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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. IPR2017-01383

U.S. Patent 9,179,005

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

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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 74-79, 83-84, 88-89, 92, 94-96, and 98-99 of the ’005 Patent on two grounds:

1. Petitioner alleges obviousness of Claims 74-79, 83-84, 88-89, 92, 94-96, and 98-99 under pre-AIA 35 U.S.C. § 103(a) over U.S. Patent Publication No. 2004/0218748 to Fisher (“Fisher”) in view of U.S. Patent No. 6,674,850 to Vu (“Vu”) (“Ground 1”).

2. Petitioner alleges obviousness of Claims 74-79, 83-84, 88-89, 92, 94-96, and 98-99 under pre-AIA 35 U.S.C. § 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 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 Ground 1 fails because neither Fisher nor Vu taken alone or in combination discloses or suggests the subject matter recited in the Claims, and in particular, at least “when at least one of the first participant attributes and at least a portion of the second participant identifier meet a first network classification criterion, *producing a first network routing message for receipt by a controller, the first network routing message identifying an address in a first portion of the packet*

switched network, the address being associated with the second participant, the first portion being controlled by an entity” and “when at least one of the first participant attributes and at least a portion of the second participant identifier meet a second network classification criterion, producing a second network routing message for receipt by the controller, the second network routing message identifying an address in a second portion of the packet switched network, the second portion not controlled by the entity” as recited in Claim 74. Each of independent claims 94 and 99 recite similar elements. As detailed below, Petitioner’s argument that the combination of Fisher and Vu provide the subject matter of the claims is premised on Petitioner’s flawed understanding of the functionality of the system in Fisher.

Petitioners Ground 1 also fails because neither Fisher nor Vu discloses a first participant profile as recited in the claims. As detailed herein, the “first participant profile” recited in the claims requires caller-specific information and contrary to Petitioner’s arguments, neither Fisher nor Vu discloses caller-specific information in a profile.

Petitioner’s Ground 1 also fails because Petitioner’s proposed motivation for combining Fisher and Vu in the fashion claimed by the ’005 Patent is flawed. As set out below, contrary to Petitioner’s assertions, calling plans in Fisher are not caller-specific. Therefore, the least cost choice for a routing selection is

independent of the particular caller and so modifying the routing rules of Fisher to be caller-specific would not reduce routing costs.

Petitioner's Ground 1 also fails with respect to Claim 84 because neither Fisher nor Vu taken alone or in combination discloses or suggests that the address in the first portion is accessible through the first participant's Internet service provider as recited in Claim 84. As set out below, contrary to Petitioner's argument, Fisher does not disclose or suggest that the corporate intranet is accessible through the ISP 110 and so Fisher does not disclose that the IP address of a callee on the corporate intranet is accessible through the caller's ISP.

Petitioner's Ground 2 also fails. Petitioner's Ground 2 does not establish a reasonable likelihood that the claims will be found obvious because Petitioner has not shown that any combination of the references leads to all elements of the challenged independent claims at least because Petitioner's inherency argument is incorrect, and Petitioner failed to recognize that Kelly's "call packet" cannot be used in Nadeau's system.

Petitioner's Ground 2 also fails because 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 56. 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 74-79, 83-84, 88-89, 92, 94-96, and 98-99 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 Claim 74, which recites:

74. [74p] A method of routing communications in a packet switched network in which a first participant identifier is associated with a first participant and a second participant identifier is associated with a second participant in a communication, the method comprising:

[74a] after the first participant has accessed the packet switched network to initiate the communication, using the first participant identifier to locate a first participant profile comprising a plurality of attributes associated with the first participant;

[74b] when at least one of the first participant attributes and at least a portion of the second participant identifier meet a first network classification criterion, producing a first network routing message for receipt by a controller, the first network routing message identifying an address in a first portion of the packet switched network, the address being associated with the second participant, the first portion being controlled by an entity; and

[74c] when at least one of the first participant attributes and at least a portion of the second participant identifier meet a second network classification criterion, producing a second network routing message for receipt by the controller, the second network routing message identifying an address in a second portion of the packet switched network, the second portion not controlled by the entity.

The method of Claim 74 is directed to telecommunications call routing in a packet switched network. The routing method facilitates identification of addresses in first and second portions of a packet switched network based on whether attributes of a first participant profile and at least a portion of a second participant identifier meet certain classification criteria. For example, when a first participant initiates a communication, the communication may be routed to an identified address by a controller to facilitate communication.

Claim 74 does not simply recite that a call is routed when the attributes of a first participant profile and at least a portion of a second participant identifier meet certain classification criteria. Rather, when a classification criterion is met, steps are taken to facilitate routing the communications to the second participant by producing a routing message. For example, Claim 74 recites that when a first network classification criterion is met, a first network routing message is produced for receipt by a controller, the first network routing message identifying an address in a first portion of the packet switched network, the address being associated with the second participant, the first portion being controlled by an entity. Claim 74 also recites that when the second network classification criterion is met, a second network routing message is produced for receipt by the controller, the second network routing message identifying an address in a second portion of the packet switched network, the second portion not controlled by the entity.

B. Ground 1 fails because Fisher and Vu, alone or combined, do not disclose claim elements 74b and 74c as recited in Claim 74

Claim element 74b recites “when at least one of the first participant attributes and at least a portion of the second participant identifier meet a first network classification criterion, *producing a first network routing message for receipt by a controller, the first network routing message identifying an address in a first portion of the packet switched network*, the address being associated with

the second participant ...” (emphasis added). Claim element 74c recites “*when at least one of the first participant attributes and at least a portion of the second participant identifier meet a second network classification criterion, producing a second network routing message for receipt by the controller, the second network routing message identifying an address in a second portion of the packet switched network ...*” (emphasis added). Similar elements are recited in Claims 94 and 99. The Petition asserts that these claim elements are taught by Fisher’s “customer premises equipment dialing rules engine” (“CPEDRE”). (Petition at 31-32 and 35-36). However, the Petitioner has mistakenly attributed functions to the CPEDRE that are performed by distinct components of Fisher’s system. For this reason, the Petitioner’s assumptions about what type of information is sent from the CPEDRE is flawed. When interpreted correctly, Fisher does not disclose that the CPEDRE produces “routing messages” that satisfy the features recited in Claim 74.

Specifically, the Petitioner argues that Fisher discloses that the CPEDRE provides an entire routing path to the gateways disclosed in Fisher and on this basis proposes that a routing message must be sent by the CPEDRE to the gateway that includes a destination IP address of the callee or an address on the Internet (Petition at 32 and 36).

However, the Petition’s argument fails because, as explained below, contrary to Petitioner’s assertions, Fisher’s CPEDRE does not provide the entire routing path

for a call to a VoIP gateway, and, thus, Petitioner's basis for alleging that the CPEDRE must send the proposed routing message is flawed. Accordingly, Fisher's CPEDRE does not perform the above-noted claim elements 74b & 74c.

