UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

CHARTER COMMUNICATIONS, INC.,
Petitioner,

v.

IARNACH TECHNOLOGIES LTD.,
Patent Owner

Case IPR2025-00473
Patent 9,674,035

PATENT OWNER'S PRELIMINARY RESPONSE UNDER 37 C.F.R. § 42.107 TO PETITION FOR *INTER PARTES* REVIEW OF U.S. PATENT NO. 9,674,035

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EXHIBIT LIST

Exhibit	Description
EX2001	Second Amended Complaint for Patent Infringement, *Iarnach Technologies Ltd. v. Charter Communications, Inc. et al.*, No. 2:24-cv-00230 (E.D. Tex.)
EX2002	Defendants' Preliminary Invalidity and Ineligibility Contentions, *Iarnach Technologies Ltd. v. Charter Communications, Inc. et al.*, No. 2:24-cv-00230 (E.D. Tex. Sept. 5, 2024)
EX2003	United States District Courts — National Judicial Caseload Profile through Dec. 2024, https://www.uscourts.gov/sites/default/files/2025-02/fcms_na_distprofile1231.2024.pdf (accessed April 23, 2025).
EX2004	Iarnach's P.R. 3-1 Disclosure of Asserted Claims and Infringement Contentions and P.R. 3-2 Document Production, *Iarnach Technologies Ltd. v. Charter Communications, Inc. et al.*, No. 2:24-cv-00230 (E.D. Tex. July 12, 2024)
EX2005	Memorandum Opinion and Order Denying Motion to Transfer Venue, *Iarnach Technologies Ltd. v. Charter Communications, Inc. et al.*, No. 2:24-cv-00230 (E.D. Tex. Feb. 14, 2025)
EX2006	Order Denying Motion to Dismiss for Lack of Patent Eligibility Under 35 U.S.C. § 101, *Iarnach Technologies Ltd. v. Charter Communications, Inc. et al.*, No. 2:24-cv-00230 (E.D. Tex. March 26, 2025)
EX2007	Defendant's Disclosure of Proposed Claim Terms for Construction, *Iarnach Technologies Ltd. v. Charter Communications, Inc. et al.*, No. 2:24-cv-00230 (E.D. Tex. April 7, 2025)
EX2008	Plaintiff Iarnach Technologies Ltd.'s Proposed Claim Terms for Construction (P.R. 4-1), *Iarnach Technologies Ltd. v. Charter Communications, Inc. et al.*, No. 2:24-cv-00230 (E.D. Tex. April 7, 2025)
EX2009	Lex Machina Filter Criteria Showing Decisions on Requests for Rehearing, available from https://law.lexmachina.com (accessed April 24, 2025)
EX2010	Lex Machina Underlying Data Showing Decisions on Requests for Rehearing, available from https://law.lexmachina.com (accessed April 24, 2025)

EX2011	While Tempting, PTAB Requests for Rehearing Face Long Odds, https://www.foley.com/insights/publications/2019/10/ptab-requests-rehearing-face-long-odds/ (accessed April 22, 2025)
EX2012	Defendants' Preliminary Claim Constructions and Identification of Extrinsic Evidence, *Iarnach Technologies Ltd. v. Charter Communications, Inc. et al.*, No. 2:24-cv-00230 (E.D. Tex. April 28, 2025)
EX2013	Iarnach Technologies Ltd.'s Local Patent Rule 4-2 Statement, *Iarnach Technologies Ltd. v. Charter Communications, Inc. et al.*, No. 2:24-cv-00230 (E.D. Tex. April 28, 2025)

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I. Introduction

Patent Owner Iarnach Technologies Ltd. ("Iarnach" or "Patent Owner") respectfully requests that the USPTO deny Charter Communications, Inc.'s ("Charter" or "Petitioner") Petition to institute *inter partes* review of U.S. Patent No. 9,674,035 ("the '035 Patent") because Charter has not shown a reasonable likelihood of prevailing on its challenge to any of claims 1-32 (the "Challenged Claims").

First, Petitioner's failure to follow USPTO rules regarding claim construction is—by itself—sufficient reason to deny the Petition. Petitioner has taken irreconcilable claim construction positions between the parallel District Court proceeding and this IPR. As discussed below in Section V, Petitioner should not be rewarded for engaging in gamesmanship by seeking one set of constructions for purposes of infringement in the District Court and a conflicting set of constructions for purposes of validity in this proceeding.

Furthermore, the Petition grounds fail to present a reasonable likelihood of invalidating any challenged claim. Petitioner challenges the independent claims of the '035 Patent under only Grounds 1 and 3, and each Ground fails to teach or render obvious multiple limitations of the challenged claims, thus falling short of the institution standard. *See* Section VI. Therefore, for the reasons discussed below, the Petition should be denied.

II. Background

A. The ’035 Patent Invention

The ’035 Patent teaches “[t]echniques for updating configuration of an Optical Network Unit (ONU) in an Ethernet Passive Optical Network (EPON),” with a focus on EPONs used in “DPoE (DOCSIS Provisioning over EPON).” EX1001 (’035 Patent) at Abstract, 1:19-49.

“[EPON] is an optical network architecture…used to provide services from a central office or headend to multiple customer premises.” *Id*. at 1:28-32. “Data Over Cable Service Interface Specification (DOCSIS) is a telecommunications standard that permits the addition of high-speed data transfer to an existing Cable TV (CATV) system.” *Id*. at 1:22-25. “DPoE (DOCSIS Provisioning over EPON) uses EPON and a DOCSIS Mediation Layer (DML) solution to provide the translation between the EPON and the DOCSIS back-office systems for provisioning of DOCSIS services.” *Id.* at 1:38-41. In short, DPoE allows network operators to utilize higher speed EPON optical networks to provide cable data services without replacing existing DOCSIS back-office systems and techniques.

Providing a hybrid approach (DPoE) combining EPON and DOCSIS created several challenges that were not addressed in the prior art. One of those challenges was “updating configuration of an Optical Network Unit (ONU) in an Ethernet Passive Optical Network (EPON),” and more specifically to update a configuration

file used for operation of an ONU wherein the ONU is already configured with an existing configuration file. *See, e.g., id.* at 1:53-2:12, 9:62-63, Figs. 7-8. The '035 Patent teaches several techniques which enable updating a configuration file for an ONU in the claimed manner.

B. Petitioner's References

1. Tsuge [EX1006]

U.S. Patent No. 8,160,448 to Tsuge et al. ("Tsuge") relates to "a PON system which can be easily installed by a communication carrier in which a CMTS [Cable Management Termination System] and a CM [Cable Modem] have already been installed [] without largely changing peripheral apparatuses [] and without largely changing a communication system [] from a PON standard, and which can make management similar to that of the CMTS and CM." EX1006 (Tsuge) at 4:12-21. To that end, the OLT "transmits and receives control signals of the same format as that of apparatus control signals of a CMTS and a CM." *Id.* at 4:23-26. "The OLT processes the received CMTS apparatus control signal," and "converts the CM apparatus control signal [] into an ONU apparatus control signal which is used in the PON interval and transmits [it] towards the ONU." *Id.* at 4:29-37.

Tsuge repeatedly emphasizes that its teachings are directed to dealing with "connection of a new ONU," and not updating configuration of a previously configured ONU. *Id.* at Abstract ("When **connection of a new ONU** is detected by

an ONU apparatus control signal…" (emphasis added)). This is further demonstrated by the fact that the disclosure refers to its setting information as "initial setting information." *Id*. at 3:29-31 ("a file name of **initial setting information** which should be received from the TFTP server" (emphasis added)), 4:46-49 ("the OLT receives the **initial setting information** of the CM…and makes **initial setting** corresponding to its contents to the ONU" (emphasis added)), 8:58-59 ("The CM setting information management server 263 makes an **initial setting of the CM 202 and ONU 102**" (emphasis added)).

