UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

SAMSUNG ELECTRONICS CO., LTD., and
SAMSUNG ELECTRONICS AMERICA, INC.,
Petitioners,

v.

VASU HOLDINGS, LLC,
Patent Owner.

Case IPR2025-00450
U.S. Patent No. 10,419,996

PATENT OWNER'S PRELIMINARY RESPONSE

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TABLE OF AUTHORITIES

Page(s)

Other Authorities

PATENT OWNER'S EXHIBIT LIST

Exhibit	Description
2001	U.S. Patent Application Publication No. 2005/0239498 ("Dorenbosch-498")
2002	Declaration of James Hannah in Support of Patent Owner's Request for Discretionary Denial
2003	Excerpt from U.S. District Court – National Judicial Caseload Profile Federal for the Eastern District of Texas, available at https://www.uscourts.gov/sites/default/files/2024-12/fcms_na_distprofile0930.2024.pdf
2004	Spreadsheet regarding Magistrate Judge Payne's average time to issue a *Markman* Order after a *Markman* hearing, from July 1, 2023, to present, exported from Docket Navigator, https://brochure.docketnavigator.com/
2005	Intentionally Omitted
2006	Intentionally Omitted
2007	Intentionally Omitted
2008	Order, *California Institute of Technology v. Samsung Electronics Co., Samsung Electronics America, Inc.*, Case No. 2:21-cv-00446-JRG, Dkt. No. 108 (E.D. Tex. Jan. 20, 2023)
2009	Order, *Resonant Systems, Inc., d/b/a RevelHMI v. Sony Group Corporation and Sony Interactive Entertainment Inc.,* Case No. 2:22-cv-00424-JRG, Dkt. No. 84 (E.D. Tex. July 9, 2024)
2010	Order, *MyPort, Inc. v. Samsung Electronics Co., Samsung Electronics America, Inc.,* Case No. 2:22-cv-00114-JRG, Dkt. No. 73 (E.D. Tex. June 13, 2023)
2011	Order, *General Access Solutions, Ltd. v. Cellco Partnership d/b/a Verizon Wireless,* Case No. 2:22-cv-00394-JRG, Dkt. No. 225 (E.D. Tex. May 22, 2024)

Exhibit	Description
2012	U.S. Patent Application Publication No. 2004/0030791 ("Dorenbosch-791")
2013	U.S. Patent Application Publication No. 2005/0059400 ("Jagadeesan")
2014	U.S. Patent Application Publication No. 2004/0153676 ("Krantz")
2015	U.S. Patent No. 7,398,088 ("Belkin")
2016	U.S. Patent No. 8,041,360 ("Ibe")
2017	Excerpts of File History for U.S Patent 8,886,181
2018	U.S. Patent 10,368,281
2019	Excerpts of File History for U.S. Patent 10,368,281
2020	U.S. Patent Application Publication No. 2004/0192294 ("Pan-294")
2021	U.S. Patent Application Publication No. 2004/0203788 ("Fors")
2022	U.S. Patent No. 8,886,181
2023	Claim Construction Order, *Vasu Holdings, LLC v. Samsung Elecs. Co.*, Case No. 24-cv-00034-JRG-RSP, Dkt. No. 78 (E.D. Tex. May 19, 2025)

I. INTRODUCTION

Patent Owner, Vasu Holdings, LLC, ("Vasu"), respectfully requests that the Board deny this Petition challenging claims 1, 12, 23, 25, 34, 35, 39, and 41 ("the Challenged Claims") of U.S. Patent No. 10,419,996 (Ex. 1001, "the '996 Patent") because the asserted references fail to render obvious the claim limitations of "wherein upon activation of a timer, the switching system causes the second communication module to change state from a sleep mode to a stand-by mode," as required by all of the Challenged Claims. Challenged Claims 39 and 41 are also patentable over the asserted references for the additional limitation of "notifying an interface server and establishing a second communication link between the interface server and the end destination device without disrupting the first communication link." '996 Patent at 12:58-62, 13:17-22.

Thus, the Petition should be denied for failure to establish a reasonable likelihood of success as to any Challenged Claims of the '996 Patent.

II. OVERVIEW OF THE '996 PATENT

A. The '996 Patent (Ex. 1001)

The '996 Patent is directed to a mobile communication device configured to automatically switch a communication that is already in progress using a cellular network to a wireless Voice over IP (VoIP) network, or vice versa. '996 Patent at 2:42-59. This invention addressed the cumbersome problem of having to "manually

change the device's setting by, e.g., pressing one [or] more keys" or the reliability issue stemming from "switching of the call from cellular to VoIP or vice versa [that] may result in the loss of the call." *Id*. at 2:21-24, 2:35-38.

The '996 Patent discloses a mobile communication device having a timer. If the mobile device is conducting a call with its cellular communication module and its Wi-Fi antenna system detects a Wi-Fi system having a predefined threshold level (strength), that timer is activated. *Id*. at 2:60-3:6. At the expiration of the timer, the mobile communication device's switching system causes the Wi-Fi system to change state from a sleep mode to a stand-by mode. *Id*. at 3:7-18. Subsequently, and before the cellular call is switched from the mobile device's cellular module to its Wi-Fi communication module, the switching system causes the Wi-Fi system to change state from the stand-by mode to an active mode. *Id*.; *see also id.* at 6:51-64.

B. Prosecution History of the '996 Patent

The '996 Patent issued from U.S. Patent Application No. 15/921,275, filed on March 14, 2018. Ex. 1002 at 374 (Filing Receipt). There are two related patents of note in this case: U.S. Patent No. 10,368,281 ("the '281 Patent," Ex. 2018) and U.S. Patent No. 8,886,181 (Ex. 2022, "the '181 Patent").

The '996 Patent is a continuation-in-part of U.S. Patent Application No. 15/480,293, which was filed on April 5, 2017, and issued as the '281 Patent. Ex. 1002 at 374; '281 Patent (Ex. 2018) at Cover. The '281 Patent is a continuation

application in a chain of continuation applications starting from U.S. Patent Application No. 11/031,498 ("the '498 Application"), filed on January 6, 2005, which claims priority to U.S. Provisional Application No. 60/534,466 filed January 6, 2004. Ex. 1002 at 374.

The '996 Patent was subject to a substantive examination by the Office. In a November 6, 2018, Office Action and February 26, 2019, Final Office Action, the Examiner rejected the claims using combinations of U.S. Patent Publication No. 2005/0059400 to Jagadeesan ("Jagadeesan," Ex. 2013), U.S. Publication No. 2004/0153676 to Krantz ("Krantz," Ex. 2014), and U.S. Patent Publication No. 2004/0203788 to Fors ("Fors," Ex. 2021). Ex. 1002 at 426-40 (Non-Final Office Action dated 11/6/18); *see also id*. at 516-29 (Final Office Action dated 2/26/19).

