UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

NOKIA SOLUTIONS AND NETWORKS US LLC; AND
NOKIA SOLUTIONS AND NETWORKS OY,
Petitioners

v.

HUAWEI TECHNOLOGIES CO. LTD.,
Patent Owner

Case IPR2017-00588
Patent 8,867,339

**PATENT OWNER HUAWEI TECHNOLOGIES'
PRELIMINARY RESPONSE**

TABLE OF CONTENTS

LIST OF EXHIBITS

Exhibit No.	Description
EX. 2001	Internet Archive Wayback Machine search of URL http://www.3gpp.org/ftp/tsg_sa/WG2_Arch/TSGS2_53_Lisbon/Docs/, retrieved April 11, 2017.

I. INTRODUCTION

Pursuant to 37 C.F.R. § 42.207(a), the Patent Owner, Huawei Technologies Co. Ltd ("Patent Owner"), hereby submits the following Preliminary Response in response to the Petition for *Inter Partes* Review ("IPR") Review of U.S. Patent No. 8,867,339 ("the '339 Patent"). The Petition (IPR2017-00588) challenges Claims 1, 3-5, 7-9, 11-14, and 16, which include independent claims 1, 3, 9, 11, and 14. Both Grounds 1 and 2 fail for the reasons described below.

As a threshold issue, both Grounds 1 and 2 fail because Petitioners have not met their burden of showing that S2-062308 ("the Ericsson Submission") is a prior art printed publication. Petitioners failed to identify any actual evidence of publication, much less attempted to show that the Ericsson Submission was indexed and publicly accessible as the law requires. For this reason alone, neither Ground should be instituted.

Additionally, Ground 1 fails on the merits because Petitioners have not met their burden of showing that the modified TR 23.809 V0.3.0 would result in a functioning system having each element required by the challenged claims. For example, Petitioners' proposed combination fails to provide a GGSN that preserves the PDP context after receiving an error indication from the RNC, because TR 23.809 V0.3.0 expressly describes its GGSN marks the PDP context as invalid. Further, Petitioners have not provided any evidence that a POSITA would have

been motivated to combine the Ericsson Submission with TR 23.809 V0.3.0 in the manner proposed, aside from the '339 Patent itself.

Likewise, Ground 2 fails on the merits because Petitioners have not met their burden of explaining why the combination of references discloses each element of the claims, nor the burden of showing that a POSITA would have modified TR 23.873 in a way that increases loading on the cSGSN contrary to the express teachings of TR 23.873. Moreover, Petitioners have not provided evidence that a POSITA would have been motivated to combine the Ericsson Submission with TR 23.873 in the manner proposed, aside from the '339 Patent itself.

For at least these reasons, the Petition is deficient. Patent Owner respectfully requests that the Board deny institution of Grounds 1 and 2 of the Petition, and decline to institute *inter partes* review of the '339 Patent.

II. BACKGROUND OF THE '339 PATENT

The '339 Patent dates back to an application filed in August 2006, directed to a groundbreaking tunnel management system in which a downlink data tunnel can be efficiently recovered without requiring reestablishment of a user's connections. *See, e.g.* '339 Patent, 6:24-7:50. The claimed arrangement thus can maintain the user's session with reduced impact on data transmission performance.

As background to the problem addressed by the '339 Patent, one of the major concerns for architects of 3GPP systems is the performance of data

transmission. As user traffic increases, there is concern for data transmission performance to match that increase. To that end, the 3GPP organization specified various architectures to improve the efficiency of network components in a 3GPP network. One of those architectures is the "One Tunnel" technology (also called "Direct Tunnel"), which promotes the increased efficiency of communicating information between a UE and the Internet. *See* '339 Patent at 1:31-37.

In the architecture described in the 3GPP standards, user equipment (UE) is connected to the core network via a Radio Network Controller (RNC). The RNC connects the UE to the Internet by routing it through a Serving General Packet Radio Service Support Node (SGSN), which in turn connects to a Gateway General Packet Radio Service Support Node (GGSN). *See* '339 Patent at 1:27-50. The GGSN manages the connection to the Internet. *See id.* The data links between these nodes, known as "tunnels," are depicted below:

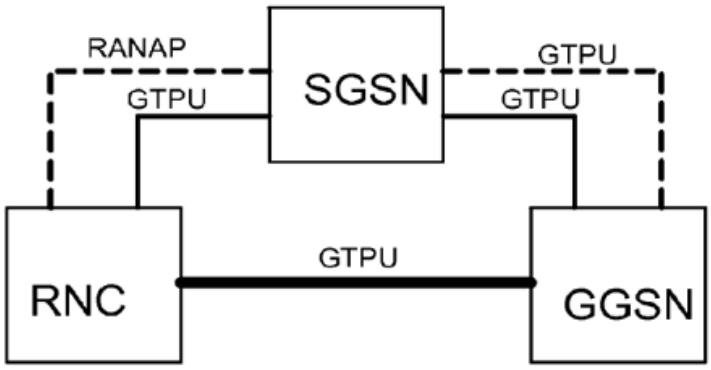

FIG. 1
'339 patent, FIG. 1

Id. at Fig. 1. The traffic is logically separated into "user plane" tunnels that carry the user data (such as voice data), and "control plane" tunnels, which carry the signaling that allows the components to interact. *See id.* at 4:16-24. These tunnels can be further described as "uplink," which carries traffic from the direction of the UE up towards the network, and "downlink," which carries traffic down towards the UE.

In the One Tunnel architecture, the user plane connections between the RNC, the GGSN, and the SGSN are primarily replaced with a direct logical tunnel from the RNC to the GGSN, shown below:

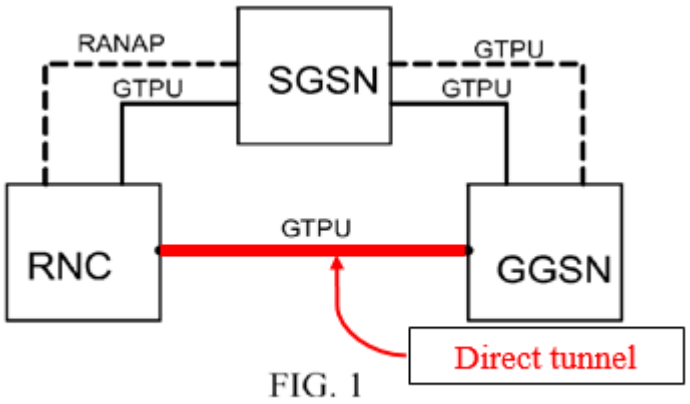

FIG. 1

'339 patent, FIG. 1 (annotated)

A "large part of the user plane traffic is directly transmitted between an RNC and the GGSN via a tunnel . . . as indicated by the thick solid line in" the figure above. *Id.* at 4:17-19. The thinner and dotted lines provide an indication that a small part of the data is still transmitted between the RNC/GGSN and the SGSN. *Id.* at 4:20-24. In a "complete" One Tunnel arrangement, however, there are no such links to

the SGSN—all user plane data passes via the direct uplink and downlink tunnels between the RNC and the GGSN. *Id.* at 4:27-33.

