

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

ZTE (USA) Inc.,
Petitioner

v.

WSOU INVESTMENTS, LLC D/B/A BRAZOS LICENSING AND
DEVELOPMENT
Patent Owner

Case IPR2023-00499
U.S. Patent No. 7,872,973

PATENT OWNER'S PRELIMINARY RESPONSE TO THE PETITION

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I. INTRODUCTION

WSOU Investments, LLC d/b/a/ Brazos Licensing and Development (the “Patent Owner” or “WSOU”) submits this Preliminary Response to the Petition for *Inter Partes* Review (“Pet.” or “Petition”) of United States Patent No. 7,872,973 (“the ’973 Patent” or “Ex. 1001”) filed by ZTE (USA) Inc. (“Petitioner”). In view of the reasons presented herein, the Petition should be denied.

II. RELATED PROCEEDING

The ’973 patent is presently involved in the following proceeding: *WSOU Investments, LLC d/b/a Brazos Licensing and Development v. ZTE Corporation*, 6:22-cv-00137 (Feb. 8, 2022 W.D. Tex.).

III. LEVEL OF ORDINARY SKILL IN THE ART

The Petition proposes a person of ordinary skill in the art at the time of the ’973 patent (a “POSITA”) “would have had at least a bachelor’s degree in electrical engineering, computer engineering, or a related engineering discipline and two or more years of industry experience in the field of telecommunications, or equivalent experience, education, or both.” Pet. 3 (citing Ex. 1003, 42). Patent Owner does not offer a competing definition at this stage because Petitioner has not met its burden to prove unpatentability of any challenged claim even if it were appropriate to apply Petitioner’s proposed definition for a POSITA.

IV. CLAIM CONSTRUCTION

The standard for claim construction applicable here is the “ordinary and customary meaning of such claim as understood by one of ordinary skill in the art

and the prosecution history pertaining to the patent.” 37 C.F.R. §42.100(b) (effective November 13, 2018); 83 Fed. Reg. No. 197, 51340 (Oct. 11, 2018). This is the same standard applied by Article III courts. *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005). The proper standard primarily focuses on intrinsic evidence, such as the patent specification and prosecution history, to interpret the claim terms. *Id.* at 1317; *see also* 37 C.F.R. § 42.100(b).

As Petitioner noted, the district court in *WSOU Investments LLC D/B/A Brazos Licensing and Dev., v. Huawei Technologies Co., LTD.*, 6-20-cv-00538, Dkt. 61 (W.D. Tex. Jun. 17, 2020) issued a Claim Construction Order that consists solely of a table listing final constructions for several claim terms recited in the ’973 patent. *See* Ex. 1012. The Claim Construction Order offered no analysis or explanation for the claim constructions, apart from the constructions themselves. *Id.* The Petition purports to apply certain constructions in the district court’s Claim Construction Order and further purports to depart from the Order, without offering any analysis or explanation as to why Petitioner’s different construction should be adopted here.

As explained further below, the Petition is tainted by its application of incorrect and undefended claim constructions. This legal deficiency taints the entire Petition and provides an independent and dispositive basis for denial. *See, e.g., Int’l Bus. Machines Corp. (IBM) v. Iancu*, 759 F. App’x 1002, 1005–06 (Fed. Cir. 2019) (finding that the Board’s interpretation of key claim limitations was incorrect resulting in the Board’s decisions having errors); *Vivint, Inc. v. Alarm.com Inc.*, 754 F. App’x 999, 1005 (Fed. Cir. 2018) (vacating and remanding, in part, because the

Board had adopted and applied certain incorrect claim constructions); *Mentor Graphics Corp., v. Synopsys, Inc.*, IPR2014-00287, Paper 31 at 11 (PTAB June 11, 2015), *aff'd sub nom. Synopsys, Inc. v. Mentor Graphics Corp.*, 669 Fed. Appx. 569 (Fed. Cir. 2016) (rejecting invalidity theories advanced in an IPR petition as tainted by reliance on an incorrect claim construction).

A. “the message”

As Petitioner acknowledged, Patent Owner argued in a prior litigation (not involving Petitioner) that the term “‘the message’ in [1g] uses ‘a message’ in [1e] as its antecedent.” Pet. 4 (citing Ex. 1013, 10). Petitioner offered no basis to dispute this straightforward understanding. Petitioner further acknowledged, again without offering any basis to conclude otherwise, that Patent Owner had at least cited “the specification at Ex. 1001, 7:7-12” in support of this proper interpretation.