1. Overview of Fisher

Fisher discloses "a method and system for providing and using telephone call routing rules" (Abstract). Referring to Figure 1, Fisher discloses "an exemplary system 100 includ[ing] a provisioning web site 102 and a management system 104 coupled to an Internet protocol (IP) backbone 108 within the Internet 106. The IP backbone is coupled to the [customer premises equipment ("CPE")] 124 via an Internet service provider (ISP) 110. The CPE can also be coupled to the PSTN 112 and to an intranet, for example a corporate intranet 140." (¶0022).

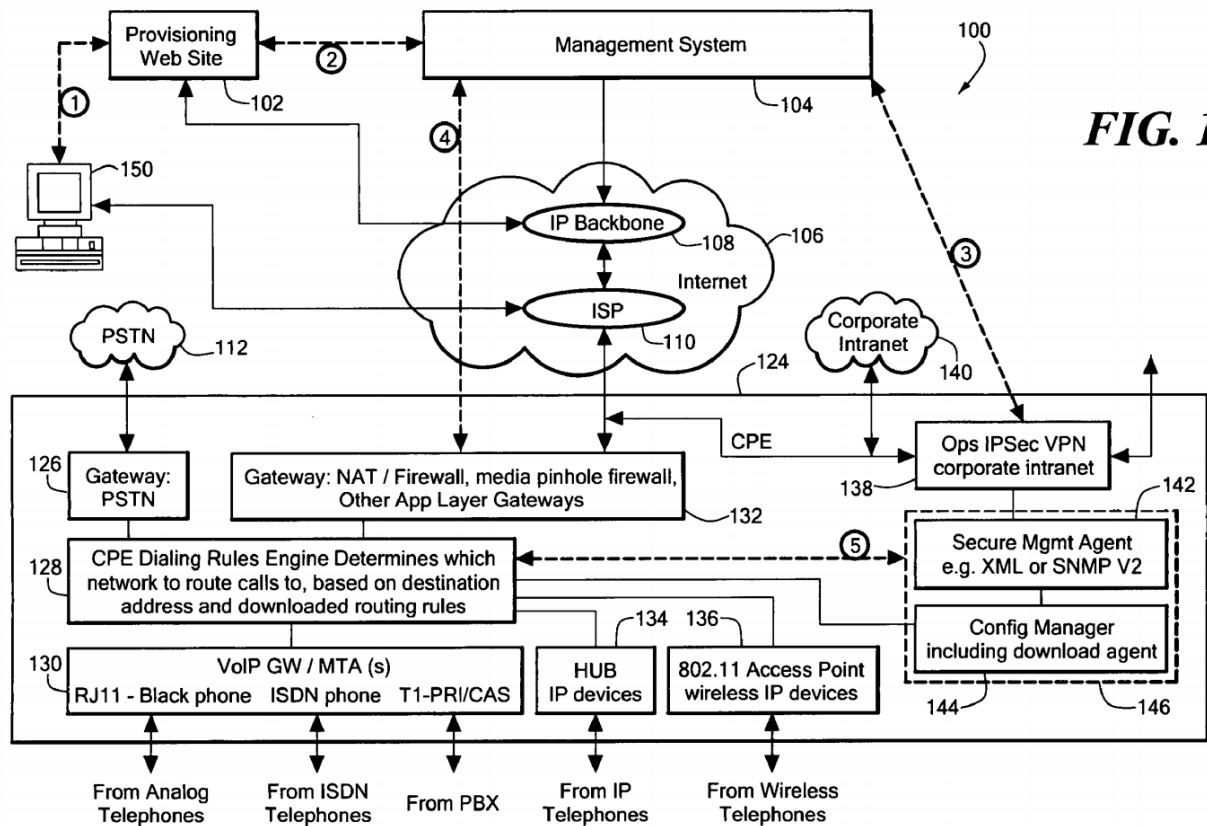


FIG. 1

“The CPE 124 includes a CPE dialing rules engine [(“CPEDRE”)] 128 which can be coupled to the Internet 106 and to the corporate internet 140 via a first gateway 132 adapted to provide VoIP communications, network address translation (NAT), and firewall provisions.” (¶0023). Fisher does not disclose or suggest that the CPEDRE routes calls beyond the gateways. Rather, Fisher discloses that the gateways route the calls to the PSTN or to the VoIP network, not the CPEDRE. (¶0010).

Fisher discloses “a routing table (e.g., Table 1 [at ¶0031]) having routing rules and associated routing paths downloaded to the CPE 124 and used (via

pathway 5, which can be provided within the CPE 124) by the [CPEDRE] 128. The routing rules and associated routing paths can be used by the CPE 124 to identify telephone number characteristics of telephone calls received with the interfaces 130, 134, 136. The CPE can route a telephone call according to the routing rules, to a selected one of the PSTN 112 and the Internet 106, for example, as a VoIP telephone call” (§0029).

TABLE 1

Telephone Number Characteristics	Telephone Call Categories	Routing Selections
A	local PSTN destination	PSTN
B	local toll PSTN destination	PSTN
C	long distance PSTN destination	PSTN
D	international PSTN destination	PSTN
E	local VoIP destination	VoIP
F	local toll VoIP destination	VoIP
G	long distance VoIP destination	VoIP
H	international VoIP destination	VoIP
I	intra-site destination	VoIP
J	local intra-company PSTN destination	PSTN
K	local toll intra-company PSTN destination	PSTN
L	long distance intra-company PSTN destination	PSTN
M	international intra-company PSTN destination	PSTN
N	local intra-company VoIP destination	VoIP
O	local toll intra-company VoIP destination	VoIP
P	long distance intra-company VoIP destination	VoIP

TABLE 1-continued

Telephone Number Characteristics	Telephone Call Categories	Routing Selections
Q	international intra-company VoIP destination	VoIP
R	local partner PSTN destination	PSTN
S	local toll partner PSTN destination	PSTN
T	long distance partner PSTN destination	PSTN
U	long distance partner PSTN destination	PSTN
V	international partner PSTN destination	PSTN
W	local partner VoIP destination	VoIP
X	local toll partner VoIP destination	VoIP
Y	long distance partner VoIP destination	VoIP
Z	international partner VoIP destination	VoIP

Regarding use of the terms “routing”, “routing path”, and “route”, Fisher provides the following guidance:

[0020] As used herein, “routing” refers to a selection of one network from among two or more networks within which to direct a telephone call. Routing provides selection of a “routing path,” or a “route” which, as used herein, refers to the one selected network. Therefore, it will be understood that, as used herein, the routing path does not necessarily correspond to an entire connection path between a source of a telephone call and a destination of a telephone call.