In conventional One Tunnel architecture, if the network suffered an abnormality (such as a reset of an RNC) and its downlink data tunnel became invalid, the GGSN may deactivate the data structure that contains the user's session information by marking it as invalid—the data structure is called the "packet data protocol (PDP) context." *Id.* at 2:12-15. Deactivation of the PDP context results in the release of resources (the IP bearer) reserved for the user and they are no longer used. *Id.*; *see also* TS 23.060 V7.1.0, Exhibit NSN339-1008, § 13.8 ("Recovery and Restoration Procedures: The recovery and restoration procedures are intended to maintain service if inconsistencies in databases occur and at lost or invalid database information. ***'Invalid' in this context means that the database entry cannot be regarded as reliable.***") (emphasis added). The system must wait to re-establish the tunnel until the UE signals the SGSN (after some delay) to reactivate PDP contexts and establish a new IP bearer. *Id.* at 2:15-16. This may cause users to appear offline and may also interrupt an application because reactivation of the PDP context may cause the user's IP address to change. *Id.* at 2:17-26.

The claimed invention solves these problems presented by the shortcomings of conventional direct tunnel arrangements. In the claimed invention, if an error

occurs in the downlink data tunnel, the system can recover the One Tunnel so that data can be sent to the user via the downlink data tunnel, rather than losing the tunnel and requiring reestablishment of the user's connections. *See id.* at 6:24–7:50. In particular, the GGSN may receive an error indication from the RNC, which indicates that the downlink data tunnel has become invalid. *Id.* at 9:5-8; Fig. 2, step 201; Fig. 6, step 602. If the tunnel uses One Tunnel technology, the GGSN instructs the SGSN to recover the downlink data tunnel, rather than releasing the PDP context. *Id*. at 9:9-21; Fig. 2, step 201; Fig. 6, step 603. Therefore, rather than deactivating the user's PDP context and releasing all of the resources allocated to the user, which would then require undergoing the entire process to re-establish communications for the user, the SGSN recovers (or "repairs") an invalid downlink data tunnel without the GGSN needing to release any of the information or resources allocated to the user. *See id.* The SGSN initiates a request to the RNC to begin a process that allows the GGSN to ultimately update its PDP context with the correct resource information for the downlink tunnel to the RNC. *Id.* at 9:22-46; Fig. 2, steps 202-204; Fig. 6, steps 604a-605b. This exchange of information recovers the downlink data tunnel (rather than *re-establishing* a tunnel as in the prior art) and maintains the user's session with minimal impact on data transmission performance.

III. STANDARD FOR GRANTING INTER PARTES REVIEW

The Board may grant a petition for *inter partes* review only where "the information presented in the petition . . . shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition." 35 U.S.C. § 314(a); 37 C.F.R. § 42.108(c). Petitioner bears the burden of showing that this statutory threshold has been met. *See Office Patent Trial Practice Guide*, 77 Fed. Reg. 48,756, 48,756 (Aug. 14, 2012) ("The Board … may institute a trial where the petitioner establishes that the standards for instituting the requested trial are met …."). If *inter partes* review is granted, Petitioner also bears the burden of proving unpatentability by a preponderance of the evidence. 35 U.S.C. § 316(e).

Moreover, Petitioners must establish a *prima facie* case of obviousness with regard to its proposed combinations of references. It is well settled that "rejections on obviousness cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness." *KSR Int'l Co. v. Teleflex Inc*., 550 U.S. 398, 418 (2007) (quoting *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006)). As shown below, Petitioners have not established a *prima facie* case of obviousness with respect to either of Grounds 1 or 2. The Board should decline to institute review of the '339 Patent.

IV. GROUNDS 1 AND 2 FAIL BECAUSE PETITIONERS HAVE NOT MET THEIR BURDEN OF SHOWING THAT THE ERICSSON SUBMISSION IS A PRIOR ART "PRINTED PUBLICATION"

A. Petitioners Have Failed to Show That the Ericsson Submission Satisfies All Requisite Characteristics of a Prior Art "Printed Publication"

Petitioners allege that the Ericsson Submission is a prior art printed publication but provide nothing except a conclusory statement from their expert to support this claim. Moreover, Petitioners do not provide any evidence that the Ericsson Submission was actually disseminated to members of the public or indexed in a manner to provide sufficient accessibility prior to the August 15, 2006 priority date of the '339 Patent. Petitioners rely on a declaration by Mr. Balazs Bertenyi in an effort to prove that various documents relating to the Third Generation Partnership project ("3GPP") were publicly available. *See* Petition, 25-29; Ex. 1004, ¶29. However, regardless of whether *some* 3GPP documents were publicly available, neither Petitioners nor Mr. Bertenyi show that the *specific Ericsson Submission* was publicly accessible prior to August 15, 2006.[1] The law

[1] Patent Owner is not disputing that some 3GPP documents were made available in a way that constitutes printed publication, but the Ericsson Submission is situated differently than other types of 3GPP documents and it is Petitioners'

mandates that an IPR can only be instituted based upon "information presented in the Petition," but here the Petition's shortcomings are glaring and require the Board to assume details absent from the Petition. 35 U.S.C. §314(a).

1. Petitioners Provide No Evidence in the Petition that the Ericsson Submission was Published Before August 15, 2006

While Petitioners provide a lengthy declaration on the purported practices of the 3GPP, the only argument or "evidence" cited in the Petition regarding the actual Ericsson Submission are these two terse sentences from Mr. Bertenyi:

> Based on my personal knowledge and my review of 3GPP's business records, I recognize Exhibit NSN339-1006 as a true and correct copy of 3GPP TSG-SA WG2 Meeting #53, Tdoc S2-062308, *Impacts to Functions and Characteristics* (June 26-30, 2006) ("the Ericsson Submission"), available as "S2-062308.zip" at http://www.3gpp.org/ftp/tsg_sa/WG2_Arch/TSGS2_53_Lisbon/Docs/. This document was published and freely available on 3GPP's public ftp server as of June 20, 2006 at 1:12 PM.

See Ex. 1004, ¶29; Petition, p. 28.

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burden to establish that the Ericsson Submission satisfied all requisite characteristics of a "printed publication" prior to August 15, 2006 (the '339 Patent's priority date). The Petition does not meet this burden.

That is it. Nothing more beyond these two lines mention the Ericsson Submission specifically. Mr. Bertenyi provides absolutely no support for his statement that the Ericsson Submission was published on June 20, 2006. There is no evidence cited. There is no explanation of where Mr. Bertenyi's belief originates. It is just a bare statement. Moreover, neither Petitioners nor their expert provide a printout of the specific ftp site he mentions, much less an explanation of what is provided there and what it means. In fact, the declaration never even mentions the "TSGS2_53_Lisbon/Docs" site again.

Petitioners similarly do not provide a printout of the contents of the "S2-062308.zip" file that Mr. Bertenyi mentions. Nor a record of it being uploaded or downloaded. Nor do they provide printouts of the properties of that archive or any file within that archive. All that is provided is a conclusory and unsupported statement from Mr. Bertenyi along with a web site address that (at best) improperly requires the Board to conduct its own investigation on the Ericsson Submission. *Sanofi-Aventis v. AstraZeneca*, IPR2016-00348, Paper 10 at 7 (PTAB June 28, 2016) ("We will not attempt to fit evidence together into a coherent explanation that supports an argument demonstrating a reasonable likelihood that Petitioner would prevail."); *Hopkins Mfg. Corp. v. Cequent Performance Prods., Inc.*, IPR2015-00609, Paper 9 at 12 (PTAB Aug. 14, 2015) ("While it might be possible for us to arrive at an articulable ground by sifting through [p]etitioners'

identifications of grounds, the claim charts, the references, and the numerous cited paragraphs of the expert declaration . . . we decline to do so or to require [p]atent [o]wner to engage in a similar exercise.").