2. Noel [EX1008]

U.S. Patent Application Publication No. 2008/0253771 to Noel et al. ("Noel") relates to bulk configuring ONTs in a passive optical network. Noel teaches that "currently, the Independent Operating Company (IOC) market does not have an efficient method for configuring ONTs in a network." EX1008 (Noel) at [0003]. Noel's disclosure purportedly "allows a network operator to change services on a large group of ONTs in a network at one time through the use of profiles." *Id.* Noel addresses a "profile defining internode communications" and that profile "is associated with at least one ONT." *Id.* at [0004]. "A configuration for the at least one ONT is generated based on the at least one profile associated with the at least one ONT, and is forwarded to at least one of the ONTs in response to a request from the at least one ONT." *Id.*

Noel is focused on optical network technology. *See, e.g.,* EX1008 (Noel) Title ("METHOD AND APPARATUS FOR CONFIGURING OPTICAL NETWORK TERMINALS (ONT) IN A NETWORK"). Noel does not address anything related to DPoE or virtual cable modems. At best, Noel mentions Ethernet point-to-multipoint (*i.e.* EPON) as one of many possible PON technologies and cable modems in the context of a legacy stand-alone device/box located in someone's home. EX1008 (Noel) [0023]. However, Noel does not address (and has little or no relevance to) DPoE and the interaction between EPON and DOCSIS networks.

3. McKinnon [EX1007]

U.S. Patent No. 7,848,234 to McKinnon et al. ("McKinnon") relates to "allocating bandwidth used to convey data of competing users across a shared communications medium of a Carrier Network." EX1007 (McKinnon) at 1:20-22. "Users are prioritized based on one or more various prioritization policies, including the prioritization of users based upon fairness considerations, such as user throughput during a particular time interval, user data loss for a particular time interval, bandwidth consumption for a particular time-of-day, an established minimum quality of service (QoS) standard, or combination thereof." *Id*. at 5:33-39.

McKinnon is focused on a "Data-Over-Cable (DOC) Network," and provides no more than a passing mention of "fiber optical cabling" in a "hybrid fiber coaxial" network with no attempt to address DPoE components and considerations necessary

for interaction between EPON, DOCSIS, or other network types. *See* EX1007 at 1:45-49. As the '035 Patent explains, a "hybrid fiber coaxial" (HFC) network (such as the one referred to by McKinnon) merely connects the "Back Office Network" to the "Home Network" in a traditional DOCSIS environment:

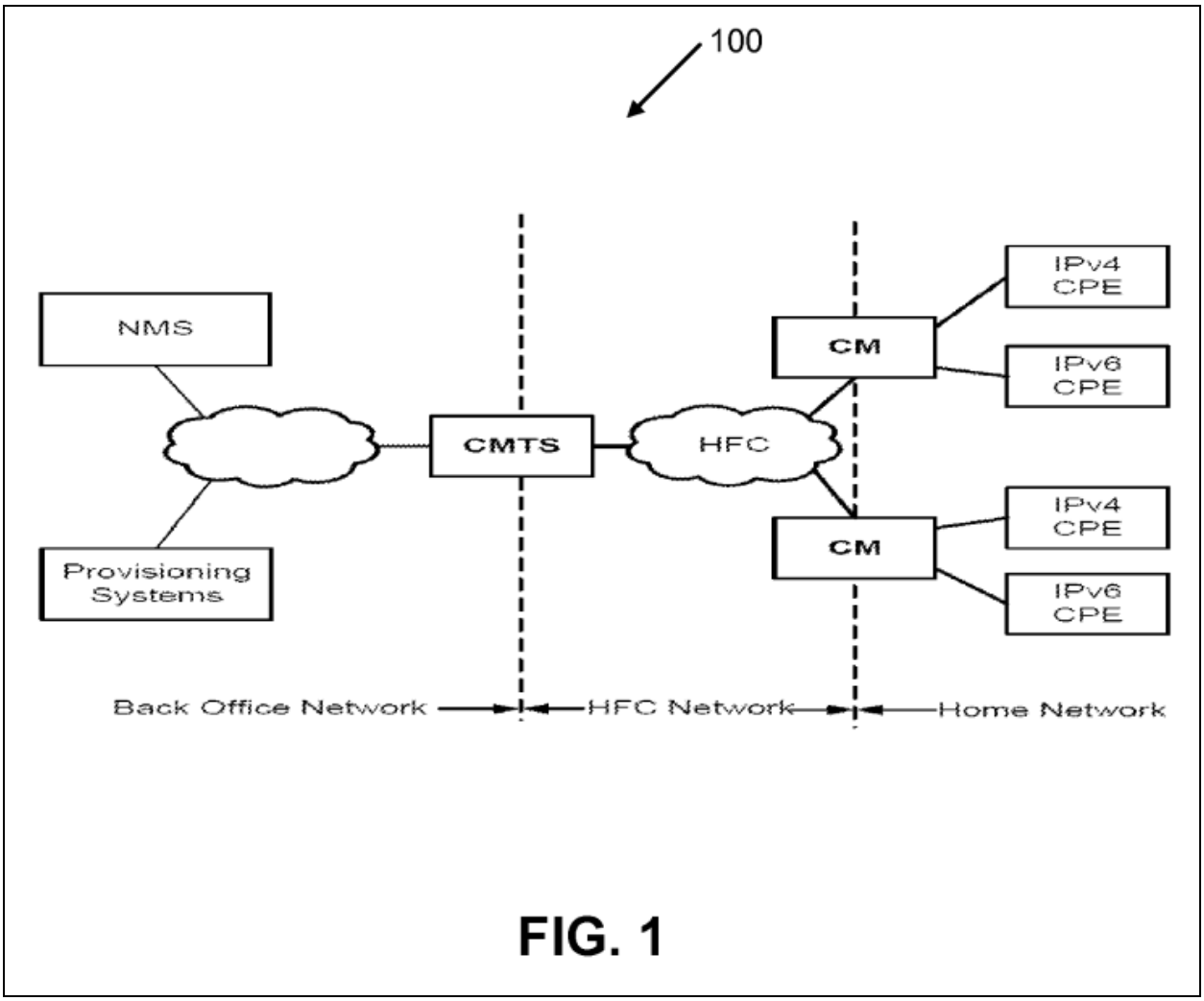


FIG. 1

EX1001 ('035 Patent) Figure 1; *see also* id. at 2:20-21, 2:47-3:6.

These traditional DOCSIS networks used the HFC for packet forwarding and lacked many of the other DPoE specific components that the '035 Patent addresses.

See, e.g., id. at Fig. 2, 3:7-18. Thus, Noel does not address (and has little relevance to) DPoE and the interaction between EPON and DOCSIS networks.

4. Bourgart [EX1010]

U.S. Patent No. 8,416,816 to Bourgart ("Bourgart") generally relates to reconfiguring an ONT device to use a new communications protocol. *See* EX1010 (Bourgart) at Abstract, 8:3-6. Rather than simply replacing an ONT and interrupting service when a new communication protocol is available, Bourgart teaches to reconfigure the ONT by sending it "reconfiguration data specific to the communication protocol" so that no service interruption occurs. *See id.* at 2:17-50. In particular, Bourgart Figure 2 teaches a downlink frame whose header 21 includes a reconfiguration channel 24 that includes a reconfiguration header 26 and a configuration download field 27. *Id.* at 8:43-9:17.