B. “a module for sending the message from ...” (limitation [9i])

As Petitioner acknowledged, a district court issued a Claim Construction Order concerning the '973 patent that considered and rejected the argument that the phrase “a module for sending the message from the [upstream] device to an upstream network device to thereby control a rate at which the upstream device receives packets from the upstream network device” (as recited in claim 9 only) is indefinite. Ex. 1012, 15. The district court also found this term to be subject pre-AIA 35 U.S.C. § 112, ¶ 6 and construed the term as follows:

Term	Court's Final Construction
“a module for sending the message from the e stream device to an upstream network device to thereby control a rate at which the upstream device receives packets from the upstream network device” (Claim 9)	Subject to 35 U.S.C. § 112, ¶ 6 Function: sending the message from the upstream device to an upstream network device to thereby control a rate at which the upstream device receives packets from the upstream network device Structure: a processor Algorithm: N/A because pursuant to “sending” is a function a general-purpose processor can do without requiring special programming.

Id.

As noted above, the district court’s Claim Construction Order merely lists the court’s final claim constructions in the form of a table, without offering any underlying analysis or reasoning. Petitioner opted to not offer any basis to defend the correctness of the district court’s construction for limitation [9i] (reproduced above). Petitioner merely purported to apply the district court’s construction and advanced theories premised solely on a means-plus-function interpretation. Pet. 7.

The district court’s unexplained and undefended construction is legally flawed, and the redundant theories of the Petition are all tainted by applying the same. Claim 9 recites as an affirmative element “a processor coupled to the queuing device” and further qualifies the “sending module” in question as being “executed by the processor.” Ex. 1001, 8:51-53. If the district court is correct that the “processor” element affirmatively recited in claim 9 is itself sufficient structure for the corresponding functional requirement identified by the district court, and that the

identified functional requirement does not invoke legal precedent holding that the corresponding structure must be tethered to a disclosed algorithm,¹ then claim 9 recites sufficient structure for limitation [9i] and, consequently, limitation [9i] is not subject to pre-AIA 35 U.S.C. § 112, ¶ 6.

Conversely, if Petitioner is correct that the term in question is indeed subject to 35 U.S.C. § 112, ¶ 6 for failing to recite sufficient corresponding structure, notwithstanding the claim language expressly reciting all the structure (“a processor”) identified in the district court’s construction, then the recited computer-implemented context arguably subjects the claim language to legal precedent² requiring that the corresponding structure must include an algorithm disclosed in the specification itself. The Petition identifies no such algorithm and does not purport to tether any of Petitioner’s redundant invalidity theories to any disclosed algorithm. This resulted in the Petition applying an overbroad and undefended means-plus-function construction for this term. This deficiency taints the redundant challenges of claim 9 and provides an independent basis for denial.

C. “a module for ... sending a message to” (limitation [9g])

Further compounding the legal error of the district court’s Claim Construction Order, the district court reached an inconsistent ruling for what Petitioner referred

¹ See, e.g., *WMS Gaming, Inc. v. Int’l Game Tech.*, 184 F.3d 1339, 1348–49 (Fed. Cir. 1999) (“computer-implemented means-plus-function term is limited to the corresponding structure disclosed in the specification and equivalents thereof, and the corresponding structure is the algorithm.”); *Atmel Corp. v. Information Storage Devices, Inc.*, 198 F.3d 1374, 1381 (Fed. Cir. 1999).

² See note 1, *supra*.

to as limitation [9g] of claim 9, which recites “a module for, if the depth of the queue passes a predetermined threshold, sending a message to the upstream device to reduce a rate at which packets are sent to the queuing device to prevent the queue from filling, thereby preventing packet discarding and loss by the queuing device.” While limitation [9g] similarly recites “a module for ... sending,” the district court held (for unexplained reasons) that this limitation invoked the requirement that the corresponding structure must include an algorithm, and the court ruled that the specification lacked such an algorithm. Ex. 1012, 16.