Petitioners have the burden to provide evidence with their Petition that establishes that the cited art qualifies as prior art. A conclusory statement from Mr. Bertenyi cannot satisfy this burden. The law requires that IPR can be instituted only based on "information presented in the Petition," which for the Ericsson Submission is only the two terse sentences in paragraph 29 of the Bertenyi Declaration. 35 U.S.C. § 314(a).[2] As these two sentences clearly cannot

[2] The language in the Bertenyi Declaration appears to have been mainly drafted for other references or even cases. Beyond citation to different ftp sites than the one used for the Ericsson submission, it mainly focuses on explanations of the 3GPP Specifications Page (which does not apply since the Ericsson Submission was never adopted) and the email exploder, which is never alleged by Petitioners to have been used with the Ericsson Submission. There is no evidence provided with the Bertenyi Declaration that is tied to or shows publication of the Ericsson Submission, much less that it occurred prior to August 15, 2006.

show publication of the Ericsson Submission, Grounds 1 and 2 (which are based on it) should not be instituted.

2. Even if One Were to Credit Mr. Bertenyi's Conclusory Statement, It Cannot Meet the Standards to Show Publication

"Because there are many ways in which a reference may be disseminated to the interested public, 'public accessibility' has been called the touchstone in determining whether a reference constitutes a 'printed publication' bar under 35 U.S.C. § 102(b)." *In re Hall*, 781 F.2d 897, 898–99 (Fed.Cir.1986) (emphasis added). It is not, however, enough to simply declare that a document existed as of a given date. "A given reference is 'publicly accessible' upon a satisfactory showing that such document has been disseminated or otherwise made available ***to the extent that persons interested and ordinarily skilled in the subject matter or art exercising reasonable diligence, can locate it***." *Bruckelmyer v. Ground Heaters, Inc.*, 445 F.3d 1374, 1378 (Fed. Cir. 2006) (emphasis added). Accordingly, proof of publication requires not just proof of a document's existence but actual proof that the public "exercising reasonable diligence, can locate it." *Id*.

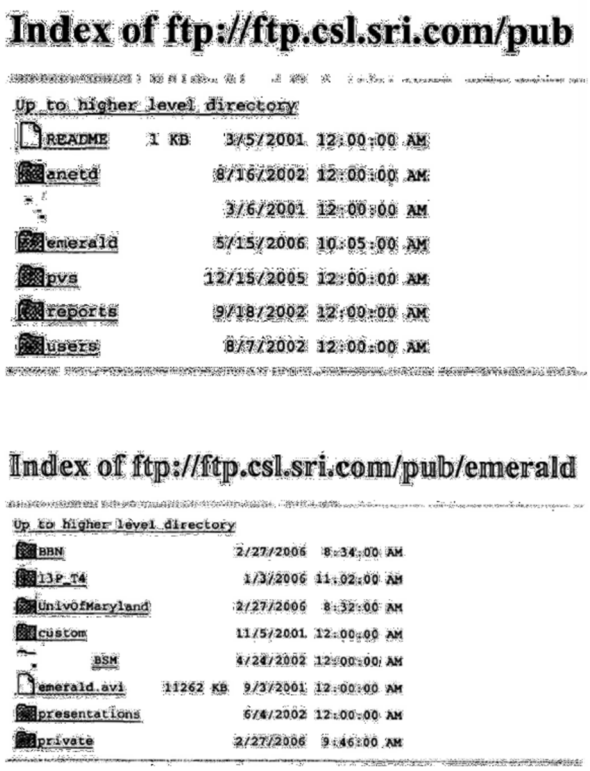
In the case of the Ericsson Submission, the Petition does not prove or even allege that multiple members of the public *actually* accessed the Ericsson Submission prior to the priority date of the '339 Patent, but only alleges that the Ericsson Submission exists on an ftp site. *See* Petition, 28; Ex. 1004, ¶29. There is

only one paragraph in the Bertenyi Declaration that specifically discusses the Ericsson Submission, and that paragraph itself simply assumes a date of publication with no other explanation. *See* Ex. 1004, ¶29. There is no "information presented in the Petition" (35 U.S.C. §314) that shows the Ericsson Submission was actually disseminated to members of the public before August 15, 2006 or indexed before August 15, 2006 such that the public could exercise reasonable diligence to search/locate it. *See id.*[3]

Documents that are not cataloged or indexed in a meaningful way are not accessible to the public. *In re Cronyn*, 890 F.2d 1158, 1161 (Fed. Cir. 1989) ("We conclude that in the present case, as in Bayer and unlike Hall, the three student theses were not accessible to the public because they had not been either ***cataloged or indexed in a meaningful way***." (emphasis added)). In another case, the Federal Circuit considered the issue of public availability of a document on an ftp server.

[3] www.3gpp.org/ftp/tsg_sa/WG2_Arch/TSGS2_53_Lisbon/Docs is hardly a website that members of the public would have known existed, and Petitioners provide no explanation of how a member of the public could even navigate the 3GPP system in 2006 to find this site.

SRI, 511 F.3d at 1186. In *SRI*, the ftp server for the document in question had the following index:



Id., 1191.

The Federal Circuit concluded that being on an ftp server by itself was not enough without meaningful indexing, stating: "the prepublication Live Traffic paper, though on the FTP server, was not catalogued or indexed in a meaningful way." *Id*., 1197. The Federal Circuit likened a document on an ftp server to an uncatalogued thesis in a library, stating:

> Like the uncatalogued thesis placed "in" the library in the Bayer case, the Live Traffic paper was placed "on" the FTP server. Yet, ***the FTP***

> ***server did not contain an index or catalogue or other tools for customary and meaningful research***. Neither the directory structure nor the README file in the PUB subdirectory identifies the location of papers or explains the mnemonic structure for files in the EMERALD subdirectory, or any subdirectory for that matter.

Id., 1196 (emphasis added); *see also* 1197-1198 ("an unpublicized paper with an acronym file name posted on an FTP server resembles a poster at an unpublicized conference without a conference index of the location of the various poster presentations").

Moreover, the PTAB has also found that a failure to prove meaningful indexing is dispositive of whether a document is shown to be publicly available, especially where there is no evidence of actual dissemination of the document to the interested members of the public. For example, in *Groupon v. Blue Calypso*, the Board considered a paper posted on the website of the Department of Computer Science and Electrical Engineering of the University of Maryland. *Groupon, Inc. v. Blue Calypso, LLC*, CBM2013-00035, Paper 45 at 16-24 (PTAB December 17, 2014), *aff'd*, 815 F.3d 1331 (Fed. Cir. Mar. 1, 2016). The Board concluded that the Petitioner had not demonstrated that the paper was publicly available, stating:

> In the instant case, like the paper placed on an FTP server that was accessible to knowledgeable persons, the Ratsimor paper was ***only***

> ***"available for viewing and downloading" (Ex. 1008 ¶ 2) to members of the public who happened to know that the Ratsimor paper was there***. Thus, comparing the totality of the current facts to the above cases, we determine that Petitioner has not met its burden of showing that the Ratsimor paper was publicly accessible.