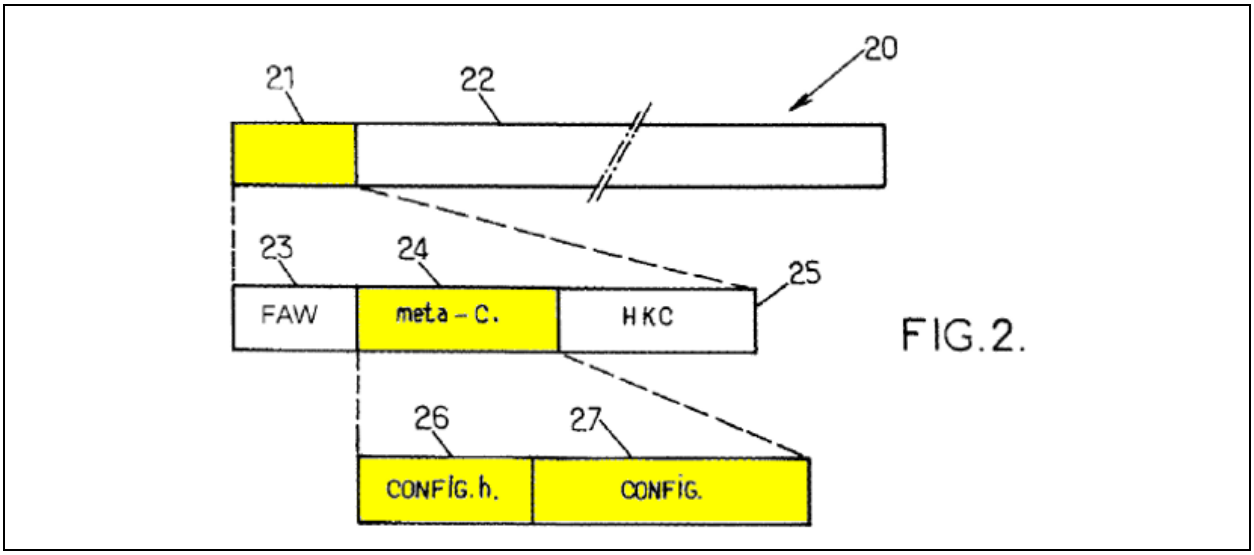
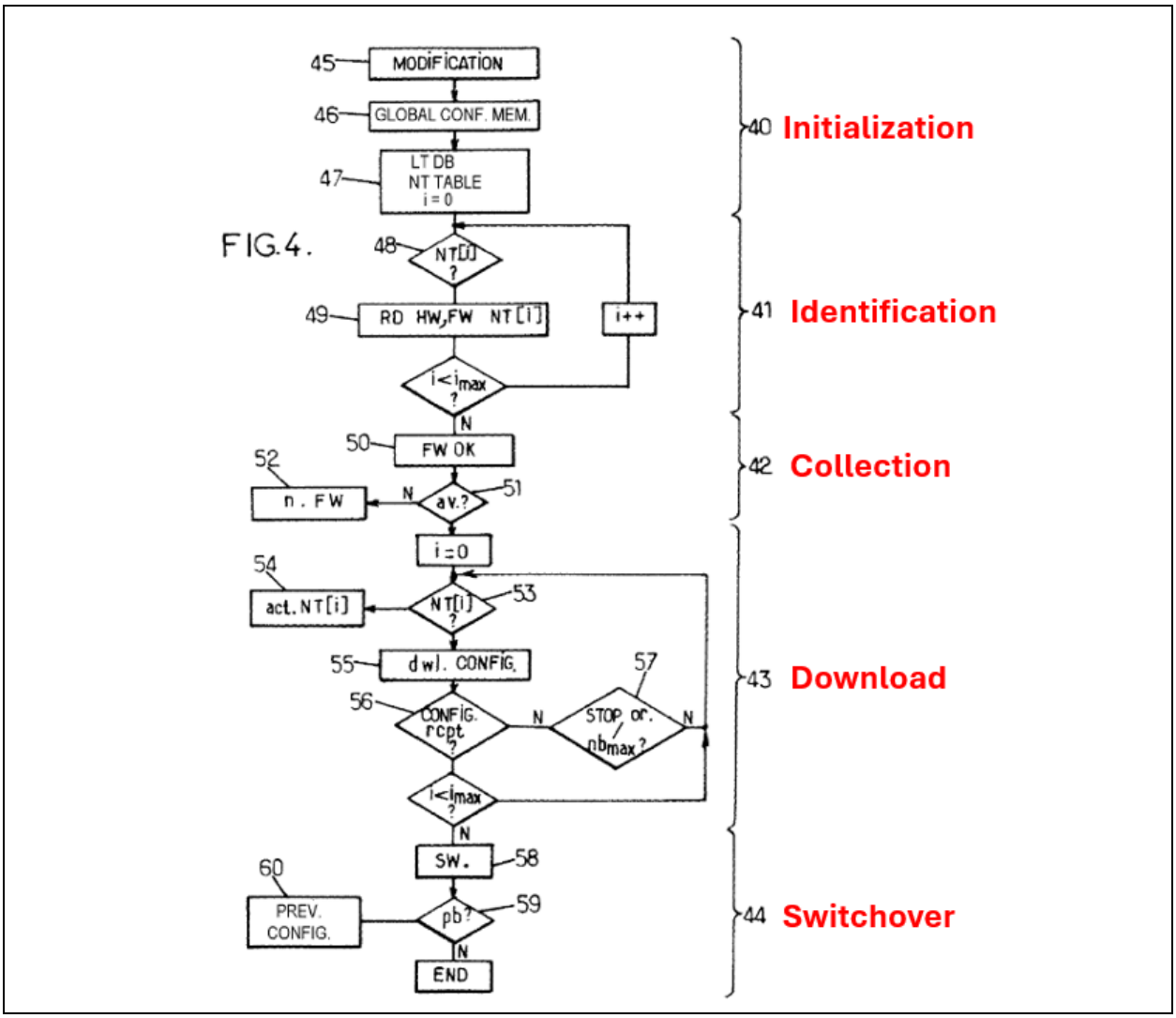


FIG. 2.

Id. at Fig. 2 (highlighting added).

Bourgart Figure 4 provides an algorithm for updating the MAC communication protocol used by an ONT. EX1010 (Bourgart) at 11:13-15. In initialization phase 40, the OLT receives an instruction to modify the MAC layer format. *Id.* at 11:16-17. Then, in identification phase 41, the OLT interrogates each of its ONTs to determine the existing hardware and firmware on those ONTs. *Id.* at 11:23-26. Next, in collection phase 42, the firmware corresponding to the desired configuration is collected and new firmware is developed. *Id.* at 11:28-35. Thereafter, in download phase 43, the firmware is downloaded using the downlink frame of Figure 2. *Id.* at 11:35-42. Finally, in switchover phase 44, the OLT instructs the ONTs to switch to the new MAC layer format. *Id.* at 11:48-51.



Id. at Fig. 4 (annotations added).

Bourgart is quite different from the '035 Patent and fails to teach or suggest many claim elements. For example, Bourgart generates an updated firmware after the OLT receives the instruction, so Bourgart cannot disclose the claimed "receiv[ing] a notification that an updated configuration file is available for the ONU." Additionally, Bourgart interrogates the ONUs to determine what hardware and firmware they use so that the OLT can identify whether the ONUs are capable

of supporting the new MAC layer formats, which is quite different from the claimed "determin[ing] changes between the current configuration file of the ONU and the updated configuration file to identify ONU resources to implement to the changes."

5. Barrow [EX1011]

US. Patent No. 7,519,690 to Barrow *et al.* ("Barrow") relates to "a method for dynamically updating configuration files" for an Integrated Service Hub ("ISH") in Sprint's ION network. EX1011 (Barrow) at 1:21-24. In Sprint's ION network, "[a]n ISH is a hardware component that links businesses or residential user devices such as telephones and computers to the broadband, wide area network through a plurality of user interfaces and at least one network interface." *Id.* at 2:18-21. In particular, the ISH "provid[es] telephony services over a broadband network." *Id.* at 2:34-35. The ISH includes a controller that "requires configuration files to set parameters for the various interfaces for the POTS ports, Ethernet ports, etc." Barrow at 2:55-57. However, according to Barrow, there was a problem with configuring conventional ISH controllers because "the necessary configuration [] files are not known until the ISH is installed in a customer premises, such as a private residence." *Id.* at 2:57-59. Moreover, Barrow explains there was "a need to quickly and efficiently update parameters in the configuration file from time to time." *Id.* at 2:66-67. Barrow's solution purportedly "provides a method for operating an integrated services hub so

that system parameters may be updated dynamically, i.e. without rebooting the system." *Id.* at 3:1-3.

