Declaration at ¶ 196), in reality, Petitioner's analysis is so truncated and simplistic that it glosses over significant modifications to the SLC, the client software, and/or telephony infrastructure in Nadeau's system that would be required in order to have a reasonable expectation of successfully assembling a functional system. The Petitioner fails to explain the modifications needed, nor why these additional modifications would have been obvious to a POSITA. For example, there is no acknowledgement of at least the following complications:

1. As discussed above in Section II.C.3.a, Kelly's gateway selection process produces a "call packet" that is addressed to a gateway, and this call packet initiates a call session in Kelly's system between the WebPhone sending the call packet and the gateway to which the call packet is addressed. Kelly at 13:22-26

and 15:12-17. However, this call packet and call initiation method cannot be used unmodified in Nadeau's system and would need to be changed for the modified Nadeau system to work properly. If a call packet addressed to the IP-PSTN Gateway 124 were to be produced and sent by Nadeau's SLC 122 without modification, it would go directly to the IP-PSTN Gateway 124 (bypassing the VoIP client 114 altogether) with unpredictable results. In order for the call packet to be sent from the SLC to the VoIP client 114, further modifications that the Petitioner does not explain would need to be made to Nadeau's SLC and/or Kelly's call packet. Nadeau's SLC 122 works differently from and under different constraints than Kelly's WebPhone, and this limits how the SLC can be modified to act like the WebPhone. For example, unlike Kelly's WebPhone, Nadeau's SLC is not configured to engage in a *call session*, whether with the IP-PSTN Gateway 124 or with the VoIP client 114. Indeed, according to Figures 1, 3, and 4 of Nadeau (showing dotted lines for "data only" connections), the SLC does not receive or send *any* voice data. Thus, "simply... programming [Nadeau's] SLC to perform the gateway selection process taught by Kelly" (Petition at 16-17) where the final step "(3) produces a call packet, analogous to routing instructions" (*id.* at 16) would fall short of a working system. The call packet and its receiving device must be modified in unspecified ways not taught by Kelly and *not explained by Petitioner*, in order to form a functional combination of Nadeau and Kelly.

2. Petitioner fails to consider, let alone explain, other changes required to the SLC apart from programming Kelly's gateway selection method. For example, as discussed above, Nadeau already discloses "least cost routing" using its existing infrastructure. If the Petitioner's proposed combination now adds the ability for the VoIP client 114 to directly contact multiple IP-PSTN Gateways, how would Nadeau's system be modified to reconcile the two different methods of selecting gateways? The Petition does not explain the integration between Nadeau's "least cost routing" method and the gateway selection method of Kelly.

3. A further issue with modifying the SLC is that Nadeau's system requires the SLC to provide setup information to the IP-PSTN Gateway 124 for cross-domain calls. *See* Nadeau at 11:29-33, 12:11-18, 13:34-42 (transmitting data from SLC to "inter-network gateway"); *see also* Figs. 3-4 (arrow between ACS SLC 122 and the IP-PSTN Gateway 124). How would the SLC 122 be reprogrammed in Petitioner's proposed combination, to ensure that the "correct" gateway received the "correct" call setup instructions for a cross-domain call?

4. A further issue with using Kelly's gateway selection process is that it involves the use of a "hybrid telephone/domain name", which is not supported in Nadeau's system. For example, Petitioner provides no guidance regarding how Nadeau's VoIP client software 114 would be changed to be able to process the format of a "hybrid telephone/domain name" (e.g., having the form '4001-997-

561-1.carrier.com'"), which Petitioner has indicated would be included in the routing instructions from the SLC. *See* Nadeau at 12:9-11, Petition at 16 ("call packet" contains "hybrid telephone number domain name"), at 27 (citing Kelly at 13:22-26 for disclosure of sending "call packet" containing "entire telephone number domain name"), and at 60; *see also* Petitioner's arguments in the Petition filed in the related IPR2017-01382 proceeding at 31 ("the modified SLC formats a dialed number into a hybrid telephone/domain name").