In response, Applicant distinguished the '996 Claims over the Examiner's rejections by amending the claims to recite the "upon activation of a timer" limitation and argued the prior art did not teach or suggest such elements. *Id.* at 494-501 (amending claims 1 and 36 to recite "wherein upon activation of a timer, the switching system causes the second communication module to change state from a sleep mode to a stand-by mode, and the switching system causes the second communication module to change state from the stand-by mode to an active mode before a communication is switched to the second communication module" and

amending claims 13, 24, 26, 35, 41, 43 with similar variants). In its April 25, 2019, Response to Final Office Action, Applicant argued persuasively that:

> Within the Response to Argument section of the Office Action, it has been argued that Krantz teaches to process the network interface module from sleep mode to idle mode upon activate a timer listening to beacon intervals in paragraph 10 and the communication module changes from stand-by mode to active mode in paragraph 23 . . . .
>
> Although Krantz teaches, "[i]t is desirable to reduce the amount of time the network interface module is in a high-power state when not sending traffic or scanning," [Krantz, ¶ 23], Krantz does not specifically teach the interface causes the communication module to change state from the stand-by mode to an active mode before a communication is switched to the communication module. Additionally, although Krantz teaches a sleep time and a power state, Krantz does not teach wherein upon activation of a timer, the interface causes a communication module to change state from a sleep mode to a stand-by mode.

Ex. 1002 at 560; *see generally id*. at 559-68 (Response to Final Office Action dated 4/25/2019).

Examiner was persuaded by these arguments, allowed all claims, and provided that the claims were allowable because:

> Regarding claim 1, 13, 24, 26, 35-37, 41 and 43, Krantz et al. discloses a network interface upon active a timer from Doze mode (standby) to Off mode (sleep), fig.6 elements 602, 620, 622. However, Krantz et al. fails to teach "upon activation of a timer, the switching system causes

> the second communication module to change state from a sleep mode to a stand-by-mode", in linking with other subject matters in the claims.

Ex. 1002 at 574 (Notice of Allowance dated 5/10/2019). The '996 Patent issued on September 17, 2019.

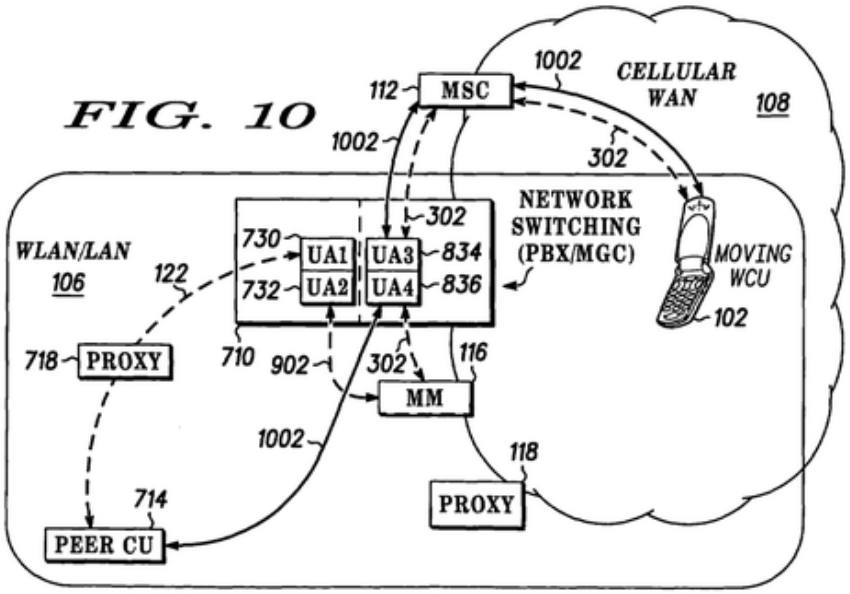
C. Prosecution History of the Related '181 Patent

As mentioned *supra*, the '996 Patent is related to U.S. Patent Application No. 13/240,776, which issued as the '181 Patent, and which is a divisional application of U.S. Patent Application No. 11/330,675, filed on January 11, 2006, and is a continuation-in-part of the '498 Application. Ex. 2022 at 1-2. The prosecution history of the '181 Patent is relevant to Petitioners' challenge of Claims 39 and 41, because the claims are patentable over the Petitioners' asserted references for similar reasons that distinguished the claims over prior art during examination.

At one point in the '181 Patent's examination, the Examiner rejected the then-pending claims 1-9 as allegedly being obvious over U.S. Patent No. 8,041,360 to Ibe ("Ibe," Ex. 2016) in combination with U.S. Patent No. 7,398,088 to Belkin (Ex. 2015, "Belkin"). The Examiner cited Belkin as disclosing notifying an interface server with the mobile communication device and establishing a second communication link between the interface server and the end destination device. Ex. 2017 at 7 (citing Belkin (Ex. 2015) at Figs. 7-10, 13:32-44, 5:67-6:3, 13:45-14:2). Specifically, the Examiner cited Belkin for disclosing a wireless communication unit

that initiates a handover call ("notifying an interface server"), which is routed via network switching function 112 to network switching function 110 ("interface server"). *Id.* (citing Belkin (Ex. 2015) at Fig. 7-10, 13:32-44, 5:67-6:3).

The Examiner also cited Belkin's rerouting of the voice bearer RTP stream from the peer CU 714 (the "end destination device") to the network switching function 710 (the interface server) as allegedly meeting this limitation. Ex. 2017 at 7 (citing Ex. 2015 (Belkin) at Figs. 7-10, 13:45-14:2, 15:2-6). The Examiner pointed to the resulting RTP stream "link 1002" (seen in Fig. 10 of Belkin), as the claimed second communication link between end destination device and interface server. *Id.*; *see also id.* at 64-66 (Examiner clarifying the rejection in Final Office Action dated 6/27/2013).



Ex. 2015 (Belkin) at Fig. 10.

In response to this Office Action, the Applicant argued that Belkin only "teaches [] that the **single** connection between the peer CU 714 and the network switching function 710 is **rerouted** to the handover call port, not that a **second** connection is made between the peer CU 714 and the network switching function 710," and that "[r]erouting a connection is not the same as establishing a second connection." Ex. 2017 at 36 (emphasis original). The Examiner considered this argument and issued a Final Office Action, repeating its rejection of the claims in view of Ibe and Belkin. *Id.* at 64-66 (6/27/2013 Final Office Action).