Accordingly, Fisher imparts non-traditional and narrow definitions to the words “routing”, “routing path” and “route”. With these definitions in mind, Fisher discloses that the CPEDRE includes “a routing processor 208 adapted to route a telephone call to a selected one of the PSTN gateway 126 [] and the VoIP gateway 132 [] according to routing rules 212”. (¶0040). By routing the call to the selected one of the gateways, the CPEDRE provides selection of the “routing path” or “route”. As detailed below, Fisher does not disclose or suggest that the CPEDRE routes calls beyond the gateways. Rather, Fisher discloses that the gateways, not the CPEDRE, route the calls to the PSTN or to the VoIP network. (¶0010).

2. Fisher does not disclose that the CPEDRE provides the entire routing path for the call to the gateway

Petitioner and its Declarant assert that the above-noted Claim elements 74b & c are met by Fisher’s CPEDRE based on Petitioner’s view that the CPEDRE

provides the entire routing path for a call to the gateway. (Petition at 31-32 and 35-36; Declaration at ¶¶223, 225, 232, and 234). This is incorrect for at least the following reasons, detailed in the sections below:

- a. Fisher does not disclose the structure(s) that perform the routing step referred to in ¶0047;
- b. Fisher teaches that the CPEDRE routes calls only as far as the PSTN gateway or the VoIP gateway; and
- c. Fisher teaches that routing beyond the gateways is performed by elements other than the CPEDRE, such as the PSTN gateway 126 or the VoIP gateway 132.

As detailed below, the CPEDRE in Fisher does not provide the entire routing path for a call to the gateway and so Petitioner's basis for proposing that a routing message is sent by the CPEDRE to the gateway, the routing message including a destination IP address of the callee or an address on the Internet, is lacking.

a. **Fisher does not disclose the structure(s) that perform the routing step referred to in ¶0047**

Petitioner and its Declarant's theory of obviousness relies on ¶0047 as allegedly providing support for the assertion that the CPEDRE provides the entire routing path for a call to the gateway. See, for example, pages 31-32 and 35-36 of the Petition; see ¶¶223, 225, 226, 228, 232, 234, and 235 of the Declaration.

However, Petitioner's reliance on ¶0047 is misguided. The portion of ¶0047 relating to routing is reproduced below, with emphasis added on the sentence relating to providing an entire routing path for a call:

If a match is found, the telephone call is routed at step 320 according to the routing rules 212, to a network mapped to the matched telephone number characteristic in the routing rules 212, which can be a selected one of the PSTN and the Internet. As described above, the routing at step 320 provides a selection of a network, but does not necessarily form of an entire routing path, generating a connection between a source and a destination of the telephone call. *However, in other embodiments, the routing at step 320 provides the entire routing path, generating a connection between a source and a destination of the telephone call.* (emphasis added).

The final sentence of this paragraph refers to an alternative embodiment of performing a routing step where the entire routing path is provided, and a connection between a source and a destination of the telephone call is generated in the routing step. (¶0047). However, nothing in this paragraph or elsewhere in Fisher indicates that the routing step of providing the entire routing path is performed by the CPEDRE.

Rather, ¶0047 of Fisher simply mentions that the routing path is generated by the routing step without identifying the structure that performs the routing step. As discussed below, elsewhere Fisher teaches various components that can

perform routing to complete the connection between source and destination, such as the PSTN gateway 126 and the VoIP gateway 132 (see ¶0010), the CPEDRE, and other components from the system 100 shown in Figure 1 (see ¶¶0040 & 0042), or a plurality of these components. Paragraph 0047 does not identify which structure(s) are involved in the embodiment in which the entire routing path is provided. As discussed below, a proper reading of Fisher would *not* lead a POSITA to believe that the CPEDRE provides the entire routing path itself because Fisher teaches only a limited role for the CPEDRE.

If Fisher had intended that the routing at step 320 was performed specifically by the routing processor or the CPEDRE, Fisher would have provided express disclosure of this. Notably, for steps 316 and 318, which precede routing at step 320, Fisher is explicit in stating that these steps are performed by the telephone number characteristic detector 204 and the comparison processor 206, respectively. (¶0047). Therefore, Fisher's teachings do not support the Petitioner's argument that the CPEDRE performs routing that provides the entire routing path of a call to the gateway.

b. Fisher teaches that the CPEDRE routes calls only as far as the PSTN gateway or the VoIP gateway

Fisher's teachings do not substantiate the CPEDRE performing the routing step when routing involves providing the entire routing path for a call because

Fisher teaches that the CPEDRE routes calls only as far as the PSTN gateway 126 or the VoIP gateway 132.

Fisher provides the following statements regarding how the CPEDRE performs routing:

The CPE dialing rules engine 202 also includes a comparison processor 206 adapted to compare the called telephone number digits with routing rules 212, and a routing processor 208 adapted to route the telephone call to a selected one of the PSTN gateway 126 (FIG. 1) and the VoIP gateway 132 (FIG. 1) according to the routing rules 212. [emphasis added] (¶0040)

[...]

If a match [is] found, a respective one of the routing selections 212c directs the routing processor 208 to route the telephone call to a selected one of the PSTN gateway 126 and the VoIP gateway 132 for transmission to the PSTN or the Internet accordingly. (emphasis added) (¶0042).

These statements indicate that the call is routed by the CPEDRE only as far as the PSTN gateway 126 or the VoIP gateway 132. In contrast, when Fisher describes how the broader CPE 124 or system 100 performs routing, the calls are described as routed not just to a gateway, but past the gateway to the PSTN 112 or the Internet 106 (see, for example, ¶¶0029, 0032, 0047, 0048, 0049, 0050, 0051, 0052, 0055, 0057, 0059). And, as detailed below, Fisher discloses that routing past the gateway is performed by the gateways (see ¶0010), not the CPEDRE.

Thus, Fisher's teachings regarding the CPEDRE undermine the arguments of the Petition that the CPEDRE provides the entire routing path to the gateway because Fisher teaches that the CPEDRE provides routing only as far as a gateway.

c. **Fisher teaches that routing beyond the gateways is performed by elements other than the CPEDRE, such as the PSTN gateway 126 or the VoIP gateway 132**

As set out above, Fisher discloses that "If a match is found, the telephone call is routed at step 320 according to the routing rules 212, to a network mapped to the matched telephone number characteristic in the routing rules 212, which can be a selected one of the PSTN and the Internet." (¶0047). But Fisher does not disclose that the CPEDRE 128 performs step 320.