Barrow's solution for dynamic updates for an ISH comprises "a configuration update module for receiving new configuration files. Upon system initialization, each module in the system registers with the update module and provides it with its check and update function calls. When a new configuration file is received by the update module, it stores the new configuration file and issues a check function call to each of the other modules. Each module checks the new configuration file against its current parameters, determines if any changes require it to reboot, and notifies the update module if reboot is needed…. If no reboot is needed, the update module issues an update function call to all modules, which then update their parameters to the new configuration file setting dynamically, i.e. without a reboot." EX1011 (Barrow) at 3:5-20. Figure 3 and the corresponding portion of the specification generally illustrate this method.

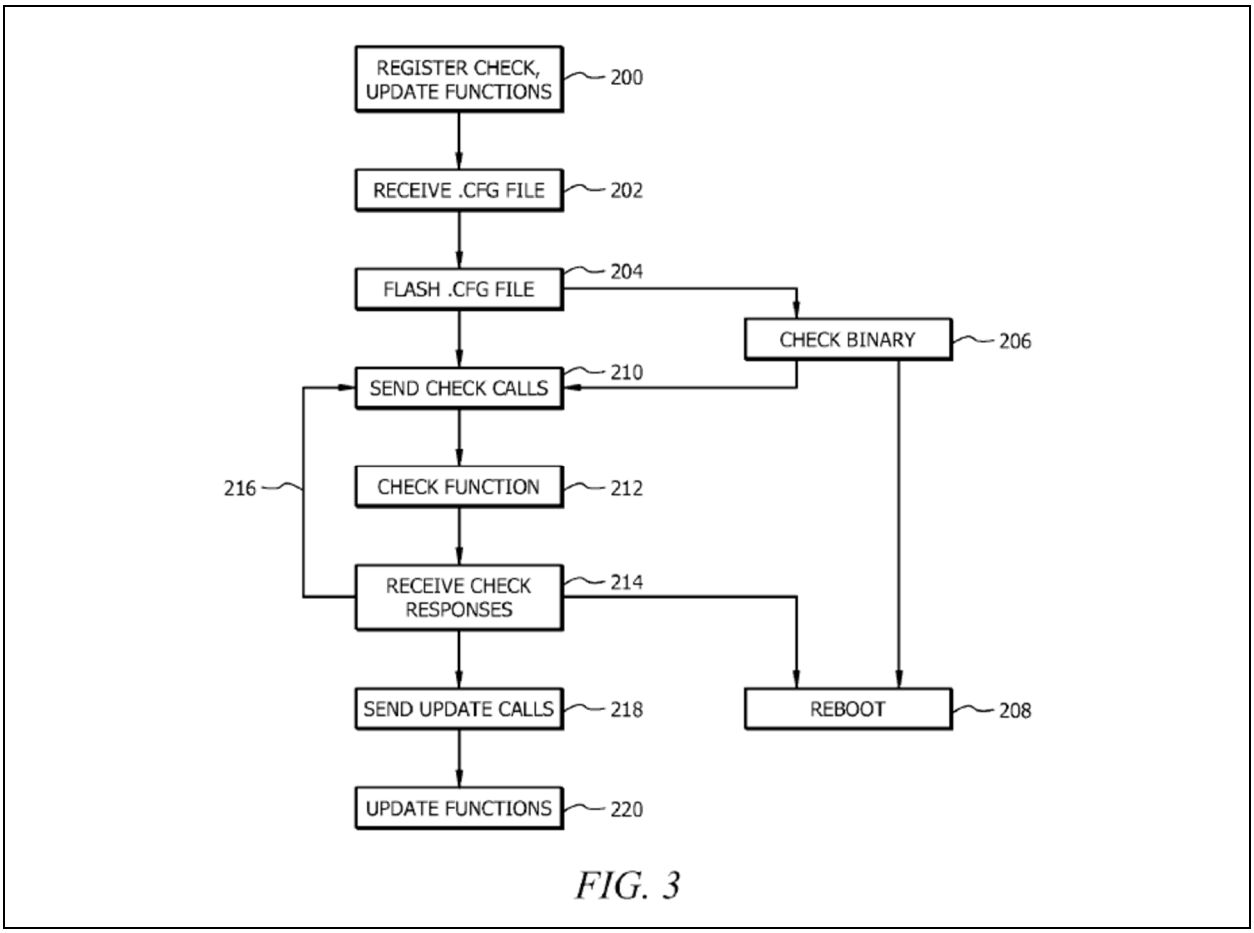


FIG. 3

Id. at Fig. 3, 8:10-9:22.

Barrow is very different from the '035 Patent because it does not relate at all to any optical network. Barrow never discusses the claimed "EPON" or functions performed by optical network components like an "ONU."

III. Legal Standards

An IPR should not be instituted unless Petitioner has shown a likelihood of success on the invalidity grounds *presented in the petition*. *See In re Magnum Oil Tools Int'l, Ltd.*, 829 F.3d 1364, 1381 (Fed. Cir. 2016) ("[T]he Board must base its

decision on arguments that were advanced by a party, and to which the opposing party was given a chance to respond.").

"In an IPR, the petitioner has the burden from the onset to show with particularity why the patent it challenges is unpatentable." *Harmonic Inc. v. Avid Tech.*, Inc., 815 F.3d 1356, 1363 (Fed. Cir. 2016) (petitions must identify "with particularity . . . the evidence that supports the grounds for the challenge to each claim"); 35 U.S.C. § 312(a)(3). This burden of persuasion never shifts to the patent owner. *See Dynamic Drinkware, LLC v. Nat'l Graphics, Inc.*, 800 F.3d 1375, 1378 (Fed. Cir. 2015).

"To satisfy its burden of proving obviousness, a petitioner cannot employ mere conclusory statements. The petitioner must instead articulate specific reasoning, based on evidence of record, to support the legal conclusion of obviousness." *In re Magnum Oil Tools Int'l*, 829 F.3d at 1380. The obviousness inquiry requires considering whether one of skill in the art "would have been motivated to combine the prior art to achieve the claimed invention." *In re NuVasive, Inc.*, 842 F.3d 1376, 1381 (Fed. Cir. 2016) (quoting *In re Warsaw Orthopedic, Inc.*, 832 F.3d 1327, 1333 (Fed. Cir. 2016)). "[T]he factual inquiry whether to combine references must be thorough and searching…" *Id.*

IV. Level of Ordinary Skill in the Art

Petitioner asserts that a person of ordinary skill in the art ("POSITA") "would have at least a B.S. in electrical engineering, computer science or comparable degree and 2-3 years experience relating to the design and/or maintenance of DOCSIS networks, portions of which include fiber optical elements." Pet. at 9. For purposes of this preliminary response Patent Owner has applied Petitioner's definition of a POSITA because even under Petitioner's definition the Petition fails to present a reasonable likelihood of success of invalidating any Challenged Claim. Patent Owner reserves the right to propose its own definition of a POSITA if the Petition is instituted.

V. Claim Construction

Claims are construed according to *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005) (en banc). *See* 37 C.F.R. § 42.100(b). "Any prior claim construction determination concerning a term of the claim in a civil action…will be considered." *Id.*

Petitioner asserts that "[i]ndependent claims 13 and 32…are properly construed under Section 112[f]" and that the claims "fail to recite sufficiently definite structure." Pet. at 10. That assertion alone is sufficient reason to find that the Petition fails to present a reasonable likelihood of success as to at least Claims 13 and 32. As the Federal Circuit has held, when there is an assertion that challenged

claim terms are indefinite, "the proper course for the Board to follow, if it cannot ascertain the scope of a claim with reasonable certainty for purposes of assessing patentability, is to decline to institute the IPR or, if the indefiniteness issue affects only certain claims, to conclude that it could not reach a decision on the merits with respect to whether petitioner had established the unpatentability of those claims under sections 102 or 103." *Samsung Elecs. Am., Inc. v. Prisua Eng'g Corp.*, 948 F.3d 1342, 1353 (Fed. Cir. 2020).