The district court offered no explanation as to why *a module for sending* must have a disclosed algorithm as corresponding structure in one recited instance but not in the other recited instance. Petitioner opted to neither explain nor defend the inconsistent rulings in the district court’s construction. Rather, Petitioner departed from the district court’s Claim Construction Order by purporting to apply the *distinct* construction that limitation [9g] is necessarily subject to 35 U.S.C. § 112, ¶ 6 and yet the only required structure is the “processor” affirmatively recited in the claim language itself. Pet. 7. No party advanced or defended such a construction in *WSOU Investments LLC D/B/A Brazos Licensing and Dev., v. Huawei Technologies Co., LTD.*, 6-20-cv-00538. See Ex. 1013, 11. The Petition should be denied as purporting to apply inconsistent claim constructions, without meeting Petitioner’s burden to explain, within the Petition itself, why the Board should adopt the inherent and undefended inconsistencies of the claim constructions applied in the Petition.

D. Additional means-plus-function constructions adopted in prior litigation

As Petitioner noted, the district court in *WSOU Investments LLC D/B/A Brazos Licensing and Dev., v. Huawei Technologies Co., LTD.*, 6-20-cv-00538, Dkt. 61 (W.D. Tex. Jun. 17, 2020) interpreted all the disputed “module” terms recited in claim 9 as being subject to 35 U.S.C. § 112 ¶ 6. Pet. 9 (citing Ex. 1012). Petitioner purported to adopt the district court’s constructions for what Petitioner referred to as limitation [9h] (“a module for sending a message reporting the depth of the queue to the upstream device to thereby enable the upstream device to determine whether to reduce or increase the rate at which the upstream device sends packets to the queuing device”) and limitation [9i] (“a module for sending the message from the e stream device to an upstream network device to thereby control a rate at which the upstream device receives packets from the upstream network device”). *Id.* 9-10.

If the terms in question are indeed subject to 35 U.S.C. § 112, ¶ 6 for failing to recite sufficient corresponding structure, as the Petition suggests, then the recited computer-implemented context arguably subjects the claim language to legal precedent (*e.g.*, *WMS Gaming*) requiring that the corresponding structure must include an algorithm disclosed in the specification itself. See § IV.B, *supra* (collecting cases). The Petition identifies no such algorithm for either term, and the Petition does not purport to tether any of Petitioner’s redundant invalidity theories to any disclosed algorithm. The Petition should thus be rejected as applying overbroad and undefended means-plus-function constructions for limitations [9h] and [9i]. These additional legal deficiencies provide independent bases for denial.

E. The “module” term of claim 9 not construed in prior litigation

As Petitioner acknowledged, the district court in *WSOU Investments LLC D/B/A Brazos Licensing and Dev., v. Huawei Technologies Co., LTD.*, 6-20-cv-00538, Dkt. 61 (W.D. Tex. Jun. 17, 2020) did not construe the claim 9 “module” term referred to in the Petition as limitation [9c] (“a module for monitoring a depth of a queue in the queuing device, wherein the queue receives packets from the upstream device within the network device and the queuing device acts as a discard point by discarding packets when the queue is full, wherein the upstream device is a traffic manager”). While the Petition is expressly premised on the interpretation that the other “module” terms of claim 9 (referred to in the Petition as limitations [9g], [9h] and [9i]) are *necessarily* subject to 35 U.S.C. § 112, ¶ 6, for unexplained reasons, the Petition offers the equivocal assertion that limitation [9c] “arguably could be subject to construction under § 112, ¶6.” Pet. 11. Petitioner then asserted that either no construction is required for [9c] or, alternatively, a means-plus-function construction should be applied, where sufficient corresponding structure is found in the recited “processor” term only, such that the term is not further limited by any disclosed algorithm. *Id.* 11-12.

Petitioner failed to meet its burden to explain why the “module” term should be construed inconsistently in claim 9, such that one of the four instances of “module for” is not necessarily subject to 35 U.S.C. § 112, ¶ 6. And if limitation [9c] is indeed subject to 35 U.S.C. § 112, ¶ 6 for failing to recite sufficient corresponding structure, as the Petition suggests in the alternative, then the recited computer-implemented context arguably subjects the claim language to legal precedent (*e.g.*, *WMS Gaming*)

requiring that the corresponding structure must include an algorithm disclosed in the specification itself. *See* § IV.B, *supra* (collecting cases). The Petition identifies no such algorithm for limitation [9c] and the Petition does not purport to tether any of Petitioner’s redundant invalidity theories to any disclosed algorithm. The Petition should thus be rejected as applying overbroad, inconsistent, and undefended means-plus-function constructions for limitation [9c].