In the concluding sentences of ¶0047, Fisher provides two distinct embodiments that can be used in performing the routing at step 320:

As described above, the routing at step 320 provides a selection of a network, but does not necessarily form of an entire routing path, generating a connection between a source and a destination of the telephone call. However, in other embodiments, the routing at step 320 provides the entire routing path, generating a connection between a source and a destination of the telephone call. (¶0047)

The main embodiment, described in the first sentence of the above excerpt, is consistent with the rest of the specification and particularly ¶0020, which states:

[0020] As used herein, “routing” refers to a selection of one network from among two or more networks within which to direct a telephone call. Routing provides selection of a “routing path,” or a “route” which, as used herein, refers to the one selected network. Therefore, it will be understood that, as used herein, the routing path does not necessarily correspond to an entire connection path between a source of a telephone call and a destination of a telephone call.

It may be that one of various possible components that could perform step 320 in the main embodiment is the CPEDRE, where the routing at step 320 merely provides a selection of a network. As demonstrated above, this type of routing is consistent with the primary embodiment of the specification and the majority of the teachings of the specification. However, Petitioner relies on the distinct second embodiment where a connection is generated between a source and a destination of the telephone call at step 320. In this distinct second embodiment, “routing” takes on a different meaning from that which it has in other portions of the specification by providing the entire path between source and destination.

As detailed above, the CPEDRE is configured only to route a call to the PSTN gateway 126 or the VoIP gateway 132, and not beyond. Thus, even if one were to accept that in the specification’s main embodiment the CPEDRE performs step 320, in the distinct second embodiment, at least one additional element beyond the CPEDRE would be required to perform the routing step 320. Fisher is

not silent on components that route beyond gateways. In particular Fisher teaches routing beyond the PSTN gateway 126 or the VoIP gateway 132. Fisher provides the following guidance in the Summary of the Invention at ¶0010:

The system also includes [...] a first gateway coupled to the routing processor and adapted to route the telephone call to the PSTN according to the selected routing path, and a second gateway coupled to the routing processor and adapted to route the telephone call to the VoIP network according to the selected routing path.

Accordingly, Fisher discloses that routing beyond the gateways to the PSTN network or the VoIP network is performed by the gateways themselves and not by the CPEDRE. Thus, one skilled in the art, reading ¶0047 in view of Fisher's characterization of Fisher's invention in ¶0010 would understand that performance of the routing step 320 wherein the entire routing path is provided (the embodiment relied upon by Petitioner) is performed at least in part by a gateway, such as the VoIP gateway 132, for example.

3. The combination of Fisher and Vu fails to disclose or suggest the subject matter of Claim 74

Petitioner erroneously relied on Fisher's CPEDRE providing the entire routing path for a call to the gateway as a basis for inferring that the CPEDRE produces a routing message for the gateway that includes the entire routing path from the source to the destination of the call. Based on this error Petitioner asserts

that, in one use case, the routing message includes an address associated with the callee (Petition at 31-32), and, in another use case, the routing message includes an address on the local partner VoIP network or the international partner VoIP network (Petition at 35-36).

However, as detailed above, Fisher discloses that the CPEDRE is configured to route a telephone call to a selected one of the PSTN gateway 126 and the VoIP gateway 132 but no further, and Fisher never teaches that the CPEDRE provides the entire routing path for a call to a gateway, in contrast to the assertions by Petitioner.

Thus, the CPEDRE does not provide any additional information to the gateway beyond a telephone call itself. Thus, there is no basis for Petitioner's assertion that the CPEDRE produces a routing message that includes an address associated with the callee or an address of a partner VoIP network.

Indeed, there does not appear to be any basis for the assertion that the CPEDRE provides a *routing message* to the gateway at all. Rather, in view of the disclosure of Fisher, the CPEDRE simply passes a received telephone call to a gateway, without modification or any additional information.

In view of the foregoing, contrary to Petitioner's allegations, Fisher fails to disclose or suggest at least the following as recited in Claim 74:

[74b] when at least one of the first participant attributes and at least a portion of the second participant identifier meet a first network classification criterion, *producing a first network routing message for receipt by a controller, the first network routing message identifying an address in a first portion of the packet switched network*, the address being associated with the second participant, the first portion being controlled by an entity; and

[74c] when at least one of the first participant attributes and at least a portion of the second participant identifier meet a second network classification criterion, *producing a second network routing message for receipt by the controller, the second network routing message identifying an address* in a second portion of the packet switched network, the second portion not controlled by the entity. (emphasis added)

Vu does not remedy the above-deficiencies of Fisher since Vu does not disclose or suggest the above-noted subject matter and indeed Petitioner makes no allegation that Vu does so.

Claims 94 and 99 recite similar elements to the above-noted elements of Claim 74. Accordingly, Ground 1 fails because neither Fisher nor Vu discloses or suggests the subject matter of the challenged independent claims.

C. Ground 1 Fails Because Neither Reference Discloses a First Participant Profile as Recited in the Claims

Independent claims 74, 94 and 99 challenged by Petitioner all recite a “first participant profile comprising a plurality of attributes associated with the first

participant.” As detailed below, the “first participant profile” requires caller-specific information. Petitioner admits that Fisher fails to disclose the “first participant profile” including caller-specific information as recited in the claims; however, Petitioner argues that Vu discloses this element (Petition at 14-15).

Petitioner’s argument fails because, contrary to Petitioner’s assertions, Vu fails to disclose or suggest that the subscriber profiles in Vu are caller-specific, and so Vu fails to disclose a “first participant profile comprising a plurality of attributes associated with the first participant” as recited in the independent claims 74, 94, and 99. Because the Petition fails to establish that either Fisher or Vu discloses the “first participant profile” as recited in the independent claims, and Petitioner has not explained how such a feature would arise from the proposed combinations, Ground 1 fails.

1. There is No Dispute that First Participant Profile Recited in the Claims Requires Caller-Specific Information

Petitioner acknowledges that the Patent Owner interprets the first participant profile as requiring caller-specific information (Petition at 5), and Petitioner does not challenge this construction or offer a possible alternative construction. Petitioner also admits that Fisher does not disclose “caller specific” routing rules. Petition at 14. Rather, in assessing obviousness, Petitioner relies on Vu as allegedly providing a “caller-specific” aspect in its disclosure of subscriber

profiles. *Id.* at 14-15. Thus, in the Petitioner’s arguments, Petitioner adopts the interpretation of the first participant profile as requiring caller-specific information.

2. Fisher Does Not Disclose A First Participant Profile As Recited In The Claims

a. The “Routing Rules” in Fisher Apply to All Callers Using a CPE

Fisher discloses a CPE 124 that is shared by multiple callers. See Fisher at Fig. 1, ¶0024.

Fisher discloses that each CPE gets a single set of routing rules. “The routing rules (e.g., Table 1) provided from the management system 104 to the CPE 124 can be different for different CPEs at different locations.” Fisher at ¶0034.