Therefore, to the extent the Board agrees with Petitioner that limitations of independent claims 13 and 32 invoke §112(f), the Board should decline to address Petitioner's challenge to at least those claims regardless of whether the Board agrees they fail to recite sufficiently definite structure. In the scenario that any limitations of those claims invoke §112(f), then either: (1) the Board agrees with Petitioner that independent claims 13 and 32 are indefinite[1] for "fail[ure] to recite sufficiently definite structure" as asserted by Petitioner and Federal Circuit precedent dictates that it would be improper for the Board to address those Petition grounds, *Samsung*,

[1] For the avoidance of doubt, Patent Owner's position is that no '035 Patent limitations are indefinite. To the extent any limitations invoke §112(f), they are fully supported with structure as shown in, *e.g.*, Patent Owner's Local Patent Rule 4-2 Statement from the parallel District Court Proceeding. EX2013 at 6-14.

948 F.3d at 1353; or (2) the Board disagrees that the claims are indefinite, in which case Petitioner has instead failed to comply with PTAB rules requiring them to "identify the specific portions of the specification that describe the structure, material, or acts corresponding to each claimed function." 37 CFR § 42.104(b)(3)-(4); *Cambridge Mobile Telematics, Inc. v. Sfara, Inc.*, IPR2024-00952, Paper 12 at 8 (P.T.A.B. Dec. 13, 2024) (informative).

Petitioner compounds these deficiencies by asserting that it need not identify any "sufficiently definite structure," and instead can simply construe "means for" as "'digital electronic circuitry, or computer software or firmware operating on hardware' performing those recited functions, and equivalents thereof." Pet. at 10-11. Yet, in the District Court Proceeding, Petitioner is asserting that the "means for" limitations are supported by sufficient structure as well as identifying the structure it believes to be relevant to construction. EX2012 at 10-15. Petitioner cannot have it both ways by asserting claim scope based on specific structure in the District Court for purposes of infringement, while simultaneously asserting in the IPR that the same limitations lack "sufficiently definite structure" and therefore it should be able to pick a different claim scope that it would rather address for purposes of validity. *See Cambridge*, IPR2024-00952, Paper 12 at 8.

In fact, Petitioner's challenges to all independent claims 1, 5, 9, 13, 14, 20, 26, and 32 should be rejected for similar reasons. In the District Court litigation,

Petitioner asserts that for claims 1, 5, 9, 13, 14, 20, 26, and 32, the steps must "occur in the same order as recited in the claims." EX2012 at 9. Petitioner made no effort to show such an order in the asserted grounds, and further made no effort to explain the discrepancies between its District Court and IPR positions. Thus, this is yet another reason that the Petition grounds should be denied. *See Cambridge*, IPR2024-00952, Paper 12 at 8.

Given the clearcut deficiencies in the Petition grounds discussed below, Patent Owner does not believe it is necessary to construe any additional claim terms in order for the Board to deny the Petition on the merits. To the extent that the Board feels further construction is necessary, Patent Owner has provided its proposed claim construction terms from District Court litigation as Exhibit EX2013.

VI. Argument

The '035 Patent includes eight independent Claims. *See* EX1001 at 9:58-14:38 (showing independent Claims 1, 5, 9, 13, 14, 20, 26, 32). Petitioner asserts (A) only Ground 1 against independent Claims 1, 5, 9, and 13, and (B) only Ground 3 against independent Claims 14, 20, 26, and 32. Pet. at 24. All other grounds address only dependent claims. *Id.* Because the Petition fails to present a reasonable likelihood of invalidating any Challenged Claims under Grounds 1 and 3, all Petition grounds necessarily fail.

A. Ground 1 Fails to Present a Reasonable Likelihood of Prevailing Against Any Claims

For Ground 1, Petitioner asserts that Claims 1-2, 4-6, 8-10, and 12-13 are "[o]bvious under 35 U.S.C. § 103 over Tsuge alone and/or in View of McKinnon and/or Noel." Pet. at 24. However, as discussed below, Tsuge alone fails to present a reasonable likelihood of teaching or rendering obvious any challenged independent claim elements in Ground 1, and even the asserted combination with McKinnon and Noel still fails to present a reasonable likelihood of teaching or rendering obvious at least claim elements [B]/[C]/[D] of independent claims 1, 5, 9, and 13.

As discussed in more detail below, Tsuge fails to teach or render obvious any limitations of the challenged independent claims, at least because Tsuge fails to address even the concept of updating a configuration file. Petitioner's backup theories based on McKinnon and Noel fare no better, with neither reference addressing both virtual cable modems and EPONs, much less in the claimed manner related to updated configuration files.

1. Tsuge Does Not Teach Or Render Obvious "Updating" A Configuration File As Per Every Element of Claims 1, 5, 9 & 13.

Petitioner asserts that Tsuge alone renders obvious '035 Patent independent Claims 1, 5, 9, and 13. Petitioner's reliance on Tsuge is emblematic of the overall weakness of its Petition. Tsuge cannot teach or render obvious a single limitation of those independent claims, at least because Tsuge fails to address even the concept

of updating a configuration file, as claimed. '035 Patent Claim 1 is reproduced below as an example. The emphasized language shows every element relates to updating a configuration file.

> 1. A method of **causing an update to a configuration file** used for operation of an Optical Network Unit (ONU) operable in an Ethernet Passive Optical Network (EPON), the method comprising:
>
> generating, using at least one computer, **an updated configuration file** for the ONU, wherein the ONU is configured with an existing configuration file;
>
> notifying a virtual cable modem (vCM), prior to successful update of the ONU, **that the updated configuration file is available** for the ONU;
>
> providing, when requested by the vCM, to the vCM, **the updated configuration file**; and
>
> monitoring the vCM for an indication of successful update of the ONU by the vCM **using the updated configuration file**.

The same is true of each of independent Claims 5, 9 and 13.

Despite its overwhelming reliance on Tsuge, Petitioner never actually identifies anything in Tsuge which directly addresses **updating** a configuration file. To the contrary, Petitioner tacitly acknowledges this shortcoming and instead suggests instead that "POSAs would understand Tsuge's method **extends to** updating configuration files for ONUs." Pet. at 29 (emphasis added). Tsuge cites

solely to its expert for support of that statement, but its expert merely rewords the same conclusion. *See* Pet. at 29 (citing EX1002 ¶126). As discussed below, Tsuge fails to teach or render obvious any of the claim elements related to an updated configuration file.

Tsuge repeatedly emphasizes that its teachings are directed to dealing with "connection of a new ONU," and not updating configuration of a previously configured ONU. EX1006 at Abstract ("When **connection of a new ONU** is detected by an ONU apparatus control signal…" (emphasis added)). This is further demonstrated by the fact that the disclosure refers to its setting information as "initial setting information." *Id*. at 3:29-31 ("a file name of **initial setting information** which should be received from the TFTP server" (emphasis added)), 4:46-49 ("the OLT receives the **initial setting information** of the CM [] and makes **initial setting** corresponding to its contents to the ONU" (emphasis added)), 8:58-59 ("The CM setting information management server 263 makes an **initial setting of the…ONU 102**" (emphasis added)). Thus, Tsuge is explicit that its teachings are directed to initial settings for newly connected ONUs. Petitioner identifies nothing in Tsuge that relates to updated configuration files because there is nothing in Tsuge addressing that topic. In the absence of such a teaching (recited in **every single element** of, *e.g.*, '035 Patent Claim 1), Petitioner has attempted to substitute unsupported conclusions

that fall well short of presenting a reasonable likelihood of prevailing against any Ground 1 claim.

Petitioner asserts that Tsuge "configures ONUs using CM-ONU correspondence table 551." Pet. at 27. Petitioner does not even expressly identify a purported configuration file in Tsuge. To the extent Petitioner's mapping can be understood, Petitioner appears to rely on the filenames from column 1103 of Tsuge Figure 11 as naming configuration files:

FIG.11

551

1101 CM IP ADDRESS	1102 CM SETTING INFORMATION MANAGEMENT SERVER IP ADDRESS	1103 CM SETTING INFORMATION FILE NAME	1104 ONU INTRINSIC IDENTIFIER
10.1.2.3	10.100.1.253	default.cm	00-11-22-33-44-55
10.1.2.4	10.100.1.253	default.cm	00-AA-BB-CC-DD-EE
10.1.2.129	10.100.1.253	premium.cm	00-12-34-56-78-9A
⋮	⋮	⋮	⋮

Pet. at 27 (Petitioner's Annotated Tsuge Figure 11). However, Tsuge does not address generating updated setting information files, so even if Petitioner intended to rely on those information files as the purported configuration files, its theories would still fail.