Id., 22 (emphasis added). The Board relied both on *Cronyn* and on *SRI* as having similar fact patterns of insufficient indexing. *See id.*, 22-23.

These cases at the PTAB, like the *Cronyn* and *SRI* cases at the Federal Circuit, all require proof of some kind of indexing that would allow members of the public to find the relevant document—it is not enough that those who already know about the document could have found it. Accordingly, even if the Board were to accept Mr. Bertenyi's conclusory declaration the Ericsson Submission was "published and freely available," this statement still cannot satisfy Petitioners' burden since they made no attempt to show that the Ericsson Submission has ever been indexed such that a member of the public could locate it – much less that this indexing was performed prior to the August 15, 2006 priority date.[4]

[4] Mr. Bertenyi's single passing reference to use of search engines is wholly unsupported. There is no evidence provided that shows indexing by Google or any

Accordingly, Petitioners have failed to present sufficient evidence to show that the Ericsson Submission was actually disseminated to a requisite number of members of the public or, alternatively, that it was available such that "persons interested and ordinarily skilled in the subject matter or art exercising reasonable diligence, can locate it." *Bruckelmyer*, 445 F.3d at 1378. Accordingly, as the Ericsson Submission is the basis of both Grounds 1 and 2, Patent Owner respectfully requests that the Board should deny institution of Grounds 1 and 2.

V. PETITIONERS HAVE FAILED TO DEMONSTRATE A REASONABLE LIKELIHOOD THAT AT LEAST ONE CLAIM OF THE '339 PATENT IS UNPATENTABLE

Under 35 U.S.C. § 314(a), in order for an IPR to be instituted, the Petition must establish that there is a reasonable likelihood that at least one of the Challenged Claims is unpatentable. As discussed below, Petitioners fail to demonstrate that each element of the claims was in the prior art, and fails to make the requisite showing of a motivation to combine the references in the manner proposed. The Petition thus fails to show a reasonable likelihood of prevailing

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other search engine prior to August 15, 2006. Speculation is not evidence. Indeed, a search of the well-known Wayback Machine of the Internet Archive expressly shows that the URL cited by Petitioners was not indexed at the time of the '339 patent. *See* Exhibit 2001.

with respect to any of its grounds of unpatentability. Accordingly, the Board should decline to institute the IPR proceeding requested by the Petition.

A. Ground 1 – The Petition fails to establish a reasonable likelihood that at least one claim is obvious over TR 23.809 V0.3.0 in view of the Ericsson Submission

As discussed above, Petitioners have not met their burden of establishing that the Ericsson Submission is a prior art printed publication. However, even if the Ericsson Submission were considered a prior art printed publication, Ground 1 fails. Petitioners' proposed combination fails to provide "updating, by the core network user plane anchor, a corresponding PDP context," as required by Claim 1 and the similar limitations in the other independent claims. This is the case because the GGSN in TR 23.809 V0.3.0 is described as marking the PDP context as invalid, which would make it unusable for any update. Petitioners do not provide sufficient reason or rationale why TR 23.809 V0.3.0 would be combined with the Ericsson Submission, but even if it were, the combined system still does not practice the claimed updating by the GGSN. Accordingly, Ground 1 should be denied as to all challenged claims.

1. Overview of TR 23.809 V0.3.0

TR 23.809 V0.3.0 describes a system architecture "that uses direct tunneling of user plane data between the RNC and the GGSN, which is known as One Tunnel approach." TR 23.809 V0.3.0, § 1. TR 23.809 V0.3.0 describes several

alternative approaches, including the "SGSN controller bearer optimisation" approach, "GGSN Bearer Relay" approach, and "GGSN proxy" approach. *See id.* § 5. Petitioners rely on the "SGSN controller bearer optimization" approach in their proposed combination. Petition, p. 27.

TR 23.809 V0.3.0 describes an "Error Indication" that is sent if the GSN/RNC "can not find the PDP context or RAB for the received G-PDU." *Id.*, § 6.10. In particular, "If RNC sends error indication then GGSN marks the PDP context as invalid." *Id.* An invalid PDP context cannot be used for an update, as it is invalid. *Id.*

2. Overview of the Ericsson Submission

The Ericsson Submission is asserted to be a proposal prepared by Ericsson in advance of a 3GPP committee meeting. The Ericsson Submission is directed to version 0.2.0 of the TR not version 0.3.0 upon which Petitioners rely in Ground 1. Petitioners rely on Section 6.10.3 of the Ericsson Submission in support of their assertions of obviousness, and in particular two lines addressing the operation of the SGSN. Petition at 41. However, as described below, while this section may describe preservation of the PDP context ***by the SGSN***, the claims require updating by the "core network control plane anchor," ***which the parties agree is the GGSN not the SGSN***. *See* Petition at 40 (stating the following "GGSN (core network user plane anchor)").

3. Petitioners' proposed combination fails to provide a GGSN that preserves the PDP context, as required by all independent claims, because TR 23.809 V0.3.0 expressly describes its GGSN marks the PDP context as invalid.

Independent Claim 1 expressly requires the step of "updating, by the core network user plane anchor [e.g. GGSN], a corresponding PDP context according to the update PDP context request." '339 Patent, cl. 1. Accordingly, instead of marking the PDP context as invalid and releasing the information or resources allocated to the user, claim 1 requires communications for the user to be re-established with a preserved PDP context. Likewise, each challenged independent claim similarly requires that the GGSN not mark the PDP context as invalid in response to an error indication received from an access network device (e.g. from an RNC). *See, e.g.* cl. 3 ("notifying the core network user plan anchor, a core network control plane to recover downlink data tunnel . . . sending, by the core network control plane, a radio access bearer (RAB) assignment request to the access network device, wherein the RAB assignment request carries a user plane Internet protocol (IP) address and tunnel end identity (TEID) information that are allocated by the core network user plane anchor."); cl. 9 ("wherein the receiving unit is further configured to receive an update packet data protocol (PDP) context request from the core network control plane, and wherein the device further comprises a storage unit configured to update a corresponding PDP context

according to the update PDP context request."); cl. 11 ("wherein the sending unit is further configured to send an update packet data protocol PDP context request to the core network user plane anchor to update corresponding PDP context, and wherein the update PDP context request includes a user plane IP address and TEID information that are allocated by the access network device for receiving downlink data."); cl. 14 ("the core network user plane anchor is further configured to update a corresponding PDP context according to the update PDP context request sent by the core network control plane."). Petitioners have failed to explain that their proposed combination includes these required elements of each challenged claim.

Petitioners admit that TR 23.809 V0.3.0 teaches that the GGSN "marks the PDP context as invalid" when the GGSN receives an error indication from the RNC: "However, in the 'SGSN controlled bearer optimisation approach' in TR 23.809 [V0.3.0], '[i]f RNC sends error indication then GGSN marks the PDP context as invalid.'" Petition, p. 28; *see also* Petition, pp. 21, 30, 34, 36. As such, it is uncontested that the base reference (TR 23.809) cannot teach that that the core network user plane anchor performs the claimed updating step on its own. ***It cannot, it has marked its version of the PDP context as invalid which would make it unusable for any update.*** *See, e.g.* TS 23.060 V7.1.0, Exhibit NSN339-1008, § 13.8 ("Recovery and Restoration Procedures: The recovery and restoration procedures are intended to maintain service if inconsistencies in databases occur

and at lost or invalid database information. 'Invalid' in this context means that the database entry cannot be regarded as reliable.") (emphasis added).