Applicant reiterated its argument that link 1002 between the peer CU 714 and the network switching function 740 is a rerouting of link 120 (alleged first communication link); it is not a separate or second link, as required by the claims. Ex. 2017 at 83. To "emphasize this difference," Applicant amended the claims to recite "establishing a second communication link between the interface server and the end destination device ***without disrupting the first communication link***." *Id.* (Response to Final Office Action 8/23/2013); *see also id*. at 77 (emphasis modified).

The Examiner agreed with Applicant's arguments and indicated the claims were non-obvious over Ibe and Belkin "in view of Applicant's amendments and arguments as filed on 8/23/2013." Ex. 2017 at 94 (Notice of Allowance). There was further prosecution of other claims 14-18 and 38, which Applicant ultimately

canceled. A Notice of Allowance was issued on July 10, 2014 and the '181 Patent issued on November 11, 2014. Ex. 2022, Cover.

D. Overview of the Challenged Claims

The Petition presents the following references in its respective grounds for invalidating claims of the '996 Patent:

Ground	Claims	Basis	References Relied Upon
1	1, 12, 23, 25, 34-35	§ 103	Dorenbosch and Donovan
2	12, 23, 34	§ 103	DeAnna, Dorenbosch, and Donovan
3	39	§ 103	Iizuka and Donovan
4	39	§ 103	Iizuka, Donovan, and Preston
5	41	§ 103	Iizuka, Donovan, and Pan

Pet. at 8.

All of the Challenged Claims are independent claims. Claim 1 recites a device and is reproduced below, using the Petition's element numbering:

[1.pre] A device comprising:

[1.a] a switching system to switch operation between a first communication module and a second communication module,

[1.b] wherein if a context changes for known networks or a new network is detected with a more favorable context, a previously established communication automatically switches accordingly,

[1.c] wherein upon activation of a timer, the switching system causes the second communication module to change state from a sleep mode to a stand-by mode, and

[1.d] the switching system causes the second communication module to change state from the stand-by mode to an active mode before a communication is switched to the second communication module.

Claim 34 and 35 recite similar claims for a device. Claims 12, 23, and 25 recite a method and representative claim 12 is reproduced below:

[12.pre] A method comprising:

[12.a] detecting a first context;

[12.b] detecting a second context; and

[12.c] automatically switching, with a server, a communication in progress via a wireless network to a communication via a network based on the second context,

[12.d] wherein automatically switching is based on detecting the second context being preferred over the first context within a set of known networks or from a newly discovered network,

[12.e] wherein upon activation of a timer, the server causes a communication module to change state from a sleep mode to a stand-by mode, and

[12.f] the server causes the communication module to change state from the stand-by mode to an active mode before a communication is switched to the communication module.

Claims 39 and 41 recite similar method claims, and further recites when the signal strength drops below a threshold, notifying an "interface server" / "interface" and establishing a second communication link between the interface server and the end destination device without disrupting the first communication link.

E. Priority Date of the '996 Patent Claims

For purpose of this preliminary response only, Vasu applies Petitioners' asserted priority dates for the Challenged Claims: January 6, 2004, for Challenged Claims 1, 12, 23, 25, 34, and 35, *i.e.*, the filing date of Provisional Application No. 60/534,466 listed in the '996 Patent's priority claim (Pet. at 7-8), and March 14, 2018, for Challenged Claims 39, and 41. *Id*. at 8, 10.

III. LEVEL OF ORDINARY SKILL IN THE ART

Vasu applies the definition of a person of ordinary skill in the art ("POSITA") as an individual who possesses (1) a Bachelor's degree in electrical engineering, computer science, or the like, and (2) has an advanced degree or at least two years of relevant work experience in the field. Additional work experience could serve as a substitute for a lack of education, and vice versa.

IV. CLAIM CONSTRUCTION

On May 19, 2015, numerous claim terms of the Challenged Claims were construed by the district court in the corresponding litigation (Case No. 2:24-cv-00034-JRG-RSP), as summarized in the below table:

Claim Term	**Court's Claim Construction**
"interface server" (Claim 39)	"a server that interacts with multiple wireless networks such that a wireless communication device can roam between the wireless networks." Ex. 2023 at 12.
"context" (Claims 1, 12, 23, 25, 34, 35, 41)	"characteristic of a signal and/or of a network" Ex. 2023 at 15.
"establishing [a/the] second communication link between the interface [server] and [an/the] end destination device" (Claims 39, 41)	"establishing [a/the] communication link between the interface [server] and [an/the] end destination device that is distinct from the first communication link." Ex. 2023 at 15, 18.

"wherein upon activation of a timer, the [switching system/server/mobile communication device/interface] causes [the second/a/the Wi-Fi] communication module to change state from a sleep mode to a stand-by mode" (Claims 1, 12, 23, 34, 35, 39, 41)	"wherein in the process or course of activation of a timer, the [switching system/server/mobile communication device/interface] causes [the second/a/the Wi-Fi] communication module to change state from a sleep mode to a stand-by mode" Ex. 2023 at 21.
"wherein upon activation of a timer, a communication module of the second device changes state from a sleep mode to a stand-by mode" (Claim 25)	"wherein in the process or course of activation of a timer, a communication module of the second device changes state from a sleep mode to a stand-by mode" Ex. 2023 at 21.
"interface" (Claim 41)	"a component that interacts with multiple wireless networks such that a wireless communication device can roam between the wireless networks." Ex. 2023 at 30.
"wherein automatically switching is based on detecting the second context being preferred over the first context within a set of known networks or from a newly discovered network" (Claims 12, 23, 25, 34)	"wherein automatically switching is based on detecting either: the second context in a known network is preferred over the first context; or the second context in a newly discovered network is preferred over the first context." Ex. 2023 at 32-33.

V. OVERVIEW OF THE ASSERTED REFERENCES

A. Dorenbosch (Ex. 1004)

Dorenbosch is U.S. Patent Publication No. 2005/0048977 and discloses a system and method to improve handover and registration behavior between WLANs and WANs and battery life of a mobile device when a user is stationary in border cells. Dorenbosch at [0002]. Dorenbosch is relied upon as the primary reference in Grounds 1 and 2 (Claims 1, 12, 23, 25, and 34-35). Pet. at 22-49.