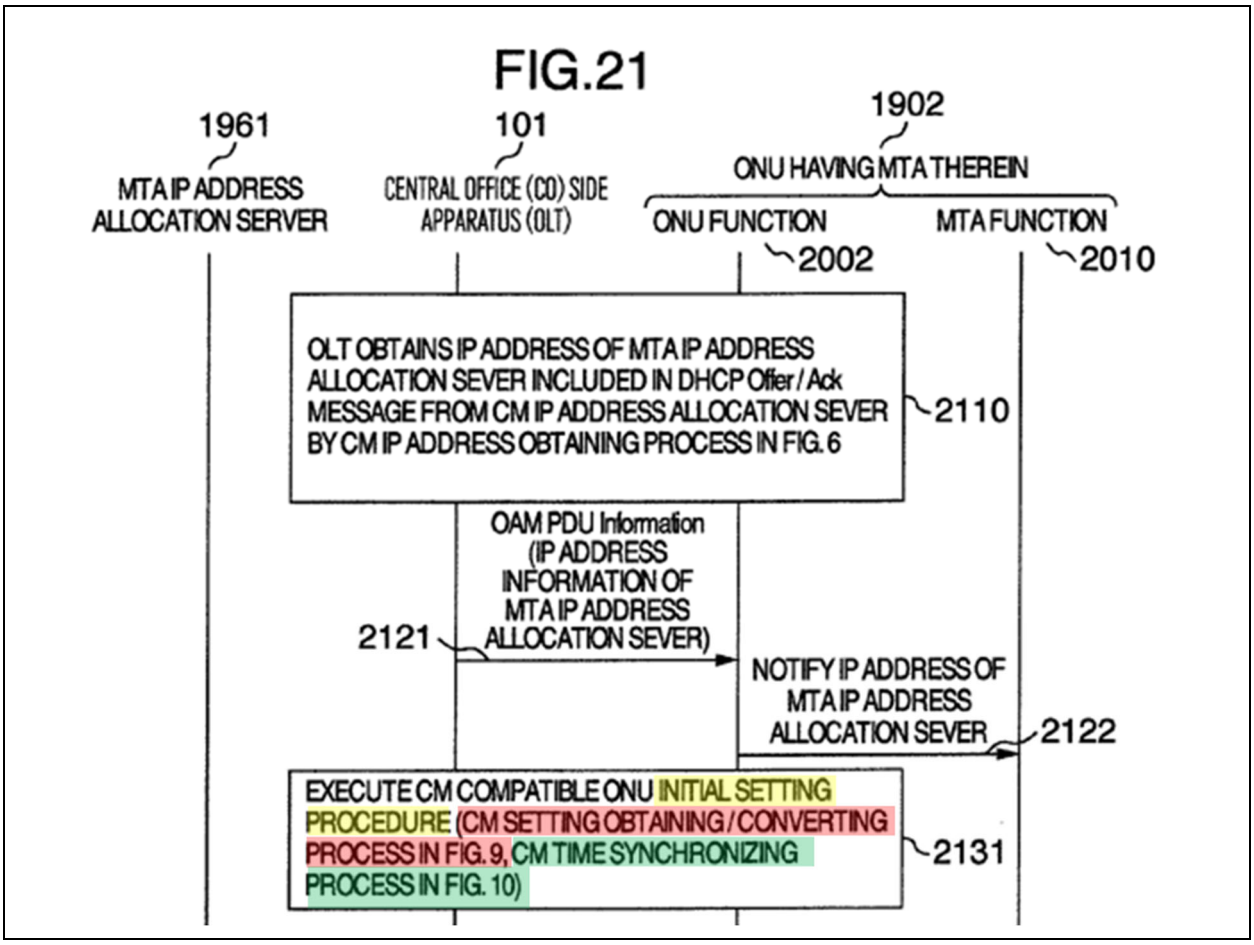
Petitioner also asserts that "Tsuge describes ONUs initially configured with files other than those denoted in table 551." Pet. at 29 (citing EX1006 at 14:29-33). However, the cited passage relates only to an initial setup, and merely notes that preset values may be used during initial setup rather than retrieving values from correspondence table 551. EX1006 at 14:29-33. It says nothing about generating or otherwise using updated configuration files, but rather provides another alternative for initial setup.

In the absence of any relevant disclosure, Petitioner cites paragraphs 127-128 from its declarant. Petitioner's declarant concludes that "[a] POSA would understand from these disclosures that any such configuration of an ONU occurring subsequent to its initial configuration would ultimately employ the CM setting information file identified in the CM-ONU correspondence table 551." EX1002 ¶127. The declarant provides zero support for that conclusion: no citation to Tsuge of a configuration "subsequent to" an initial configuration, no technical analysis, no industry background, no relevant professional experience, no publications, nothing. His unsupported conclusion provides no opportunity for meaningful analysis and should be given no weight. *See Xerox Corp. et al. v. Bytemark, Inc.,* IPR2022-00624, Paper 9 at 15 (P.T.A.B. Aug. 24, 2022).

Next, Petitioner asserts that "Tsuge further notes ONU configuration can occur other than at initial registration." Pet. at 29 (citing EX1006 at 14:33-39). Yet,

the cited portion of Tsuge provides no support for that point. The cited portion of Tsuge states that the process is executed either (1) "just after the end of the processes in Fig. 6"[2] describing events related to the "ONU registering sequence" ***or*** (2) "after completion of the time synchronization." EX1006 (Tsuge) at Fig. 6, Fig. 9, 12:29-36, 14:33-39. And Tsuge teaches that both of these sets of events occur as part of the **initial** setting procedure (highlighted in yellow below):

[2] Tsuge's description of Figure 6 further reinforces that it details registration of an ONU "which has been newly connected." *Id*. at 12:29-35.



EX1006 Fig. 21.

As shown above in Figure 21, Tsuge teaches that the events of Figure 9 highlighted in red above (which Petitioner relies on for acquiring the CM Setting Information File, Pet. at 27-28), occur as part of the same initial setting step 2131 as the time synchronization shown in Figure 10 (highlighted in green above). EX1006 at 21:4-16, 14:29-39.

Once again faced with the fact that Tsuge itself provides no support for Petitioner's argument, Petitioner cites to paragraphs 127-129 of its declarant. Pet. at 29. But rather than address the order of initial setting procedure taught by Tsuge,

Petitioner's declarant misrepresents Tsuge's teachings, stating (once again, with no support or analysis) that the process of Figure 9 is executed after registration of the ONU (i.e. registration of an ONU which has been **newly connected** and must therefore receive its **initial** configuration setting information) and failing to address the fact that it is done **immediately** after. EX1002 ¶128. What Tsuge actually says is that the process of Figure 9 is "generally executed **just after** the end of the processes in FIG. 6." EX1006 at 14:33-35 (emphasis added). The events of Figure 9 do not happen at some arbitrary later point for the purpose of updating the configuration as Petitioner suggests (and its declarant parrots), but rather these events all happen only during the initial setting procedure of Tsuge.

Petitioner then asserts that the disclosure of SNMP messages in Tsuge render obvious the claimed limitations since "POSAs would understand Tsuge's ONUs were previously configured because (1) configuration information was obtainable, and (2) GetRequests precede updating ONU configurations via SetRequests." Pet. at 29-31.