Recognizing this deficiency in their proposed combination, Petitioners allege that the Ericsson Submission describes this element. However, the portion of the Ericsson Submission cited by Petitioners refers to operation of the SGSN, ***which is not the core network user plane anchor***. As noted above, the parties agree that the "core network user plane anchor" term aligns with the GGSN. Petition at 40 (referring to the GGSN as the core network user plane anchor). It is immaterial if the SGSN preserves the PDP context since the claimed updating needs to be performed by the GGSN not the SGSN.

In fact, Petitioners fail to cite any evidence in the Ericsson Submission that would change the operation of GGSN or make it possible for the GGSN to perform the claimed updating.[5] This hardly surprising as Petitioners' entire argument on

[5] Indeed, the only description in the entire Petition of the GGSN's treatment of the PDP context after receiving an error indication from the RNC in either of TR 23.809 V0.3.0 and the Ericsson Submission comes from TR 23.809 V0.3.0, which expressly states that the "GGSN marks the PDP context as invalid." *See* TR 23.809 V0.3.0 at ¶ 6.10.1.

the Ericsson Submission is only two sentences long with no supporting expert testimony. Petition at 41. The first of these sentences is a quote from ¶6.10.3 related to the operation of the SGSN and the second is a conclusory "application" of the Ericsson Submission to TR 23.809 V0.3.0, which makes little sense. Specifically, Petitioners assert the combined system includes the "GGSN sending the SGSN update PDP context." Petition at 41. However, the line from the Ericsson Submission that Petitioners cite just before ***expressly says that the SGSN itself preserves the PDP context*** not that is received from the GGSN. *Id.* As such, Petitioners conclusory "application" is just a *non-sequitur*.

Yet this non-sequitur is the entire argument that Petitioners provide for how or why a person of ordinary skill would apply the teaching of the Ericsson Submission to TR 23.809 V0.3.0. To the extent Petitioners' assume that a person of ordinary skill would have somehow further modified both references to meet the limitations of the claims, Petitioners fail to describe those additional changes or explain any rationale for making them. Accordingly, Petitioners have not satisfied their burden of establishing a *prima facie* case of obviousness that would permit institution of IPR. *See, e.g.* 37 C.F.R. §42.104(b)(4) (requiring that the petition "must specify where each element of the claim is found in the prior art patents or printed publications relied upon."); *CFMT, Inc. v. Yieldup Intern. Corp.*, 349 F.3d

1333, 1342 (Fed. Cir. 2003) ("obviousness requires a suggestion of all limitations in a claim") (citing *In re Royka*, 490 F.2d 981, 985 (CCPA 1974)).

Ultimately, neither of Petitioners' references describe that the GGSN preserves the PDP context when an error indication is received from the RNC and thus is capable of performing the claimed "updating." Petitioners have not provided any reason why a POSITA would have wanted to modify these references to provide a system in which the GGSN does preserve the PDP context. As such, even if the Ericsson Submission were combined with TR 23.890 V0.3.0, as set forth above, the system would still not practice the claims. Accordingly, Ground 1 cannot stand.

4. The Petition does not provide a "reason why" a POSITA would have been motivated to combine TR 23.809 V0.3.0 and the Ericsson Submission supported by "reasoned explanation"

Petitioners allege "it would have been obvious to combine TR 23.809 V0.3.0 and the Ericsson Submission at the time of the '339 Patent." Petition, p. 31. Yet, the Petition fails to provide any sufficient reason why a POSITA would have been motivated to make such a combination, and fails to provide a "reasoned explanation" that a POSITA would have considered the proposed combination at all. Instead of presenting any evidence that a POSITA would have been motivated to combine the references in the manner proposed, Petitioners rely on the false assumption that the Ericsson Submission was "purposefully written" to modify TR

23.809 V0.3.0. At best, Petitioners' and their expert's testimony improperly conflate ***combinability*** of the references with ***motivation to combine*** the references. *See, e.g.* IPR2016-01772, Paper 9, at 30 (denying institution where only combinability was alleged).

For obviousness grounds, the Board "consider[s] whether a POSITA would have been motivated to combine the prior art to achieve the claimed invention." *In re Warsaw Orthopedic, Inc.*, 832 F.3d 1327, 1333 (Fed. Cir. 2016) (internal quotation marks, brackets, and citation omitted); *see KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 418 (2007). A proper obviousness combination requires an explanation of "the reason why a PHOSITA would have been motivated to" perform the combination. *In re Nuvasive, Inc.*, 842 F.3d 1376 at 1384 (Fed. Cir. Dec. 7, 2016) (hereinafter "*Nuvasive*"). The Federal Circuit recently emphasized that such reasons to combine may not consist of mere "conclusory statements," and instead "must be supported by a reasoned explanation." *Nuvasive* at 1383; *see also Microsoft v. Enfish*, 662 Fed. Appx. 981, 989-990 (Fed. Cir. Nov. 30, 2016) (hereinafter "*Enfish*"). Simply stating a general reason to combine the references, such as "to obtain additional information," is insufficient because it "addresses neither the benefits that could have been obtained by combining the prior art references nor the POSITA's motivation to combine at the time of the invention." *Nuvasive* at 1384. The Court has also emphasized the criticality of a reason to

combine to a proposed obviousness combination, observing that even where the references to be combined "arguably disclose every limitation of the claim," the claim is not rendered obvious without "a sufficient motivation to combine" the references. *Enfish* at 990.

Petitioners' assumptions, even if taken at face value, amount to nothing more than alleged ***combinability*** of TR 23.890 V0.3.0 and the Ericsson Submission—not the required showing of ***a reason to combine***. Based on supposed similarity between the references, Petitioners' and their expert conclude that the proposed combination "is a simple substitution of one known error recovery method with another." Petition, p. 32; NSN339-1003, ¶ 132. Petitioners similarly allege that the "resulting combination is a predictable result of a routine engineering task, as the modification simply enables the SGSN to perform the same error recovery functions it performs for two tunnel connections," and that because there is a "limited number of network elements involved in this process. . . there is similarly a limited number of design choices to implement error recovery in One Tunnel connection." *Id.* Based on these unsupported assumptions, Petitioners conclude that "[t]herefore, a POSITA would be motivated to combine TR 23.809 with the various proposals submitted to the working group, including the Ericsson Submission." *Id.*

Petitioners' purported reasons to combine amount to mere "conclusory statements" unsupported by the "reasoned explanation" required for a proper showing of a motivation to combine references. *See id*. at 10. Petitioners do not address any "benefits that could have been obtained by" performing the proposed combination, or that any such benefits would have been recognized by a POSITA at the time of the '339 Patent. *See id.* at 13. Petitioners' mere allegation that the references are similar, even if proved correct, is insufficient to show that a POSITA would have been motivated to combine the Ericsson Submission with TR 23.809 V0.3.0 in the manner proposed by the Petition.