F. The “module” terms of independent claim 26

The district court in *WSOU Investments LLC D/B/A Brazos Licensing and Dev., v. Huawei Technologies Co., LTD.*, 6-20-cv-00538, Dkt. 61 (W.D. Tex. Jun. 17, 2020) did not construe any of the “module” terms recited in independent claim 26. The Petition asserts that the “module for” terms of claim 26 are “similar” to the “module for” terms of claim 9. Pet. 9-12. The Petition makes no distinction between the “module for” constructions applied in challenging independent claims 9 and 26. *Id.* Without conceding the correctness of Petitioner’s undefended assertion that there is no meaningful distinction between the “module for” terms recited in claims 9 and 26, notwithstanding the distinct functional language recited, Patent Owner submits that Petitioner’s challenge of independent claim 26 is tainted at least by the same legal error identified above concerning claim 9. *See* § IV.A-E, *supra*.

V. PETITIONER HAS NOT MET ITS THRESHOLD BURDEN

Petitioner has the burden of proof to establish entitlement to relief. “Review shall not be instituted unless the Board decides that the information presented in the petition demonstrates that there is a reasonable likelihood that at least one of the

claims challenged in the petition is unpatentable.” 37 CFR § 42.108(c). The Petition should be denied as failing to meet this threshold evidentiary burden for institution.

Of the claims challenged in the Petition, only claims 1, 9, 19, and 26 are written in independent form. The Petition purports to present the following grounds of purported invalidity based solely on redundant theories of obviousness under 35 U.S.C. § 103:

Ground	References	Challenged Claims
1	Ma	1-2, 4-10, 12-16, 18-20, 22-27, 29-31
2	Ma in view of Kim	1, 2, 4-10, 12-16, 18-20, 22-27, 29-31
3	Ma in view of Enomoto	3, 11, 21, 28
4	Ma in view of Kim and Enomoto	3, 11, 21, 28
5	Ma in view of McCrosky	17
6	Ma in view of Kim and McCrosky	17

A. The “module for” terms of claims 9 and 26

As explained above, the Petition is tainted by its application of overbroad and undefended claim constructions for the “module for” terms of claims 9 and 26. *See* § IV, *supra*. If the “module for” terms are subject to 35 U.S.C. § 112, ¶ 6 for failing to recite sufficient corresponding structure, notwithstanding the recitation that each “module” in question is “executed by the processor,” then Petitioner failed to at least explain why the computer-implemented context does not subject the “module” terms

to legal precedent (*e.g.*, WMS Gaming) requiring that the corresponding structure must include an algorithm disclosed in the specification itself. *Id.* (collecting cases). The Petition is tainted by its application of undefended and incorrect means-plus-function constructions, which inexplicably fail to constrain claim scope for any of the “module for” terms to any such disclosed algorithm. *Id.*

This legal deficiency is fatal to the redundant challenges of at least claims 9-18 and claims 26-31, which constitutes the majority of the challenged claims. Because the identified legal deficiencies concerning claim construction impacts the majority of the Petition, the PTAB can and should exercise its discretion under 35 U.S.C. § 314 to deny institution of *inter partes* review for inefficient use of the PTAB’s time and resources. *See SAS Inst. Inc. v. Iancu*, 138 S. Ct. 1348, 1356 (2018) and *Harmonica Inc. v. Avid Tech., Inc.*, 815 F.3d 1356, 1367 (Fed. Cir. 2016). The PTAB can and does consider the number of challenges reasonably likely to fail that would require review compared to those reasonably likely to succeed when determining whether instituting review is an efficient use of the PTAB’s resources.

B. Conditional sending of message tethered to “if the depth of the queue passes a predetermined threshold” (all challenged claims)

All challenged claims 1-31 of the ’973 patent recite limitations directed to the express condition, “if the depth of the queue passes a predetermined threshold.” Ex. 1001, 8:12-16 (claim 1), 8:60-65 (claim 9), 9:48-55 (claim 19), 10:30-36 (claim 26). Tethered to this condition is the responsive action of “sending a message to the upstream device to reduce a rate at which packets are sent” *Id.* Petitioner failed to establish it is more likely than not that Ma either anticipates or renders obvious at

least these explicitly-connected claim requirements recited in every claim challenged by the Petition.