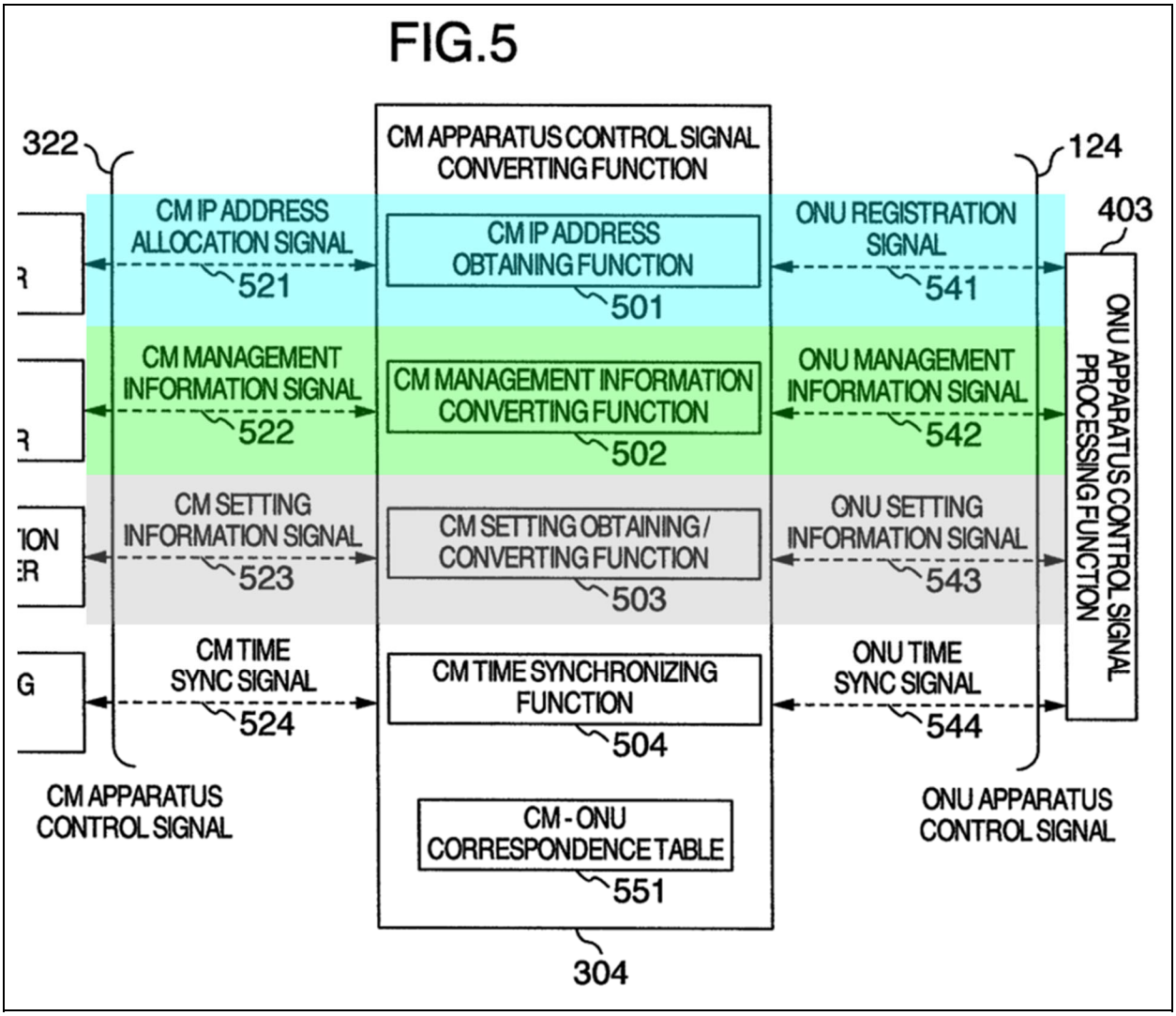
The first part of that statement (that the specific claims regarding an updated configuration would have been obvious because "configuration information was obtainable"), is emblematic of the shortcomings in Petitioner's theories. Petitioner's core argument is that, because the references theoretically **could** be modified in a certain way, it would have been obvious to do so—even if the references themselves

failed to teach it. However, that is not the law. *See, e.g., In re Mills*, 916 F.2d 680, 682 (Fed. Cir. 1990) ("The mere fact that the prior art could be so modified would not have made the modification obvious unless the prior art suggested the desirability of the modification." (quoting *In re Gordon*, 733 F.2d 900, 902 (Fed. Cir. 1984))).

The second part of the statement that "GetRequests precede updating ONU configurations via SetRequests" in Tsuge is equally flawed. Tsuge addresses GetRequests and SetRequests in the context of Figure 7. EX1006 at Fig. 7, 13:7-20. "FIG. 7 is a sequence diagram showing an example of the operation of a **CM management information converting function**" (highlighted in green below). EX1006 at 5:65-67 (emphasis added).

The functions that Petitioner relies on as teaching the '035 Patent limitations related to configurations are the "CM IP address obtaining function" of Figure 6 (highlighted in blue below) and the "CM setting obtaining/converting function" of Figure 9 (highlighted in grey below). EX1006 at 5:62-64 ("**FIG. 6** is a sequence diagram showing an example of the operation of a **CM IP address obtaining function** provided for the OLT" (emphasis added)), 6:4-6 ("**FIG. 9** is a sequence diagram showing an example of the operation of a **CM setting obtaining/converting function** provided for the OLT"); *see. e.g.* Pet. at 27-28

(exemplary Petition sections relying on the functionality of Figures 6 and 9). As shown in Tsuge Figure 5, these all relate to separate signals and functionality:



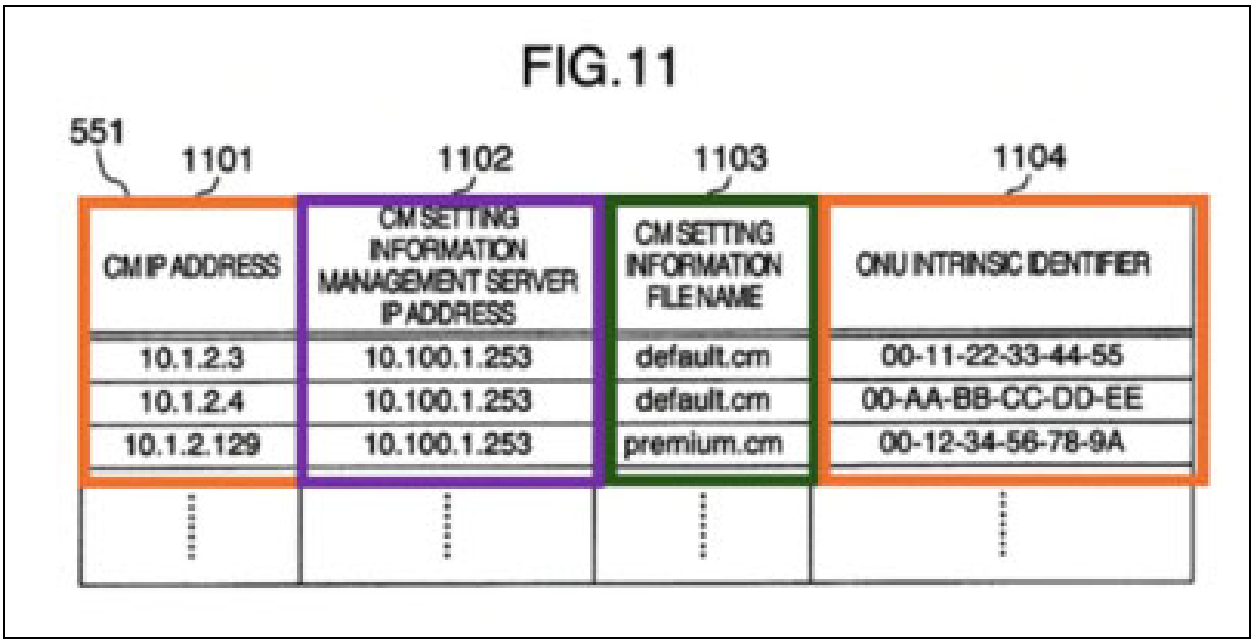
EX1006 Fig. 5 (excerpted and annotated).