Likewise, in alleging that "it would have been obvious to modify TR 23.809 to incorporate the recovery procedure disclosed in the Ericsson Submission . . . as this is simply a conventional error recovery procedure," Petitioners fail to explain what deficiencies in TR 23.809 V0.3.0 would have been remedied, or any improvements that would result, from the proposed combination, that are not already present in the system described by the non-adopted Ericsson Submission. Petition at pp. 31-32; 35-37. Instead, Petitioners proffer only the conclusory

assertion that "Ericsson realized its solution would apply,"[6] without saying what benefits that solution would provide in the proposed system, much less that a POSITA at the time of the '339 Patent would have recognized these benefits. Petition at p. 36.

Indeed, without naming the improvements Petitioners assume to result from their proposed combination, there is no way to determine if those improvements would in fact be achieved in their proposed combination. This effectively flips the burdens, leaving the Board and Patent Owner to blindly guess at Petitioners' combination, forced to rebut arguments and evidence that are nowhere found in the record. *See, e.g.*, IPR2016-00348, Paper 10 at 7 (PTAB, June 28, 2016) (hereinafter "*Sanofi-Aventis*") (indicating that the Board would "not attempt to fit evidence together into a coherent explanation that supports an argument demonstrating a reasonable likelihood that Petitioner would prevail."). Yet again,

[6] Here again, Petitioners misleading conflate TR 23.809 V0.2.0 and TR 23.809 V0.3.0. The Ericsson Submission was directed to TR 23.809 V0.2.0—not TR 23.809 V0.3.0 that Petitioners now try to combine it with, and TR 23.809 V0.3.0 did not exist at the time of the Ericsson Submission.

Petitioners' alleged combination is either unsupported by the evidence, or supported only by the '339 Patent itself, which constitutes impermissible hindsight.

Moreover, Petitioners have failed to explain that a POSITA would have incorporated selected features of the Ericsson Submission and TR 23.809 V0.3.0 into the proposed error recovery procedure when Petitioners have not even explained that the selected features are directed to error recovery at all. For example, both the Ericsson Submission and TR 23.809 V0.3.0 merely indicate that the "SGSN ***may*** initiate the RAB Assignment produced in order to re-establish the RAB," after the SGSN receives an Error Indication from the GGSN. In other words, Petitioners have failed to show any motivation for using an Error Indication "to recover a downlink data tunnel," as claimed, because both references teach the SGSN determines whether to re-establish the RAB based on other parameters. Petitioners attempt to modify and repurpose aspects of the Ericsson Submission and TR 23.809 V0.3.0 that are contrary to the plain description, and without any reasoning why a POSITA would modify the references in the manner proposed.

For these additional reasons, Ground 1 of the Petition should be denied as to all challenged claims.

B. Ground 2 – The Petition fails to establish a reasonable likelihood that at least one claim is obvious over TR 23.873 V4.0.0 in view of the Ericsson Submission

As discussed above, Petitioners have not met their burden of establishing that the Ericsson Submission is a prior art printed publication. However, even if the Ericsson Submission were considered a prior art printed publication, Ground 2 fails. Petitioners have not explained why one of skill in the art would have modified TR 23.873 in a way that increases loading on the cSGSN contrary to the express teachings of TR 23.873, and have not provided any evidence that a POSITA would have been motivated to combine the Ericsson Submission with TR 23.873 in the manner proposed, aside from the '339 Patent itself. Ground 2 should be denied as to all challenged claims.

1. Overview of TR 23.873 V4.0.0

TR 23.873 V4.0.0 was intended "to capture the results of a feasibility study on how to introduce a clear separation of transport and control functions in the PS CN domain." TR 23.873, § 1. The document describes "a few alternatives," including "Alternative 2: One Tunnel Architecture" that is relied on by Petitioners. TR 23.873, § 4; § 7.

The "One Tunnel Approach separates transport and control functionality of the SGSN." TR 23.873, § 7. TR 23.873 thus describes that certain functions of the SGSN are divided between two different entities—an SGSN controller (cSGSN)

performing all control functions of an SGSN and an enhanced GGSN (xGGSN) which performs SGSN and GGSN transport functionality. *Id.*

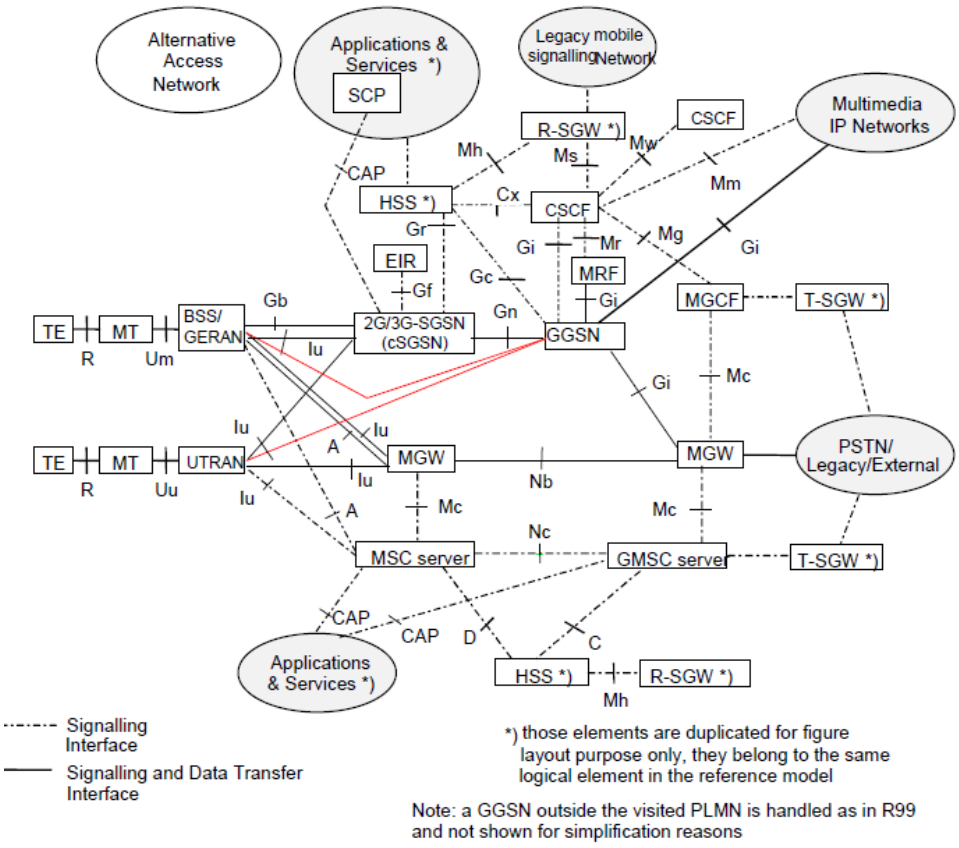

Figure 33: Evolved logical architecture for the One Tunnel Approach

TR 23.873, FIG. 33

Notably, no section of TR 23.873 relied upon by Petitioners addresses responding to an "error indication of a data tunnel," as set forth in the claims of the '339 Patent. Rather, all of the disclosure related to handling errors is pulled from the Ericsson Submission addressed above.

2. The Combination of TR 23.873 and the Ericsson Submission do not disclose the claimed "updating"

As with Ground 1, the combination of TR 23.873 and the Ericsson Submission fails to disclose the "updating" step of the claims. This is the case because the Ericsson Submission—upon which Petitioners rely for the error handling aspects of claims—provides a wholly different procedure. Because the claimed procedure is not present in the prior art, Petitioners have been forced to piece together elements from two different procedures to arrive at a system that makes little sense and thus cannot teach the claims.