As admitted by Petitioner, Fisher does not disclose or suggest that each caller would have a different set of routing rules. Petition at 14. Thus, the routing rules of Fisher apply to all callers using the CPE and the routing rules of Fisher therefore are not caller-specific.

b. Petitioner Has Admitted That Fisher Doesn’t Disclose A First Participant Profile

Petitioner has admitted that Fisher does not disclose a caller-specific profile. The Petition states that:

However, Fisher does not disclose that the routing rules are caller-specific. Rather, Fisher suggests that all callers who use the CPE are subject to the same set of routing rules. (*Id.* at ¶ [0029].)

Petition at 14 (emphasis added)

As detailed above, the first participant profile requires caller-specific information, and so by admitting that Fisher does not disclose a caller-specific profile, Petitioner thus admits that the routing rules of Fisher do not constitute a “first participant profile” as recited in the claims with attributes “associated with the first participant.”

3. Vu Does Not Disclose A First Participant Profile

As detailed above, the first participant profile recited in the claims requires caller-specific information. While Petitioner admits that Fisher does not disclose the first participant profile, Petitioner argues that Vu provides a “caller-specific” aspect in its disclosure of subscriber profiles. Petition at 15. Petitioner’s argument fails because, contrary to Petitioner’s assertions, Vu does not disclose that the subscriber profiles are caller specific. *See, e.g.*, Vu at 3:36-49. Rather, as detailed below, a POSITA would understand that the subscriber profiles in Vu are enterprise specific.

a. The “Subscriber Profiles” in Vu are Enterprise Specific

Vu discloses a Unified Access Switch 10 that connects to multiple enterprises. Vu at 3:6-22. Vu discloses that a database of “subscriber profiles” is

maintained within the Unified Access Switch 10 and defines various services subscribed to by the subscribers. Vu at 3:36-39. However, there is no disclosure or suggestion in Vu that the “subscriber profiles” are caller-specific. Rather, the use of the word “subscriber” to mean enterprise is common in the field of telecommunications. For example, U.S. Patent No. 7,486,684 to Chu et al. (“Chu ’684”) uses the term “subscriber” throughout to refer to an enterprise. *See also* IPR2016-01198, Paper 17 at 66-69. In view of the foregoing, a POSITA would understand the word “subscriber” in Vu to refer to an enterprise rather than an individual caller. Thus, Vu’s “subscriber profiles” are directed to profiles of enterprises, not profiles of individual callers and the “subscriber profiles” disclosed in Vu are enterprise specific rather than caller specific.

b. The Petitioner’s Assertions That Vu Discloses Caller Specific Information Are Unsupported

The Petitioner asserts that Vu discloses caller-specific profiles, but cites to sections of Vu that do not support the assertion. The Petition states:

However, as discussed in more detail below, Vu teaches a unified access switch that maintains a database of caller-specific subscriber profiles. (EX1008 at 3:36–38, 4:25–28.)

Petition at 15 (emphasis added)

Petitioner’s cited portions of Vu disclose nothing about “caller-specific” profiles, nor does any other portion of Vu provide such disclosure. As explained

above, Vu discloses only that the profiles are “subscriber” specific and a POSITA would understand the word “subscriber” in Vu to refer to an enterprise rather than an individual caller.

Petitioner cites to no other evidence that the “subscriber profiles” in Vu are caller-specific rather than enterprise-specific.

In view of the foregoing, Petitioner’s argument fails as Vu does not caller-specific information. Thus, Vu does not disclose a first participant profile as recited in the claims with attributes “associated with the first participant.” Accordingly, neither Fisher nor Vu disclose a first participant profile as recited in the claims and Ground 1 of the Petition fails.

D. Ground 1 fails because the motivation to combine is flawed

A finding of obviousness “cannot be predicated on the mere identification in [the prior art] of individual components of claimed limitations” *Personal Web Technologies, LLC v. Apple, Inc.*, 848 F.3d 987, 991 (Fed. Cir. 2017) Instead, 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, e.g., In re NuVasive, Inc.*, 842 F.3d 1376, 1381–82 (Fed. Cir. 2016); In this case, Petitioner argues that a POSITA would be motivated to modify the routing rules of Fisher to be caller-specific like the subscriber profiles of Vu to reduce the cost of

making calls. Petition at 15. Petitioner argues that by modifying the routing rules to be caller-specific, the CPEDRE would be able to route calls on a caller-by-caller basis – based on a user’s preferred calling plan or cost structure – thereby reducing routing costs for individual users. Petition at 15. Petitioner’s argument fails because, as detailed below, contrary to Petitioner’s assertions, *calling plans* in Fisher are not caller-specific. Therefore the least cost choice for a routing selection is independent of the particular caller and so modifying the routing rules of Fisher to be caller-specific would not reduce routing costs. Petitioner’s argument also fails because even if modifying the routing rules in Fisher to be caller-specific were to reduce routing costs, the subscriber profiles in Vu are not caller-specific, and so the combination of Fisher and Vu would not result in caller-specific routing rules.

Accordingly, the teachings of Fisher and Vu undermine the Petitioner’s argument that there is a motivation to combine these references.

1. **Calling plans for callers in Vu are not caller-specific and so modifying the routing rules of Fisher to be caller-specific would not reduce routing costs.**

Regarding motivation to combine, Petitioner alleges the following:

A POSITA would be motivated to modify the routing rules of Fisher to be caller-specific like the subscriber profiles of Vu to reduce the cost of making calls. (EX1003 at ¶¶ 200–206.) Fisher already recognizes a desire to reduce routing costs. (EX1006 at ¶ [0033].) By

modifying the routing rules to be caller-specific, the CPEDRE would be able to route calls on a caller-by-caller basis—based on a user’s preferred calling plan or cost structure—thereby reducing routing costs for individual users. (EX1003 at ¶ 205.)

Petition at 15.

Thus, Petitioner argues that a POSITA would have been motivated to combine Fisher with Vu to make the CPEDRE route calls on a caller-by-caller basis in order to reduce routing costs for individual users. However, as discussed below, Fisher does not contemplate having caller-specific *calling plans* for a single CPE and associated CPEDRE. Instead, Fisher discloses one calling plan for each CPE, such that all callers using the CPE incur costs under the same calling plan. Therefore, the lowest cost choice of a routing selection (e.g. VoIP or PSTN) for a given call is independent of the particular caller’s identity and so modifying the routing rules of Fisher to be caller-specific would not reduce routing costs.

a. Fisher discloses a single calling plan for a CPE

The Petition’s and the Declarant’s argument for combining Fisher and Vu rely on a false characterization of Fisher teaching different callers of the CPE have different calling plans with different cost structures (Petition at pages 14-15 citing Fisher at ¶0035; Declaration at ¶203 citing Fisher at ¶0035). However, Fisher at ¶0035 provides no such teaching. Rather Fisher discloses a single calling plan that applies to all callers using a CPE.

Petitioner's mischaracterization of Fisher arises from the Petitioner's misunderstanding of "customer" as used by Fisher. While Petitioner considers a "customer" to be an individual caller, as detailed below, this interpretation is incorrect in the context of Fisher where a customer is an enterprise customer or company that owns and controls the CPE.