B. Donovan (Ex. 1005)

Donovan is U.S. Patent Publication No. 2005/0063348 and discloses a wireless station communicates with at least one other wireless station in a local area network (LAN). Donovan at Abstract. Donovan is relied upon in all Grounds 1-5 for allegedly disclosing upon activation of a timer the second communication module changes from a sleep mode to a stand-by mode. *See* Pet. at 26-31 (limitation [1.c]); *id.* at 31-32 (limitation [1.d]).

C. DeAnna (Ex. 1006)

DeAnna is U.S. Patent Publication No. 2003/0084056 and discloses a lightweight application server for use on portable or embedded devices includes an application manager and services containers. DeAnna at Abstract. DeAnna is relied on in Ground 2 (Claims 12, 23, and 24) for allegedly disclosing a "server" or "server device." Pet. at 45-49.

D. Iizuka (Ex. 1007)

Iizuka discloses a mobile terminal that can "use a plurality of communication mediums enabling a wireless call by dynamically switching between the plurality of communication mediums during a call." Iizuka at Abstract. Petitioners rely on Iizuka as the primary reference in Grounds 3-5 challenging claims 39 and 41. Pet. at 57-78; *id.* at 83-88.

E. Preston (Ex. 1008)

Preston is a U.S. Patent Publication No. 2002/0126654 and is directed towards a system for controlling communications for multiple telephony devices from a common telephony device. Preston at [0001]. Preston is relied upon, in the alternative ("[i]f further disclosure . . . is required") for allegedly disclosing limitation [39.d]: "notifying the mobile communication device to terminate transmission over the first communication link." Pet. at 78-80.

F. Pan (Ex. 1009)

Pan is a U.S. Patent Publication No. 2004/0002335 and discloses an apparatus and method for implementing bi-directional handovers between a cellular network and another wireless network without cellular network control intervention. Ex. 1009 at [0001]. Pan is relied upon in Ground 5 (challenging Claim 41) for allegedly disclosing a media gateway (interface) that causes a communication module to communicate. Pet. at 85-87.

VI. PETITIONERS FAIL TO DEMONSTRATE A REASONABLE LIKELIHOOD OF SUCCESS ON ANY CHALLENGED CLAIM

A. Grounds 1 and 2

Grounds 1 and 2 challenge Claims 1, 12, 23, 25, 34, and 35 over various combinations of Dorenbosch, Donovan, and DeAnna. Both of these grounds should be rejected because Dorenbosch and Donovan, alone or in combination, fail to disclose "wherein upon activation of a timer, the switching system causes the second communication module to change state from a sleep mode to a stand-by mode," and Petitioners do not argue that DeAnna teaches that limitation.

1. Dorenbosch and Donovan Do Not Disclose Activating a Timer

The Board should deny the Petition because neither Dorenbosch nor Donovan discloses the "activation of a timer," as recited in each independent claim of the '996 Patent. Petitioners do not rely on Dorenbosch for this limitation, and Donovan's XOSC "oscillator" is not a timer.

Each independent claim of the '996 Patent recites, "upon activation of a timer, the switching system causes the second communication module to change state from a sleep mode to a stand-by mode." '996 Patent, Claims 1, and 35; *see also id.* at Claims 12, 23, 25, 34, 39, and 41 (reciting similar variants). For example, when the mobile device detects a more favorable context—such as when an in-progress cellular call's signal strength is weaker than that of an available Wi-Fi network—the

system activates a timer. *Id.* at 2:60-66. If the Wi-Fi signal remains the better signal after the expiration of the timer, the in-progress cellular call is switched to the Wi-Fi network. *Id*. at 2:66-3:6. In some embodiments, "upon activating the timer, the Wi-Fi communication module" changes from a sleep mode to a stand-by mode. *Id*. at 3:7-18.

Donovan does not teach activating a timer, as claimed. Donovan discloses mobile stations that transmit data at a regular interval, *i.e.* a "beacon interval." Donovan at [0038]. Before each "beacon interval," the wireless communication device 48 responsible for transmitting data is "return[ed] to the active mode." *Id*., [0047]. Returning the wireless communications device to the active mode includes activating various components of the device, including "a crystal oscillator (XOSC)." *Id*., [0042]; [0047] ("[T]he MAC device 64 deactivates the XOSC 54 during the low power mode.").

Although the XOSC is powered on when the device is returned to its active mode, the XOSC is not a ***timer***, even under Petitioners' interpretation[1] of the term

[1] Vasu does not concede that Petitioners' interpretation represents the plain and ordinary meaning of the term "timer" in the context of the '996 Patent. However, Petitioners' arguments fail even under this interpretation.

as something that "tracks time." Pet. at 28 ("The XOSC is a timer because it tracks time."). Indeed, in the one sentence Petitioners cite in support of their position, Donovan expressly states that the "***low power oscillator 84***[2] accurately tracks the desired low power time period," not the XOSC. *Id*. (quoting Donovan at [0048]) (emphasis added). The only role for the XOSC *vis-à-vis* the low power oscillator is to optionally provide a calibration reference signal before the device returns to the low power mode:

> The low power oscillator 84 is typically susceptible to performance deviations due to temperature variances. Therefore, before the wireless network communications device 48 enters the low power mode, the processor 82 optionally calibrates the low power oscillator 84 using the XOSC 54 to ensure that the low power oscillator 84 accurately tracks the desired low power time period.

Donovan at [0048].

For at least the foregoing reasons, Dorenbosch in view of Donovan does not disclose the "activation of a timer," as recited in each independent claim of the '996 Patent.

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[2] Petitioners do not contend that the low power oscillator, which runs continuously in both power modes, is the timer. *See* Pet. at 28-29.

2. Dorenbosch and Donovan Fail to Teach or Suggest A Communication Module That Changes State from a Sleep Mode to a Stand-by Mode (All Grounds)

The Board should deny the Petition because Dorenbosch and Donovan do not teach or suggest limitation [1.c]: "a switching system [that] causes the second communication module to change state from a sleep mode to a stand-by mode," as recited by Claim 1. Claims 12, 23, 25, 34-35, 39 and 41 recite similar limitations. The Challenged Claims recite changing state between three different modes: sleep mode, stand-by mode, and active mode. '996 Patent at 10:9-16 (limitations [1.c]-[1.d]). The asserted references only disclose two modes, and the Board should reject Petitioners' attempt to point to the transition periods between these two modes as the missing "stand-by mode."

Petitioners argue that Dorenbosch and Donovan both disclose stand-by modes because their respective devices consume an intermediate amount of power as they transition between low power and active modes. Pet. at 26-27 (citing Dorenbosch at [0038], [0041], [0045]); *id*. at 28-29 (citing Donovan at [0057], [0053], [0044], [0058], [0042], [0045]). However, because the change between any two operational modes is not immediate, there is a transition period between modes. *Id*. at 18, 21, 28. Petitioners do not explain why such transition periods should be considered ***modes***, let alone "stand-by modes," as is its burden under 37 C.F.R. 42.104(b)(4).