First, as noted above, Petitioners do not rely on any error handling procedure in TR 23.873. Rather, Figure 43 and 44 (upon which Petitioners rely) are directed to normal service request initiation. NSN339-1007 at 74-76. This fact does not appear to be in dispute, as Petitioners explain that these figures "disclose conventional procedures to re-establish a tunnel for an active PDP context." Petition at 64. In other words, prior to running the procedures shown in Figures 43 and 44, there is no active tunnel and the system wants to create one. Put another way, these figures show starting from the beginning. As the '339 Patent explains, however, if an already established tunnel has an error, it is inefficient to shut everything down and re-establish the tunnel from the beginning. NSN339-1001 at 2:12-15. A recovery is preferred. In the claims of the '339 Patent, that recovery

involves updating by the core network user plane anchor a corresponding PDP according to an update PDP request. In other words, the claimed technique includes the GGSN updating its local PDP context that it has not marked as invalid/unusable.

Paragraph 6.10.1 of the Ericsson Submission (upon which Petitioners rely) involves a fundamentally different procedure in which the SGSN alone preserves its PDP context. NSN339-1006 at 7 ("The SGSN should preserve the associated PDP context."). This SGSN's preservation of its PDP context is unrelated to the GGSN's behavior regarding its PDP context. In fact, Petitioners have not alleged that anything in the Ericsson Submission suggests that the Ericsson Submission changes the prior art behavior of the GGSN marking its PDP context as invalid and unusable, and in turn, unable to be updated.

For this reason, the Ericsson Submission never describes the claimed updating by the GGSN. Given the absence, Petitioners revert back to the standard initiation sequence from Figures 43 and 44 and cite to the conventional steps of reestablishing the tunnel from scratch. Petition at 64-65. The same steps that are rendered wholly unnecessary by the Ericsson Submission. Put another way, in order to reconstruct the claim features, Petitioners perform the Ericsson Submission error handling procedure but recognize that it has not improved the conventional GGSN behavior and revert back to the normal rebooting process.

Petitioners cannot have it both ways. Moreover, Petitioners provide no rationale or reason why a person of ordinary skill in the art would chose to implement the error handling procedure of the Ericsson Submission which preserves the PDP context at the SGSN, which does not solve all the problems or provide the same benefits addressed by the claimed technique. As described below, Petitioners simply declare that it is an error handling option without providing any reason or rationale.

If, as Petitioners propose, the "procedure in the Ericsson Submission [is applied] to the One Tunnel approach in TR 23.873," the resulting system would not perform the claimed updating by the core network user plane anchor. As such, this element would be missing from the proposed combination, and thus Ground 2 cannot invalidate the claims.

3. Petitioners have not provided a "reason why" a POSITA would have modified TR 23.873 in a way that contradicts the stated purpose of the "One Tunnel Architecture" of TR 23.873

Petitioners allege that "it would have been obvious to a POSITA to modify TR 23.873 in view of the Ericsson Submission such that the core network user plane anchor (xGGSN) notifies or instructs the core network control plan (cSGSN) to recover a downlink data tunnel." Petition, pp. 57-58. In doing so, Petitioners also ignore the fundamental principle of "Alternative 2: One Tunnel Approach" set forth by TR 23.873 V4.0.0 to "gain[] an improved efficiency ***by bypassing the SGSN***." TR 23.873 V4.0.0 (emphasis added). Petitioners have not provided any

evidence that a POSITA would have recognized that the cSGSN could be used to recover a downlink data tunnel, for example, without destroying this specific advantage that the One Tunnel Architecture of TR 23.873 was created to provide. MPEP § 2143.01(V) ("If proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification"); *In re Gordon,* 733 F.2d 900 (Fed. Cir. 1984). Instead, Petitioners rely on the '339 Patent as a roadmap, without providing any reasoned explanation why the proposed combination would have been obvious at the time leading up to the '339 Patent. Accordingly, Petitioners have failed to establish a *prima facie* case of obviousness. Ground 2 should be denied as to all challenged claims.

TR 23.873 V4.0.0 describes multiple alternative system architectures that provide "a clear separation of transport and control functions in the PS CN domain, with minimum impacts on the reference logical architecture for R'00." TR 23.873 V4.0.0, p. 6. In "Alternative 2: One Tunnel Approach"—the architecture relied on by Petitioners in their proposed combination—TR 23.873 states the objective of achieving "an improved efficiency by bypassing the SGSN":

> The One Tunnel Approach separates transport and control functionality of the SGSN in applicable scenarios. The result of this separation are an SGSN controller (cSGSN) performing all control functions of an

> SGSN and an enhanced GGSN (xGGSN) which performs SGSN and GGSN transport functionality. This enables a direct GTP tunnel between the Radio Access Network and the xGGSN. ***The One Tunnel Approach gains an improved efficiency by bypassing the SGSN.***

TR 23.873, p. 54. In other words, the stated purpose of the "xGGSN" in the system described by TR 23.873 is to "perform[] SGSN and GGSN transport functionality," which thus "gains an improved efficiency by bypassing the SGSN." *Id.* Petitioners admitted that the one tunnel approach was premised on improving efficiency over two tunnel approaches by minimizing consumption of SGSN resources: "[C]ertain inefficiencies of this two tunnel approach were admittedly known, including its consumption of SGSN resources." Petition, p. 5. "Consequently, . . . a so-called One Tunnel connection was considered . . . which allows data packets to bypass the SGSN." Petition, p. 5. In other words, there is no disagreement between the parties that, prior to the '339 Patent, one tunnel connections were viewed as improving efficiency specifically because one tunnel connections allowed "data packets to bypass the SGSN." *Id.* Moreover, Petitioners admit that, at the time leading up to the '339 Patent, One Tunnel architecture was intended to combat significantly increased data traffic by improving data transmission performance of the 3GPP system and reducing the

costs of network investment by the operator." Petition, p. 18 (citing the '339 Patent, 1:30-33).

Yet, Petitioners' proposed combination is contrary to these teachings of TR 23.839, because Petitioners' proposed combination demands an ***increased load on the cSGSN***. Petitioners have not provided any evidence that a POSITA would have been motivated to increase the load on the cSGSN when TR 23.839 expressly describes the opposite. Likewise, Petitioners have not explained that a POSITA would have recognized at the time of the '339 Patent that such a modification would even have been feasible without rendering the TR 23.873 system unsatisfactory for its intended purpose of "improved efficiency," or otherwise hindering its functionality. MPEP § 2143.01(V) ("If proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification"); *In re Gordon*, 733 F.2d 900 (Fed. Cir. 1984).

Petitioners assumption that a POSITA would have modified TR 23.873 such that the load on the cSGSN is increased only highlights Petitioners' impermissible use of the '339 Patent as a roadmap. Petitioners' proposed combination is unsupported by the evidence, or supported only by the '339 Patent itself, which constitutes impermissible hindsight. Ground 2 should be denied as to all challenged claims for this reason.

4. Petitioners have not provided a "reason why" a POSITA would have been motivated to combine TR 23.873 with the Ericsson Submission in the manner proposed

Petitioners argue a "POSITA would have been motivated to combine TR 23.873 and the Ericsson Submission." Petition, p. 53. However, the Petition fails to provide any sufficient reason why a POSITA would have been motivated to combine the Ericsson Submission with TR 23.873 in the manner proposed.