As admitted by Petitioner at page 43 of the Petition and by Declarant at ¶248 of the Declaration, a single company owns and controls the CPE. Further, Fisher discloses that system 100 includes a corporate intranet 140 and routing rules that include various company related telephone call categories, such as, intra-company call categories (Fisher at ¶¶0022, 0031). Thus, in view of Petitioner's admissions and Fisher's teachings, it is clear that Fisher discloses an enterprise solution for routing calls. Accordingly, in the context of Fisher, a "customer" is an enterprise customer or company that owns and controls the CPE.

Paragraph 0035 of Fisher states:

[0035] As is also known, at a particular location, a customer can often select one of a variety of calling plans, each usually having a different cost structure. For example, the customer can elect to have a calling plan with free long distance calls.

Thus, Fisher discloses that an enterprise customer at a particular location selects one of a variety of calling plans (¶¶0034-0035) to be used with the CPE that the enterprise customer owns and controls. Accordingly, for a given CPE, Fisher

discloses a single calling plan and all callers using the CPE would be charged according to their company's calling plan. Fisher does not disclose or suggest providing any different calling plans for different callers accessing a single CPE.

b. Modifying the routing rules of Fisher to be caller-specific would not reduce routing costs.

In view of the foregoing, regardless of the caller who is making a call, the same calling plan (i.e., the calling plan selected by the enterprise customer who owns and controls the CPE) will be applied. Therefore, the routing selection for a call which would provide the least cost would depend on the enterprise customer's calling plan associated with the CPE, but would be independent of the particular caller who made the call.

Accordingly, there would be one preferred set of routing rules that would result in least cost routing, and so modifying the routing rules of Fisher to be caller-specific would simply result in multiple sets of the same preferred set of routing rules. Thus, caller-specific routing rules would not provide a reduction in costs, and so there would be no motivation to combine Fisher with any reference to provide caller-specific routing rules, nor would there be any improvement in doing so.

Thus, the teachings of Fisher undermine the Petitioner's argument that there is a motivation to modify Fisher to have caller-specific routing rules, and it is only

through Petitioner's misunderstanding of Fisher that Petitioner has been able to make an allegation that there would be a motivation to modify Fisher in this way.

2. **The subscriber profiles in Vu are not caller-specific and so the combination of Fisher and Vu would not result in caller-specific routing rules**

Petitioner argues that Vu teaches a unified access switch that maintains a database of caller-specific subscriber profiles and that a POSITA would be motivated to modify the routing rules of Fisher to be caller-specific like the subscriber profiles of Vu to reduce the cost of making calls. Petition at 15. However, Petitioner's argument fails because even if modifying the routing rules in Fisher to be caller-specific would reduce routing costs, as detailed above, the subscriber profiles in Vu are not caller-specific. Accordingly, one would not be motivated to combine Fisher and Vu since the combination of Fisher and Vu would not result in caller-specific routing rules.

Thus, the teachings of Vu undermine the Petitioner's arguments that a POSITA would be motivated to modify Fisher to incorporate the teachings of Vu, since Vu does not disclose caller-specific profiles.

E. **Ground 1 fails with respect to Claim 84 because the combination of Fisher and Vu fails to disclose that the address in the first portion is accessible through the first participant's Internet service provider**

Petitioner argues that the IP address of a callee on the corporate intranet is accessible through the caller's ISP. Petition at 42. However, Petitioner's argument

fails because Fisher does not disclose or suggest that the corporate intranet is accessible through the Internet service provider (“ISP”) 110. Rather, Fisher merely discloses that the CPE is coupled to both the ISP 110 and the corporate intranet 140. Fisher at ¶¶ 0022-0023, Figure 1.

Petitioner apparently acknowledges the flaws of their argument that the IP address of a callee on the corporate intranet in Fisher is accessible through the caller’s ISP because Petitioner provides an alternative argument that, under the broadest reasonable interpretation, the CPE is an Internet service provider for the telephone devices it services and the corporate intranet is accessible through the CPE. Petition at 42. However, Petitioner’s argument fails because the CPE does not provide Internet service to the telephone devices it services, it merely facilitates telephone calls, and so even under the broadest reasonable interpretation, the CPE cannot be considered to be an Internet service provider for the telephone devices it services.

F. Ground 2 fails because the Petition fails to show how the combination of Nadeau and Kelly “produc[es] a second network routing message ... identifying an address in a second portion of the packet switched network, the second portion not controlled by the entity.”

Claim 74c recites: “producing a second network routing message ... identifying an address in a second portion of the packet switched network, the second portion not controlled by the entity” and each of independent claims 94 and

99 recites a similar element. Petitioner argues that Nadeau’s “routing instructions”, produced by Nadeau’s Service Logic Controller (“SLC”), are equivalent to a second network routing message. Petition at 71. Petitioner then raises two different arguments as to how the “routing instructions” purportedly identify an address in a second portion of the packet switched network, the second portion not controlled by the entity. Petition at 71-72.

As detailed below, both arguments fail because as set out below, 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, and because Petitioner has failed to demonstrate that the proposed combination of Nadeau and Kelly would perform the above-noted claim element.

Accordingly, the information presented in the Petition fails to establish a reasonable likelihood that the claims are unpatentable under 35 U.S.C. § 103(a) having regard to the cited references.

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.

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 at 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.