The Petition points to Ma’s “average packet queue length” as allegedly constituting the claimed “depth of queue.” Pet 14-15 (citing Ex. 1005, 7:53-63). The passage of Ma cited in the Petition states “[t]he congestion notification unit 12 **determines an average queue length.**” *Id.* (boldface by Petitioner). It is the “average queue length” that is compared with “the BFCN threshold.” *Id.* Ma describes the averaging aspect of its “average queue length” as purposefully *preventing* the initialization of its congestion control mechanism responsive to “fluctuations of queue length.” Ex. 1005, 5:3-6. In other words, Ma purposefully prevents its distinguishable mechanism from being initialized responsive to the condition that a given single depth of queue exceeds a predetermined threshold for a short term. This fails to disclose, and rather teaches away from, at least the express condition, “if the depth of the queue passes a predetermined threshold.”

The Petition does not cite Kim as allegedly curing the deficiencies of Ma concerning the claim language in question, nor did Petitioner offer any obviousness theory for this claim language based on an alleged combination of Ma and Kim. Accordingly, the claim language in question presents an independent, dispositive basis to deny the Petition as failing to meet the threshold burden for institution.

C. “sending a message reporting the depth of the queue to the upstream device ...” (all challenged claims)

All challenged claims 1-31 of the ’973 patent recite “sending a message reporting the depth of the queue to the upstream device to thereby enable the

upstream device to determine whether to reduce or increase the rate at which the upstream device sends packets” Ex. 1001, 8:16-20 (claim 1), 8:66-9:3 (claim 9), 9:56-60 (claim 19), 10:37-41 (claim 26). At a minimum, the Petition failed to identify any alleged message “reporting the depth of queue” as claimed.

Petitioner alleged that Ma discloses its intermediate router R sends a congestion notification message to an access point. Pet. 25. According to Petitioner, Ma’s message uses bits in a header to indicate only whether an average queue length is either above or below a threshold. *Id.*, 26. Petitioner failed to offer any explanation as to how setting bits based on whether an *average* queue length is at some unspecified value above or below a threshold satisfies the distinct requirement of “a message reporting the depth of the queue.” Ma simply has not been shown to send a message reporting the actual *depth of queue*.

Accordingly, for this additional reason, Petitioner failed to establish it is more likely than not that Ma anticipates or renders obvious at least one claim of the ’973 patent. The Petition does not cite Kim as allegedly curing the deficiencies of Ma concerning this claim language, nor did Petitioner offer any obviousness theory for this claim language based on an alleged combination of Ma and Kim. Accordingly, the claim language in question presents an additional fully-dispositive basis to deny the Petition as failing to meet the threshold burden for institution.

D. Petitioner’s challenges of the dependent claims are all tainted by its deficient challenges of the independent claims.

Because Petitioner failed to meet its burden to prove a reasonable likelihood that any challenged independent claim would have been obvious, Petitioner likewise

failed to establish a reasonable likelihood that any challenged dependent claim is unpatentable.

VI. CONCLUSION

For the foregoing reasons, Patent Owner respectfully requests that the Petition be denied in its entirety as failing to establish a reasonable likelihood that at least one of the claims challenged is unpatentable.

Date: July 12, 2023

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CERTIFICATE OF COMPLIANCE

Pursuant to 37 C.F.R. § 42.24(d), I certify that this Preliminary Response to Petition complies with the type-volume limitation of 37 C.F.R. § 42.24(b)(1) because it contains fewer than the limit of 14,000 words, as determined by the word-processing program used to prepare the brief, excluding the parts of the brief exempted by 37 C.F.R. § 42.24(a)(1).

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CERTIFICATE OF SERVICE

Pursuant to 37 C.F.R. §§ 42.6(e), I certify that I caused to be served an electronic copy of the foregoing Patent Owner's Preliminary Response, along with any accompanying exhibits filed via the PTAB E2E system, to Petitioner's counsel at the following addresses identified in the Petition's consent to electronic service:

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