But even granting Petitioners' contention that transition periods are "modes," Petitioners' method of counting gives the '996 Patent ***five*** "modes" (*i.e.,* a sleep mode, a first transition mode, a stand-by mode, a second transition mode, and an active mode). And by this method of counting, Dorenbosch and Donovan each have three (*i.e.,* a low power mode, a transition mode, and an active mode). Neither discloses a stand-by mode.

Petitioners cite to Dorenbosch's disclosure of a registration sequence including "'steps necessary to bring up the corresponding hardware and software' for the WAN system" as allegedly disclosing a stand-by mode. Pet. at 26-27 (quoting Dorenbosch at [0038]). But these "steps" are not stand-by mode, they are a "registration sequence" for running the hardware and software of the WLAN or WAN system. Dorenbosch at [0038].

Donovan cannot cure the deficiencies of Dorenbosch because Donovan also teaches two modes: an "active mode" and a "low power mode." *See* Donovan at Abstract ("A media access control (MAC) device controls transitions between an active mode and a low power mode"); *id*. at [0014] (same); *id*. at [0045] ("The transceiver mode signal 76 instructs the RF transceiver 52 to ***operate in the active mode or the low power mode***.") (emphasis added); *id.* at Claim 22 ("a first wireless LAN station that selectively operates in low power and active modes").

Petitioners have mapped Donovan's active mode to the claimed "active mode" (*see* Petitioners' mapping of limitation [1.d]), and then mapped Donovan's low power mode to the claimed "sleep mode." There is no mode left in Donovan to meet the claimed "stand-by mode." Donovan discloses a "chipset mode signal 108" that identifies the operating mode, and that signal only provides two modes: active mode and the low power mode. Donovan at [0054]. Fig. 3 of Donovan, reproduced below, depicts "a timing diagram that illustrates operating modes and supply voltage levels":

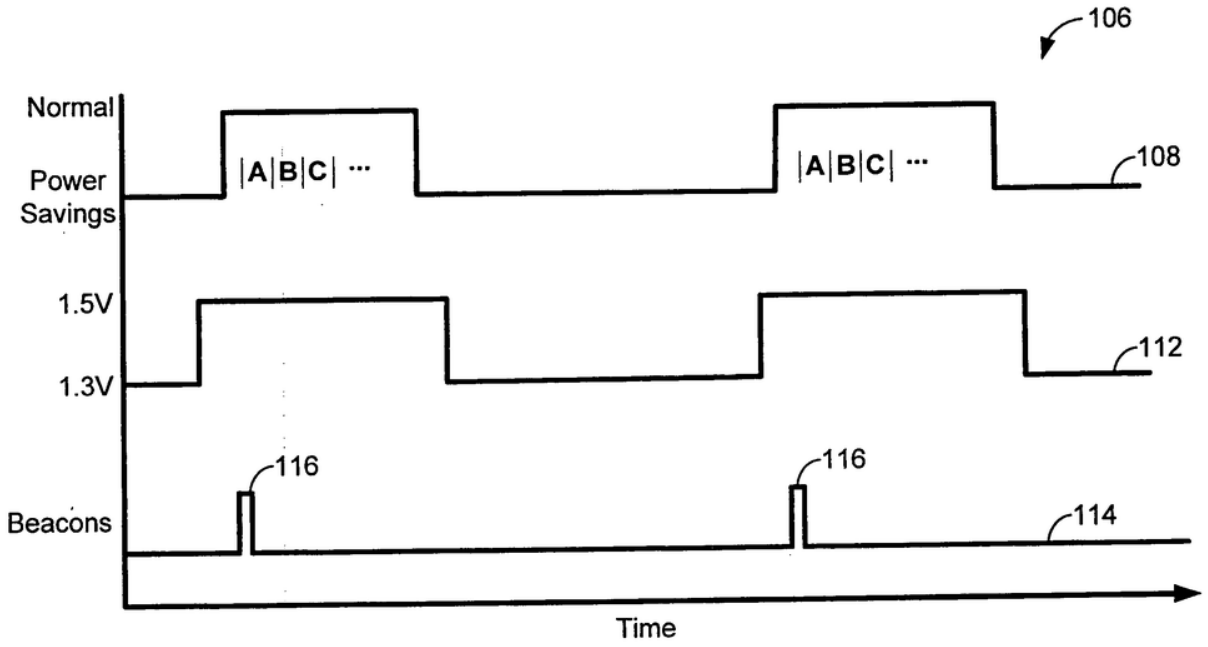
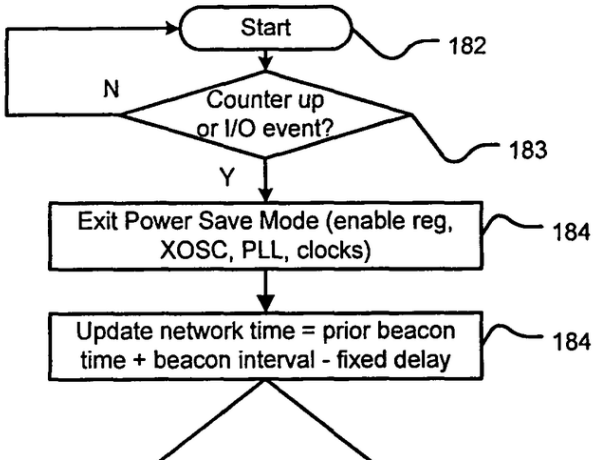


FIG. 3

Id. at Fig. 3. As shown in Fig. 3, the chipset mode signal 108 provides for two modes "normal" and "power savings" shown on the Y-axis. *Id.* at [0033]. Petitioners and

their expert fail to explain how a POSITA would characterize any transitory period between the "normal" operating mode and the "power savings" operating mode as a "stand-by" mode. If Donovan indeed taught a third mode (i.e., a stand-by mode) it would be reflected in a third signal level in the chipset mode signal 108 representing that third mode. But the signal 108 only has two levels, representing only the active mode and the low power mod ("normal" mode and the "power savings" mode).