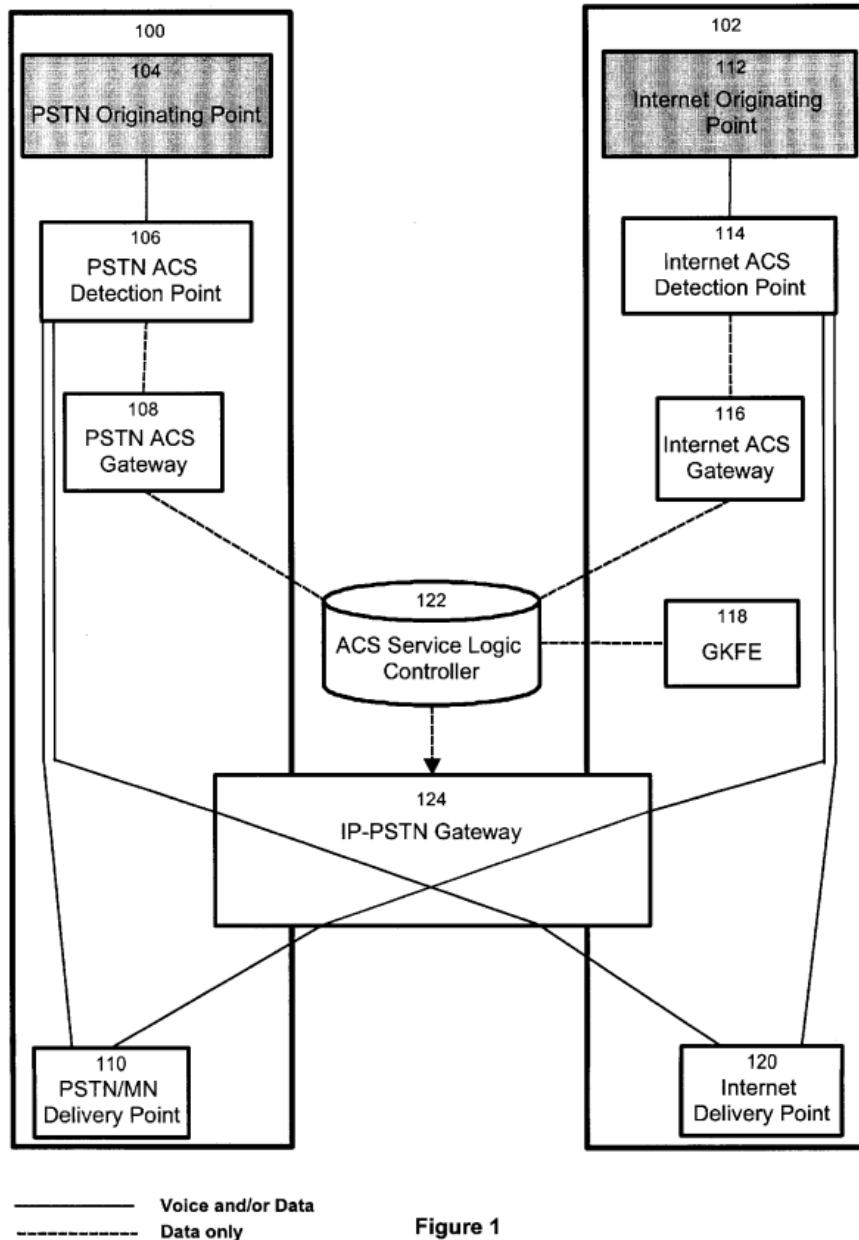


Figure 1

In order to provide the DPFs 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.

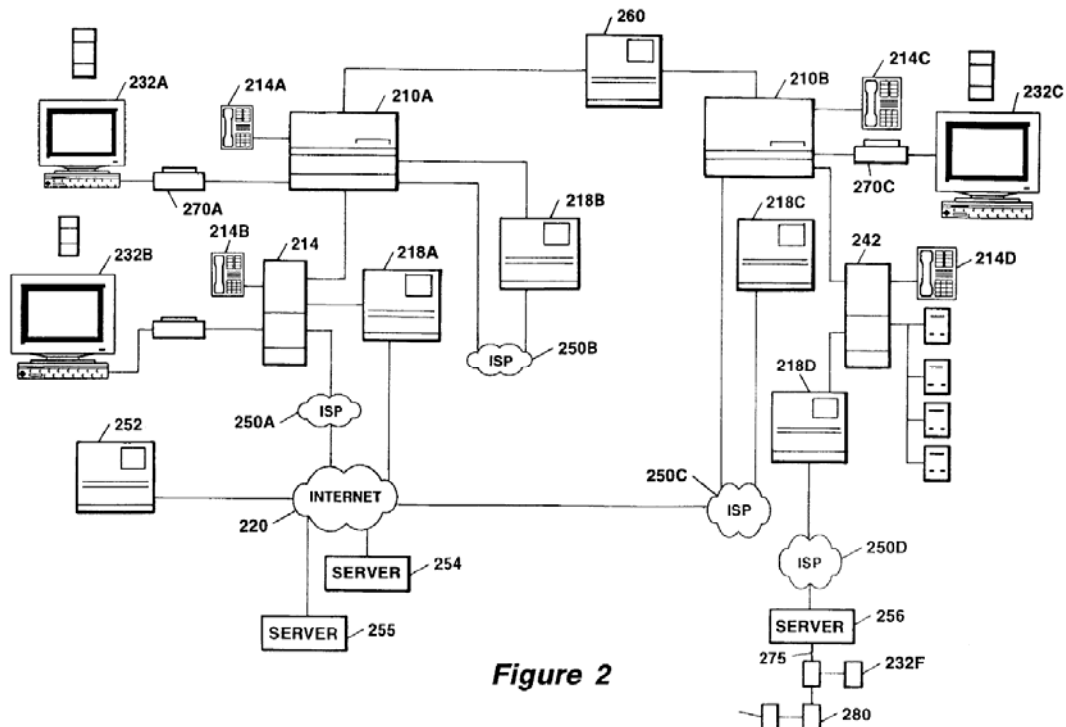


Figure 2

Figure 6 illustrates an address translation process for WebPhone 232. Kelly at 12:32-57, 13:22-29; 15:12-17.

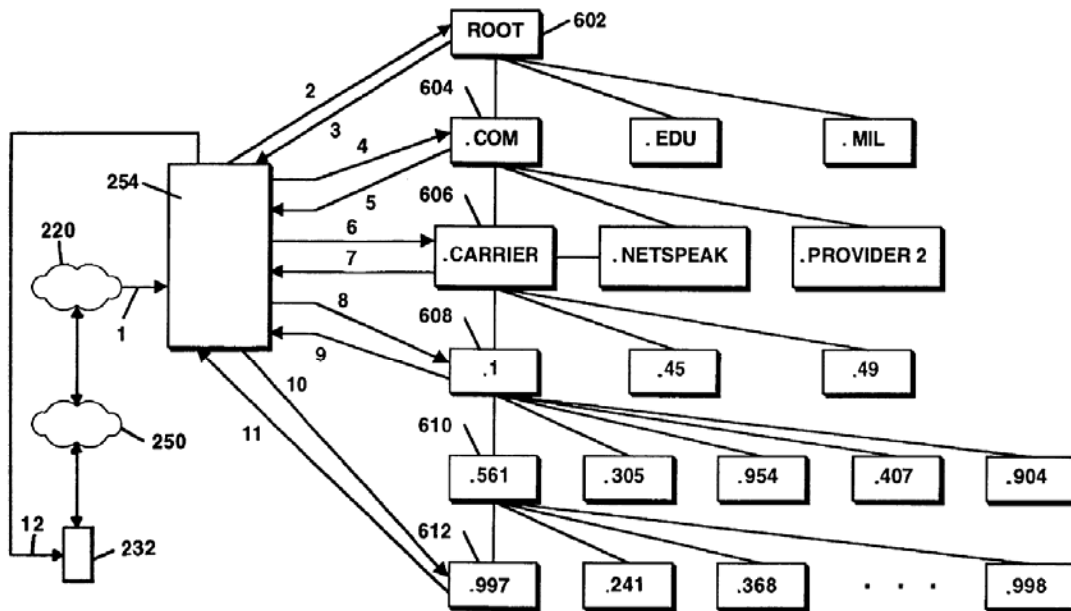


Figure 6

3. The “routing instructions” in Nadeau do not identify the IP-PSTN Gateway

The Petitioner asserts that Nadeau discloses a “second network routing message,” based on Nadeau’s disclosure of “routing instructions” generated by SLC 122, and also asserts that the IP-PSTN Gateway 124 represents the “second portion of the packet switched network” recited in the claims of the ’005 Patent. Petition at 71. 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.