The Petition's insistence that no modifications going beyond "simply... programming the SLC to perform the gateway selection process taught by *Kelly*" (Petition at 16-17) is inaccurate. But given the Petition's and Declarant's lack of explanation as to what other changes would be made, the Petition's conclusory assurances that the SLC modification would "yield predictable results" and would have "a reasonable expectation of success" cannot be evaluated. *Id*. at 16-17.

The Petitioner and its Declarant have failed to even acknowledge, much less explain to the Board, the significant scope of changes that would be required in Nadeau's system, *apart from* programming the gateway selection process of Kelly into the SLC. Only by glossing over these can the Petition allege that the modifications would be simple, predictable and have a reasonable expectation of success. Given the many unaddressed technical issues, Petitioner fails to provide

substantial evidence of a basis for establishing that the POSITA would have found the modification obvious and would have had a reasonable expectation of success.

Accordingly, the Petitioner fails to carry its burden to prove that a person of ordinary skill in the art would have been motivated to make all the required modifications in order to implement the Petitioner's proposed combination, and that the skilled person would have had a reasonable expectation of success.

Only reference to the '005 Patent and its claims would lead a skilled person to attempt to modify the SLC of Nadeau to perform the gateway selection process performed by a WebPhone client or gateway in Kelly, but such use of the claims of the '005 Patent as the blueprint for combining references constitutes impermissible hindsight. *In re McLaughlin*, 443 F.2d 1392, 1395 (C.C.P.A. 1971).

The arguments made above in respect of independent Claim 1 are applicable *mutatis mutandis* to independent Claims 26 and 50. Dependent Claims 24, 25, 49 and 73 each depend from one of the aforesaid independent claims, which has not been shown to be unpatentable, and are thus not unpatentable as well.

## III. CONCLUSION

The Petition fails to establish a reasonable likelihood that Claims 1, 24-26, 49, 50 and 73 of the '005 Patent are unpatentable. Therefore, the Board should not institute trial in this proceeding.

Respectfully submitted,

KNOBBE, MARTENS, OLSON & BEAR, LLP

Dated: August 24, 2017

By: /Kerry Taylor/

Kerry Taylor, Reg. No. 43,947
John M. Carson, Reg. No. 34,303
Customer No. 20,995
Attorneys for Patent Owner
Voip-Pal.com Inc.
(858) 707-4000

**CERTIFICATE OF COMPLIANCE**

This document complies with the type-volume limitation of 37 C.F.R. § 42.24(a)(1)(i). This Preliminary Response contains 11,611 words, excluding the parts of the document exempted by 37 C.F.R. § 42.24(a)(1).

Respectfully submitted,

KNOBBE, MARTENS, OLSON & BEAR, LLP

Dated: August 24, 2017

By: /Kerry Taylor/
Kerry Taylor, Reg. No. 43,947
John M. Carson, Reg. No. 34,303
Customer No. 20,995
Attorneys for Patent Owner
Voip-Pal.com, Inc.
(858) 707-4000

## CERTIFICATE OF SERVICE

I hereby certify that true and correct copy of **PATENT OWNER'S PRELIMINARY RESPONSE TO PETITION FOR *INTER PARTES* REVIEW** is being served on August 24, 2017, via electronic mail pursuant to 37 C.F.R. § 42.6(e) as addressed below:

Samir A. Bhavsar
Brian D. Johnston
Charles Yeh
BAKER BOTTS L.L.P.
2001 Ross Avenue, #700
Dallas, TX 75201
Telephone: (214) 953-6500
samir.bhavsar@bakerbotts.com
brian.johnston@bakerbotts.com
charles.yeh@bakerbotts.com

Dated: August 24, 2017

/Kerry Taylor/
Kerry Taylor, Reg. No. 43,947
John M. Carson, Reg. No. 34,303
Attorneys for Patent Owner
Voip-Pal.com Inc.

26561660