Petitioners argue that Donovan discloses the second communication module changes from a sleep mode to a stand-by mode because of Donovan's disclosure of a "wakeup" period when transitioning from a low power mode to an active mode, where all circuitry can "wakeup and stabilize." Pet. at 28-29 (citing Donovan at [0057]). But this "wakeup" period is an undefined, transitory time period, and not a state or mode of operation, let alone a "stand-by mode." Moreover, Donovan describes that the "wakeup" period cited by Petitioners is part of the active mode rather than a separate state or mode. Donovan at [0057]. This is demonstrated by Donovan's Fig. 5A, Step 184 which states "Exit Power Save Mode" and describes "enabl[ing] reg[isters], XOSC, PPL, clocks."



Donovan at Fig. 5A (excerpted); *see also id.* at [0057] (describing "the remaining circuitry is enabled in step 184" and "[o]nce all of the circuitry has stabilized, the network time in each mobile station is updated to the previous beacon time plus the beacon interval time minus some fixed delay in step 186"); *id*. at [0016] (corroborating this step is part of active mode: "after the transition to the active mode, the MAC device updates network time," *i.e.*, "[t]he network time is set equal to a prior beacon time plus a beacon interval minus a fixed delay").

Further, Donovan describes that "during the low power mode, the RF transceiver 52 may utilize a small amount of power to ***ensure a quick transition from the low power mode to the active mode***." Donovan at [0045] (emphasis added). Donovan's description of ensuring a "quick transition" between the low power mode and the active mode refutes Petitioners' contention that Donovan discloses switching to a intermediary "warmup" period between the low power and active modes.

Accordingly, Dorenbosch and Donovan fail to render obvious "wherein upon activation of a timer, the switching system causes the second communication module to change state from a sleep mode to a stand-by mode," and therefore cannot render obvious any of the Challenged Claims.

B. Grounds 3-5

Grounds 3-5 challenge Claims 39 and 41 over various combinations of Iizuka, Donovan, Preston, and Pan. Each of these grounds should be rejected because Iizuka does not disclose or suggest establishing a second communication link between the interface server and the end destination device without disrupting the first communication link (Grounds 3-5, Claims 39 and 41).

1. Rerouting a First Connection is Not the Same as Establishing a Second Connection

Iizuka and Donovan do not teach or suggest the limitation [39.c]: "when the signal strength drops below a threshold, notifying an interface server and ***establishing a second communication link between the interface server and the end destination device without disrupting the first communication link***," as recited

in Claim 39. '996 Patent at 12:58-62 (emphasis added). Claim 41 recites a similar limitation.[3]

Petitioners map Iizuka to the elements of Claim 39 as follows: Iizuka's mobile terminal 100 to the claimed "**mobile communication device**," Iizuka's call management server 200 to the claimed "**interface server**," and Iizuka's IP telephone 21 to the claimed "**end destination device**." Pet. at 59, 66.

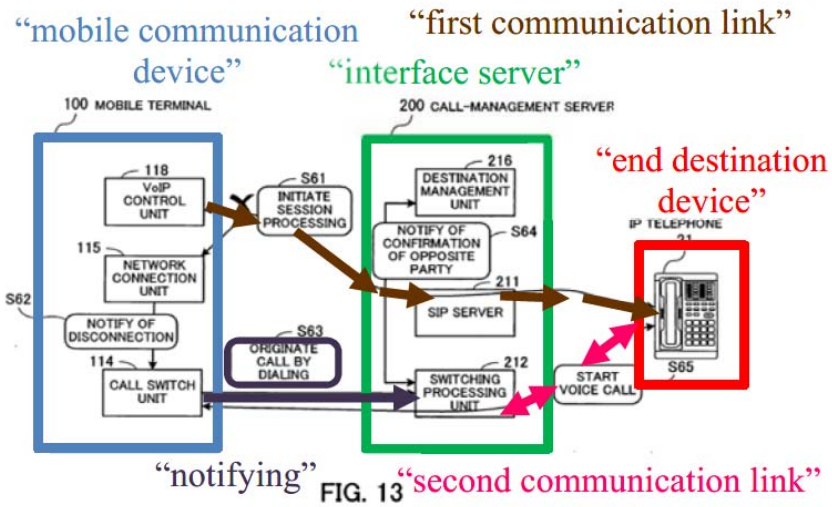


FIG. 13

Id. at 68 (Fig. 13 of Iizuka, annotated).

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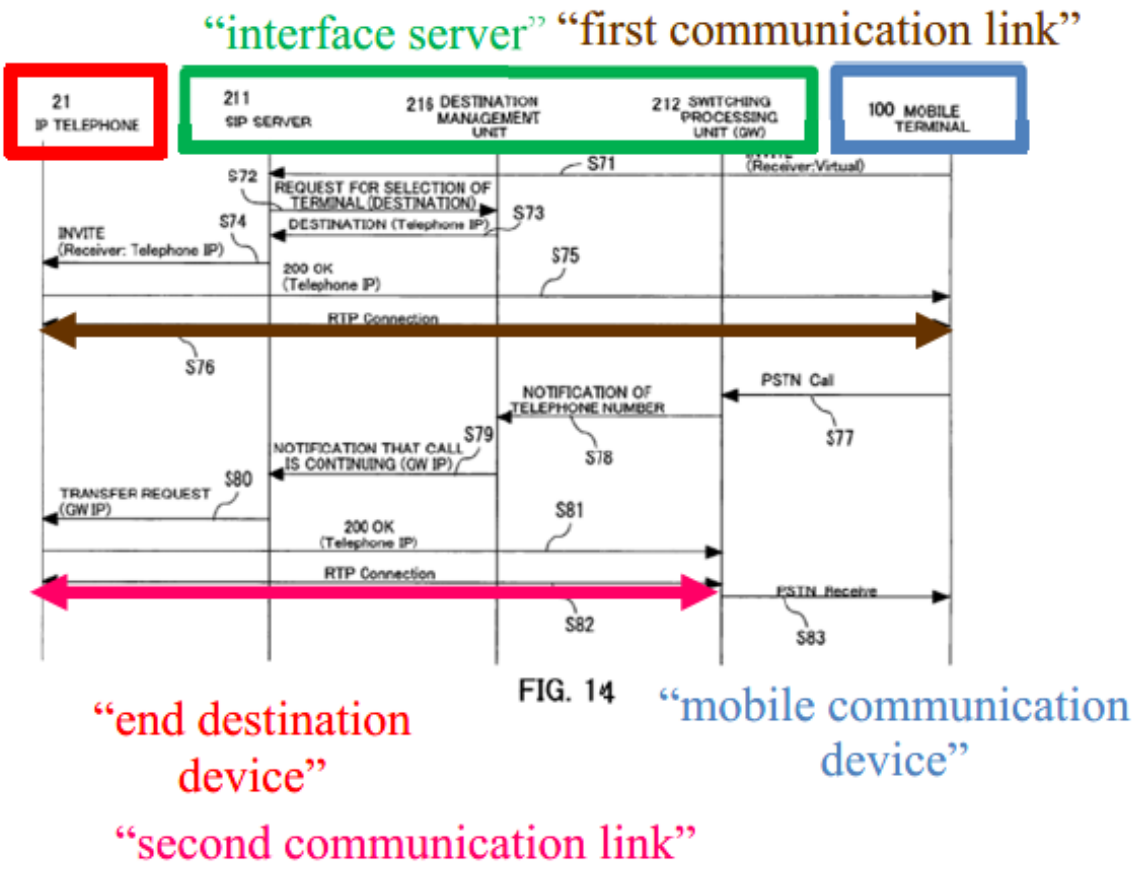
[3] Claim 41 recites limitation [41.c]: "when a network is detected as available with a second wireless communication link with a context preferable to the first wireless communication link, notifying an interface and establishing the second communication link between the interface and an end destination device without disrupting the first communication link." '996 Patent at 13:15-20.