Petitioner has admitted that “*Nadeau* does not explicitly state that the routing instructions identify the IP-PSTN Gateway ...”. Petition at 71 (emphasis added). Petitioner also admits that “[t]he system in Nadeau, however, includes only one gateway to route the call to the PSTN ...” Petition at 55 (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.

4. 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 would know that the routing instructions must include such an identification to complete the call. (EX1003 at ¶¶ 251–252.)

Petition at 71-72, emphasis added.

The above Petitioner’s statement (“routing instructions must include...”), is untrue. As explained above in Section 1, Nadeau suggests that a directory number (DN) alone is all of 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). “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).”

The Petitioner’s assertion of inherency cited above provides no reasoning or evidence other than a citation to the Declaration at ¶¶ 311-313. 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 ¶ 312 (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 ¶ 313.

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 all of 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 expressly 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 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 second network routing message ... identifying an address in a second portion of the packet switched network, the second portion not controlled by the entity,” 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.

5. The Petitioner fails to explain how Nadeau would be modified such that a second network routing message is produced which identifies an address in a second portion of the packet switched network, the second portion not controlled by the entity 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 second network routing message ... identifying an address in a second portion of the

packet switched network, the second portion not controlled by the entity” which are missing from Nadeau. Petition at 71-72. 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 the subject matter 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, Petitioner proposes to modify the Service Logic Controller (SLC) of Nadeau by programming the SLC

to perform a three-step gateway selection process of Kelly, and Petitioner asserts it would be routine to do so. Petition at 56.

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 system of Nadeau produces a second network routing message identifying an address in a second portion of the packet switched network not controlled by an entity, 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 by Petitioner.

For example, regarding step (3) of the gateway selection process (i.e., producing a call packet as taught by 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 second network routing message ... identifying an address in a second portion of the packet switched network, the second portion not controlled by the entity" 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 55-56. Petitioner considers the "call packet" to be analogous to "routing instructions" (Petition at 55). Petitioner 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 72. This is the basis for Petitioner's belief that the Nadeau-Kelly combination "produc[es] a second network routing message ... identifying an address in a second portion of the packet switched network, the second portion not controlled by the entity" 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 second network routing message ... identifying an address in a second portion of the packet**

switched network, the second portion not controlled by the entity” 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. See Petition at 56. Contrary to Petitioner’s assertions, numerous questions about how such programming could be done such that the proposed combination “produc[es] a second network routing message ... identifying an address in a second portion of the packet switched network, the second portion not controlled by the entity” 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(G)(3), *infra*.

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

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 55). However, the Petition does not explain 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 controller recited in the claims. Petition at 71 ("collectively, a controller"). Thus, such a combination would not produce a public network routing message for receipt by the controller as recited in claim 74c since the call packet, if sent to the IP-PSTN Gateway 124, would not be a public routing message "produced for receipt by a 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. **The Petition fails to explain how the call packet would be modified such that the proposed combination produces a second network routing message ... identifying an address in a second portion of the packet switched network, the second portion not controlled by the entity.**

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 second network routing message ... identifying an address in a second portion of the packet switched network, the second portion not controlled by the entity” 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 72. 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 72, 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 assertions that the proposed combination of Nadeau and Kelly "produces a second network routing message ... identifying an address in a second portion of the packet switched network, the second portion not controlled by the entity" to be true. 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 55-56). 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 "produc[e] a second network routing message ... identifying an address in a second portion of the packet switched network, the second portion not controlled by the entity," in the way asserted by Petitioner, as recited in Claim 74. Similar claim elements are recited in each of Claims 94 and 99.

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

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).

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 55. 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 55 (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.* 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, Petitioner’s argument is based on Petitioner’s explicitly stated assumption that, “Kelly teaches a way to improve the cost savings desired by *Nadeau*”. Petition at 56 (emphasis added). But this assumption is asserted by Petitioner, and paraphrased by the Declarant (Declaration at ¶ 271), without any supporting evidence. First, no proof is offered for the proposition that “*Kelly recognizes* that costs may be further reduced,” 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. 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 would 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.

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 Petitioner, and 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. See for example, *Ex parte Kastelewicz*, Appeal 2008-004808 (June 9, 2009) (Board struck down Examiner's alleged motivation to combine the references cited):

[...] 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, Sep. 2, 2015) and *Kinetic Concepts, Inc., v. Smith and Nephew, Inc.*, 688 F. 3d. 1342, 1369 (Fed. Cir. 2012).

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 Petitioner to arrive at the claimed features.

After describing Kelly's "gateway selection process", the Petition has a single paragraph asserting that a POSITA would have been motivated to modify the SLC of Nadeau to perform the gateway selection process taught in Kelly. Petition at 55-56. 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 55), 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.

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 CCPA 746 (1965) (emphasis added): "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 ("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). 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), 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).

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(G)(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.

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. 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, Petitioner has not explained why a "technician without our knowledge of the solution" (See *Interconnect Planning Corporation v. Feil* 774 F.2d 1132, 1143 (1985)) 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, 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”.
Petition at 56.

The Petition at 56 refers to the Declaration at ¶ 272, 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); Office Patent Trial Practice Guide, 77 Fed. Reg. at 48,763; *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 56; compare Declaration at ¶ 272), 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. 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(F)(5)(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 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 restricts 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, Petitioner's assertion of "simply... programming [Nadeau's] SLC to perform the gateway selection process taught by Kelly" (Petition at 56) where the final step "(3) produces a call packet, analogous to routing instructions" (*id.* at 55) is untrue since it 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 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 '4001-99-561-1.carrier.com'), which the Petition has indicated would be included in the call packet, "analogous to routing instructions", produced by the modified SLC. *See* Petition at 55-56. Kelly at 13:22-25 and 12:8-10.

The Petition's insistence that no modifications going beyond "simply... programming the SLC to perform the gateway selection process taught by *Kelly*" (Petition at 56) 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. Petition at 56.

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, 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 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).

III. CONCLUSION

The Petition fails to establish a reasonable likelihood that Claims 74-79, 83-84, 88-89, 92, 94-96, and 98-99 of the '005 Patent are unpatentable. Therefore, the Board should not institute trial in this proceeding.

Respectfully submitted,

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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 13,982 words, excluding the parts of the document exempted by 37 C.F.R. § 42.24(a)(1).

Respectfully submitted,

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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:

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