As discussed above, for obviousness grounds, the Board "consider[s] whether a POSITA would have been motivated to combine the prior art to achieve the claimed invention." *In re Warsaw Orthopedic, Inc.*, 832 F.3d 1327, 1333 (Fed. Cir. 2016) (internal quotation marks, brackets, and citation omitted); *see KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 418 (2007). A proper obviousness combination requires an explanation of "the reason why a PHOSITA would have been motivated to" perform the combination. *Nuvasive* at 1384. The Federal Circuit recently emphasized that such reasons to combine may not consist of mere "conclusory statements," and instead "must be supported by a reasoned explanation." *Nuvasive* at 1383; *see also Enfish* at 989-990. Simply stating a general reason to combine the references, such as "to obtain additional information," is insufficient because it "addresses neither the benefits that could have been obtained by combining the prior art references nor the POSITA's motivation to combine at the time of the invention." *Nuvasive* at 1385. The Court

has also emphasized the criticality of a reason to combine to a proposed obviousness combination, observing that even where the references to be combined "arguably disclose every limitation of the claim," the claim is not rendered obvious without "a sufficient motivation to combine" the references. *Enfish* at 990.

Petitioners' alleged reasons to combine the Ericsson Submission with TR 23.873 suffer from the same defects recently emphasized by the Federal Circuit. The Petition includes a list of conclusory statements that each fail to provide any evidence as to why a POSITA would have been motivated to combine the references in the obscure manner proposed. For example, Petitioners rely on conclusory assumptions that a "POSITA would have been motivated to combine TR 23.873 and the Ericsson submission "because both documents relate to the same 3GPP working group and involve development of One Tunnel," "the Ericsson Submission presented a known solution to the issue of error recovery," and "applying the solution of the Ericsson Submission to TR 23.873 is a simple substitution of a known error recovery method." Petition, pp. 53-54.

As in the *Nuvasive* case discussed above, Petitioners here fail to provide any evidence that a POSITA, at the time of the '339 Patent, would have had a reason to combine the references. In essence, the argument proffered by Petitioners amounts merely to an assertion that operation according to the Ericsson Submission was possible instead of the teachings of TR 23.873. However, such assertions do not

address "the benefits that could have been obtained" by combining the references in the proposed manner, or provide any evidence that a POSITA at the time of the '339 Patent would have even recognized that selected features of the Ericsson Submission could be combined with TR 23.873 in the manner proposed. In other words, Petitioners' assumptions that the references may be combinable do not establish that a POSITA would have been motivated to combine the references, much less combine the references in the obscure manner proposed in the Petition.

Petitioners' reliance on these unsupported statements is not an acceptable substitute for actual evidence. The Board has repeatedly cautioned that conclusory, unsupported statements, including by an expert, are entitled to little or no weight. *Tate & Lyle Americas LLC v. Cargill, Inc*., IPR2014-00084, Paper 12 at 17-18 (PTAB April 1, 2014) ("We give such conclusory, unsupported assertions by an expert little to no weight." and "Petitioner has failed to offer any persuasive evidence in support of its inherency argument."); *Kamada, ITD. V. Grigols Therapeutics Inc*., IPR2014-00899, Paper 43 at 10 (PTAB December 15, 2015) ("Under our rules, unsupported expert testimony may be given little to no weight."). This requirement comes directly from the rules, which states: "Expert testimony that does not disclose the underlying facts or data on which the opinion is based is entitled to little or no weight." 37 C.F.R. §42.65(a) (emphasis added). Providing support for expert opinions has long been required at the Federal Circuit

as well. *Ashland Oil, Inc. v. Delta Resins & Refractories, Inc.*, 776 F.2d 281, 294 (Fed. Cir. 1985) (finding a lack of objective support for expert opinion "may render the testimony of little probative value in a validity determination"); *In re Am. Acad. of Sci. Tech Ctr.*, 367 F.3d 1359, 1368 (Fed. Cir. 2004) ("the Board is entitled to weigh the declarations and conclude that the lack of factual corroboration warrants discounting the opinions expressed in the declarations").

Furthermore, Petitioners appear to mistake "combinability" of the references with the required "motivation to combine." The Federal Circuit has held that statements regarding the combinability of references, such as Petitioners' statements that the references "relate to the same 3GPP working group," "apply to a One Tunnel connection," and "was purposefully written to revise the error recovery mechanism of the similar One Tunnel connection in TR 23.809," were insufficient, without more, to show that a POSITA would have been motivated to combine the references. *See Enfish* at 990. Indeed, Petitioners' conclusory statements here mirror the allegations the Federal Circuit found to be insufficient in the *Enfish* decision:

> Although [the references] arguably disclose every limitation . . . [Petitioner] gave no reason for the motivation of a person of ordinary skill to combine [the references] except that the references were directed to the same art or same techniques, *viz.*, that they 'discuss[ed]

> information search and retrieval using computer databases' or 'describe[d] storing data in databases, allowing users to query the data, and using indexes to facilitate those queries.' . . . The Board did not err in finding those assertions inadequate.

Enfish at 990.

Likewise, based on this supposed similarity between the references, and the uncorroborated assumption that only the RNC and GGSN are "relevant to the One Tunnel connection," Petitioners concluded that "it would have been obvious to send a notification from the GGSN to the SGSN (or from the xGGSN to the cSGSN . . .)," and that "[o]nce the SGSN is notified of the error, it would have been obvious to a POSITA to use conventional error restoration procedures." Petition, p. 54. Regardless of whether such a similarity between TR 23.873 and the Ericsson Submission exists, these allegations fail to provide any "reason why" a POSITA would have been motivated to perform the combination. *See Nuvasive* at 1383; *Enfish* at 990.

Furthermore, Petitioners fail to explain any deficiencies in the system of TR 23.873 that would be remedied, or any improvements that would result, from combination with the selected features of the Ericsson Submission. Indeed, Petitioners offer only the conclusory assertion that "the modification simply enables the SGSN to perform the same error recovery functions it performs for two

tunnel connections." Petition, p. 55 (citing NSN339-1003, ¶ 177). Yet again, Petitioners' alleged reason to combine is thus either unsupported by the evidence, or supported only by the '339 Patent itself, which constitutes impermissible hindsight. For this additional reason, Ground 2 of the Petition should be denied.

VI. CONCLUSION

For the foregoing reasons, Patent Owner respectfully requests that the Board deny institution on Grounds 1 and 2 of the Petition on the merits, and thus decline to institute *inter partes* review of any claim of the '339 Patent.

Respectfully submitted,

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CERTIFICATION UNDER 37 CFR § 42.24(d)

Under the provisions of 37 CFR § 42.24(d), the undersigned hereby certifies that the word count for the foregoing Patent Owner's Preliminary Response to Petition totals 9255, which is less than the 14,000 allowed under 37 CFR § 42.24(b)(1).

Respectfully submitted,

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CERTIFICATE OF SERVICE

Pursuant to 37 CFR § 42.6(e)(4), the undersigned certifies that on April 27, 2017, a complete and entire copy of this Patent Owner's Preliminary Response and exhibits were provided via email, to the Petitioners by serving the email correspondence address of record as follows:

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