Under Petitioners' theory, the "**first communication link**" limitation is met by a VoIP call or SIP session established between the mobile terminal 100 and the IP telephone 21. *Id*. at 59-60. And the "**second communication link**" is established when "(an RTP (Real-time Transport Protocol) connection for real-time audio streams)" is set up between the call-management server and the IP telephone "as depicted in Iizuka's Fig. 14." *Id*. at 67 (citing Iizuka at [0175]).



Id. at 68 (annotating Fig. 14 of Iizuka, highlighting RTP Connection at S76 in **brown** as "**first communication link**" and highlighting RTP Connection at S82 in **pink** as "**second communication link**").

The central flaw in Petitioners' theory is that because the RTP connection established in Step S76 (the alleged "first communication link") is rerouted to switching processing unit 212 (of call-management server 200), the first communication link is disrupted, and no ***second*** connection is established between the IP telephone 21 and the switching processing unit 212 (of the call-management server 200). *See* Iizuka at [0173] (disclosing the transmittal of "a transfer request in which the IP address of the switching processing unit 212 is designated"); *see also id.* at Fig. 14 (disclosing Step S80 as "Transfer Request (GW IP)").

As Vasu explained to the Office when distinguishing similar claim language in the related '181 Patent's claims from prior art during examination, rerouting a connection is not the same as establishing a second connection for at least two reasons. *See* § II.C, *supra*; Ex. 2017 at 83. First, rerouting a first connection without the establishment of a second connection fails to satisfy the district court's claim construction (which Petitioners proposed and urged the district court to adopt) in the parallel litigation that the second communication link be "distinct from the first communication link." *See* § IV, *supra*; Ex. 2023 (Claim Construction Order) at 15-18. Second, by rerouting the first connection at S81, the first communication link is disrupted:

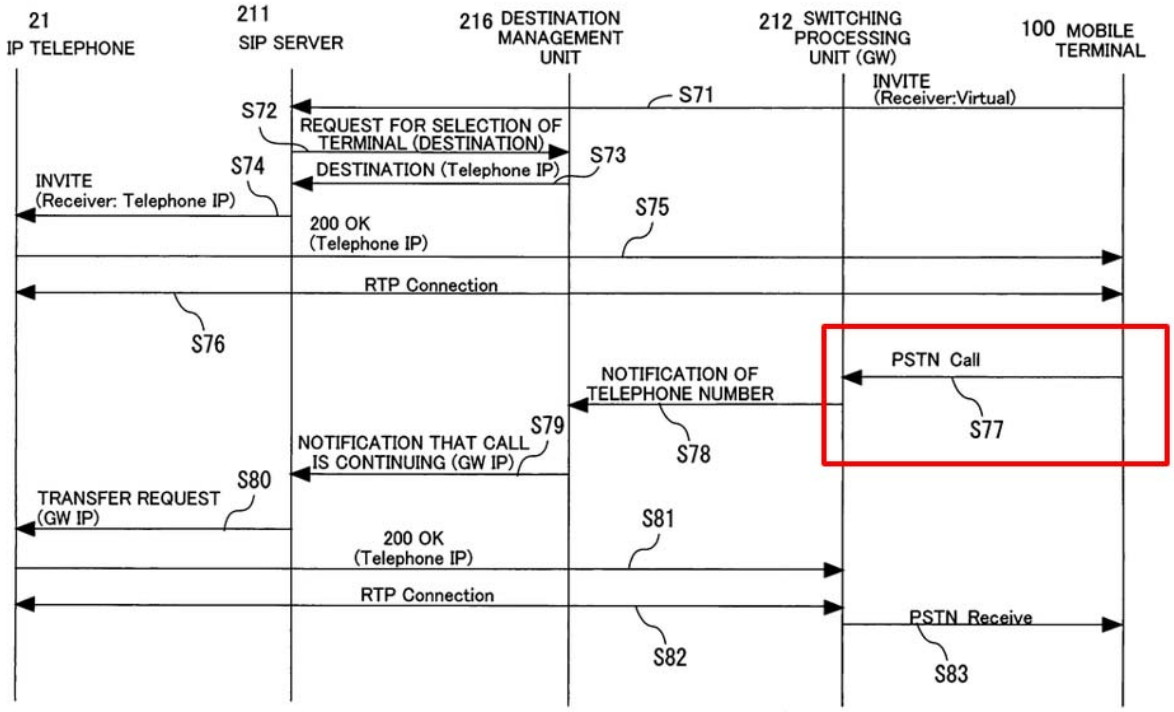


FIG. 14

Iizuka at Fig. 14 (annotated).

For at least the foregoing reasons, Iizuka does not teach or suggest "establishing a second communication link between the interface server and the end destination device without disrupting the first communication link."

2. Disclosure of a VoIP Call That "Still Continues" Does Not Satisfy Establishing a Second Communication Link Without Disrupting a First Communication Link

The Petition argues that Iizuka's disclosure that the "VoIP call 'still continues'" satisfies the claim requirement of "without disrupting the first communication link." Pet. at 67 (citing Iizuka at [0162]) (cleaned up). This is incorrect and unsupported by the record because Petitioners incorrectly cross-

reference steps at different stages in Iizuka's switching process to support their theory that Iizuka discloses "establishing a second communication link between the interface server and the end destination device without disrupting the first communication link." *Id.* (citing steps disclosed [0160]-[0162] and steps disclosed [0170]-[0175] in Iizuka).

The "still continues" phrase refers to a step in Iizuka's switching process that occurs after the alleged first communication link has already been transferred, *i.e.*, disrupted. Iizuka at [0162], [0176]. The full context of the "still continues" phrase is in Iizuka's "Step S65," which reads: "[t]he switching processing unit 212 realizes a voice call through the mobile telephone network 10 while the VoIP call which has already been established ***still continues***." *Id.* at [0162] (emphasis added). Thus, while the VoIP call "still continues" between the switching processing unit and the IP telephone, the mobile device's communication link was already disrupted. *Id.*

Petitioners suggest in a footnote that Figures 13 and 14 of Iizuka describe the same embodiment of a switching process , and, therefore, the Petition uses parallel citations to the relevant disclosures for both Figures 13 and 14. Pet. at 50-51, n.12. But, assuming that Figures 13 and 14 describe the same embodiment, the Petition incorrectly cites steps out of order to support their theory. Specifically, Step S65 of Figure 13 corresponds to Step S83 of Figure 14, as demonstrated by comparing the texts in the below table.

Iizuka's Figure 13 embodiment	**Iizuka's Figure 14 embodiment**
[0162]: "[Step S65] ***The switching processing unit 212*** realizes a voice call ***through the mobile telephone network 10*** while the VoIP call which has already been established still continues."	[0176]: "[Step S83] ***The switching processing unit 212*** returns to the mobile terminal 100 a response to the origination of the call by dialing, and establishes a connection ***through the mobile telephone network 10***. Thus, a call between the IP telephone 21 and the mobile terminal 100 becomes possible."

Iizuka at [0162], [0176] (emphasis added). Like Step S65, Step S83 of Figure 14 occurs ***after*** Steps S80, S81, and S82 (*i.e.*, after the RTP connection has already been transferred (*i.e.*, disrupted). This timing is seen in Petitioners' annotated figure reproduced below.

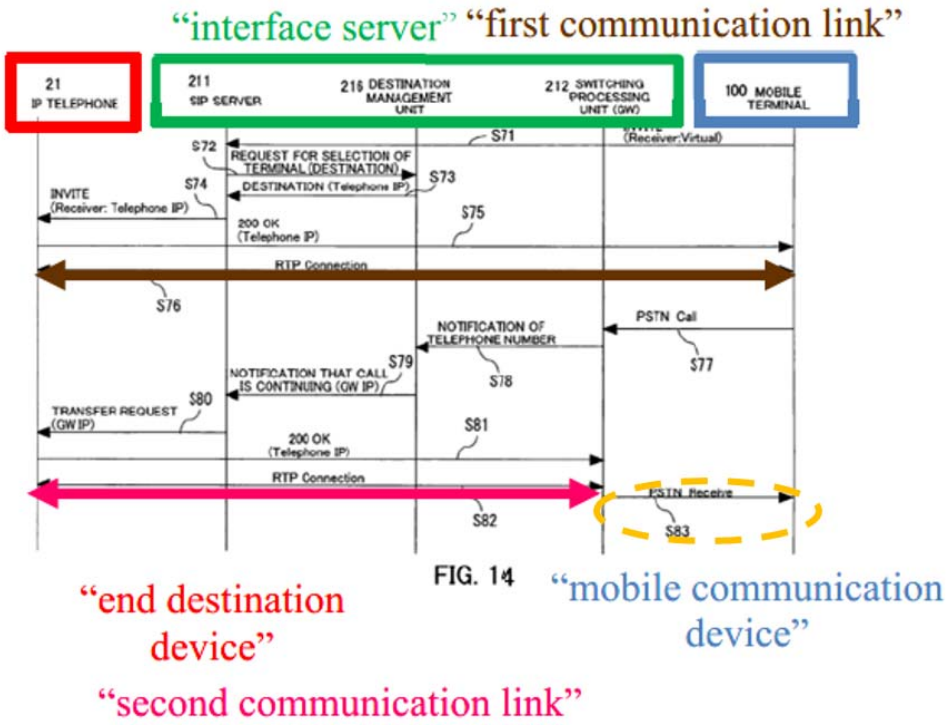


FIG. 14

Pet. at 68 (citing Fig. 14 of Iizuka) (further annotations added in orange dashed circle). The Petition's reliance on Figure 13's Step S65 and paragraph [0162] is also problematic because the Petition later relies on essentially the same step for meeting limitation [39.e] (the "re-directing . . ." limitation). *Id.* at 73-77 (citing Iizuka at [0176]). That is, the Petition points to Figure 14's Step S83, which again corresponds to Step S65 already relied on for limitation [39.c], for satisfying limitation [39.e]. *Id.* (citing Iizuka, [0176]).

The Petition does not explain how the phrase "still continues" demonstrates that Iizuka teaches a second communication link is established without disrupting the first communication link. Pet. at 53, 55, 66, 67, 77 (citing the phrase "still continues" or "continues" without explanation). The Petition also does not explain

how the phrase "still continues" demonstrates no disruption to a first communication link contrary to the surrounding paragraphs and accompanying Figures 13 and 14 that plainly describe that a first RTP connection is transferred (i.e., disrupted) and rerouted between the call-management server 200 and the IP telephone, as discussed above. *See* Iizuka at [0162], [0173]-[0174]; *see* § VI.B.1, *supra*. Nor does Petitioner's expert provide any analysis or explanation of the phrase "still continues" in his declaration. *See* Ex. 1003 at ¶¶ 236-240 (Petitioners' expert parroting the Petition's arguments).

Accordingly, Iizuka does not disclose "notifying an interface server and establishing a second communication link between the interface server and the end destination device without disrupting the first communication link," and therefore cannot render obvious Challenged Claims 39 and 41 in Grounds 3 to 5. '996 Patent at 12:58-62, 13:17-22.

VII. CONCLUSION

For all of these reasons, Vasu accordingly requests that the Board deny institution of *inter partes* review of the Challenged Claims of the '996 Patent.

Respectfully submitted,

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CERTIFICATE OF COMPLIANCE WITH 37 C.F.R. § 42.24

The undersigned hereby certifies that the foregoing **PATENT OWNER'S PRELIMINARY RESPONSE** has 5,836 words in compliance with the 14,000 word limit set forth in 37 C.F.R. § 42.24(b). This word count was prepared using the Microsoft Word word-processing system used to prepare this paper.

Dated: June 10, 2025

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CERTIFICATE OF SERVICE

The undersigned certifies, in accordance with 37 C.F.R. § 42.6(e), and pursuant to agreement by the parties that filing with the Board through the Patent Trial and Appeal Case Tracking System (P-TACTS) constitutes electronic service, service was made on Petitioners as detailed below.

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