Tsuge never addresses GetRequests or SetRequests in the context of updating configuration files, information files, or anything else Petitioner appears to rely on for configuration files. Tsuge teaches the use of GetRequests and SetRequests in a separate context ("management information") and does not teach or render obvious

the challenged limitations. Petitioner's attempt to cherry pick functionality from other "functions" of Tsuge misrepresents its teachings and should be rejected.

Petitioner then throws out yet another alternative theory, asserting that "POSAs understand Tsuge retrieves and applies configuration files identified via DHCP in table 551 if rebooted" and "POSAs would have viewed as obvious updating such files between initialization and reboot." Pet. at 31 (citing EX1006 at 11:57-12:2). Yet, the cited portion of Tsuge says nothing about rebooting or updating configuration files. Petitioner cites paragraph 134 of its declarant, who once again simply parrots the same conclusion without support or analysis. *See id.*

Petitioner then asserts additional unsupported theories completely driven by hindsight. Petitioner asserts that "POSAs would understand Tsuge's system must accommodate changing customers' services, and/or allow necessary updates improving/maintaining services" and "POSAs would have been motivated to permit subscription changes in service levels" because "Tsuge discloses service classes." Pet. at 32. Tsuge itself provides no support for those statements. Petitioner appears to base its entire theory off of a single column in Tsuge Figure 11 listing two file names, "default.cm" and "premium.cm," which are outlined in green below:



Pet. at 27 (Petitioner's Annotated Tsuge Figure 11).

Tsuge never addresses what "default" or "premium" refer to and never mentions "services classes." Petitioner's interpretation of the two purported filenames is a hindsight-based attempt to justify modifying Tsuge due to the complete absence of updated configuration files in Tsuge itself. Thus, Petitioner's primary invalidity theory that Tsuge renders obvious the Challenged Claims of Ground 1 fails.

2. Ground 1 Fails to Teach or Render Obvious "Notif[ying] a Virtual Cable Modem…That the Updated Configuration File Is Available for the ONU" As Per Claims 1[B], 5[B], 9[B] & 13[B]

Each of the Challenged Claims under Ground 1 recite a variation of notifying a virtual cable modem that the updated configuration file is available for the ONU. *See* '035 Patent Claim Limitations 1b (9:65-67), 5b (10:31-33), 9b (11:1-3), and 13b

(11:39-41). None of the references relied on by Petitioner (alone or in combination) teach or render obvious this limitation, however. So Ground 1 fails.

(a) Tsuge

As discussed above, Tsuge does not contemplate updated configuration files, including for virtual cable modems and ONUs. Therefore, it cannot teach or render obvious this claim limitation, which requires "notifying a virtual cable modem [], prior to successful update of the ONU, that the updated configuration file is available for the ONU." *E.g.*, EX1001 at 9:65-67.

Furthermore, Tsuge fails to teach or render obvious a "notification" that a "configuration file is available for the ONU." Petitioner suggests "Tsuge describes CMTS/CM apparatus management system 250 issuing SNMP SetRequests to OLT 101" and "Tsuge's setting request prompts retrieval of CM setting information files (configuration files) for target ONUs." Pet. at 36-37. However, as discussed above, the GetRequest and SetRequest taught in Tsuge are unrelated to updating configuration files, information files, or anything else Petitioner appears to rely on for configuration files.

(b) McKinnon

McKinnon also fails to teach or render obvious this limitation. McKinnon never addresses vCMs or ONUs, and therefore cannot teach or render obvious

notifying one of those non-existent elements (a vCM) that an updated configuration file is available for another of those non-existent elements (an ONU).

While McKinnon refers to cable modems generally, that cannot teach or render obvious limitations related to vCMs. Virtual cable modems are software in a DPoE system that emulates a physical cable modem. *See* EX2013 at 7; EX1014 at 25 (PDF Page 31). A Data-Over-Cable network alone would not need to emulate a physical cable modem—it would simply use a cable modem.

Furthermore, McKinnon never addresses ONUs, much less that an updated configuration file is available for an ONU. The only mention of any optical components in McKinnon is in the background, where it states that "One of the most prevalent Shared Access Carrier Networks today is found in the Data-Over-Cable (DOC) Network, which includes the traditional network constructed from coaxial cable and the hybrid fiber coaxial ["HFC"] network constructed with both fiber optical cabling and coaxial cable." EX1007 at 1:45-49. As discussed above in Section II.B.3, an HFC is not the same as an EPON or DPoE, and merely stating that something is constructed using "fiber optical cabling" is a far cry from reciting specific network elements (such as an ONU) and architecture, and further still from teaching notifying a vCM that an updated configuration file is available for the ONU. Correspondingly, Petitioner only cites McKinnon disclosures which—at best—relate to notifying a **CM** that an updated configuration file is available for a **CM**, not

for notifying a **vCM** that an updated configuration file is available for an **ONU** as claimed.

(c) Noel

Noel similarly fails to teach or render obvious this limitation. Noel does not address DPoE, virtual cable modems, or the interaction between EPON and DOCSIS. *See* Section II.B.2. Therefore, Noel also fails to disclose anything which could teach or render obvious a notifying a vCM that an updated configuration file is available for an ONU. Petitioner suggests that "When a new configuration is available, Noel notifies **OLTs** of new configuration, which they pass to **ONUs**." Pet. at 38 (emphasis added, internal quotes omitted). However, Petitioner fails to address how that would teach or render obvious notifying a **vCM** that an updated configuration file is available for an **ONU**.

3. Ground 1 Fails to Teach or Render Obvious "Provid[ing], When Requested By The vCM, To The vCM, The Updated Configuration File" As Per Claims 1[C], 5[C], 9[C] & 13[C]

Each of the Challenged Claims under Ground 1 recite a variation of providing, when requested by the vCM, to the vCM, the updated configuration file. *See* '035 Patent Claim Limitations 1c (10:1-2), 5c (10:34-35), 9c (11:4-5), and 13c (11:42-43). None of the references relied on by Petitioner (alone or in combination) teach or render obvious this limitation, therefore Ground 1 fails.

(a) Tsuge

As discussed above, Tsuge does not contemplate updated configuration files for cable modems, vCMs, ONUs, or anything else. Therefore, it cannot teach or render obvious this limitation.

(b) McKinnon

McKinnon also fails to teach or render obvious this limitation. McKinnon never addresses vCMs or ONUs, and therefore cannot teach or render obvious providing one of those elements (a vCM) an updated configuration file for the other (an ONU).

Petitioner asserts "McKinnon provides updated configuration files in response to requests from CMs prompted by notice of file's availability." Pet. at 44 (citing EX1007 at 27:17-21). However, the configuration file referred to is not a configuration file for an ONU provided to a vCM, but rather a configuration file for the DOC Network provided to a CM. EX1007 at 27:4-21 (noting "[t]he DOC Network is updated" and "[a] command is [] sent…causing the CMs to acquire and implement the CM configuration files").

(c) Noel

Noel similarly fails to teach or render obvious this limitation. Noel does not address DPoE, virtual cable modems, or the interaction between EPON and DOCSIS. *See* Section II.B.2 Therefore, Noel also fails to disclose anything which

could teach or render obvious a vCM requesting a configuration file or providing a configuration file to a vCM as claimed.

Petitioner asserts that "Noel provides updated configuration files in response to request 308 forwarded by OLT 360." Pet. at 43-44 (citing EX1008 ¶¶ [0032]-[0033], [0039], Fig. 3B). However, Petitioner fails to address how that would teach or render obvious providing, when requested by the **vCM**, to the **vCM**, the updated configuration file

4. Ground 1 Fails to Teach or Render Obvious "Monitor[ing] The vCM For An Indication Of Successful Update Of The ONU By The vCM Using The Updated Configuration File" As Per Claims 1[D], 5[D], 9[D] & 13[D]

Each of the Challenged Claims under Ground 1 recite a variation of monitoring the vCM for an indication of successful update of the ONU by the vCM using the updated configuration file. *See* '035 Patent Claim Limitations 1d (10:3-5), 5d (10:36-39), 9d (11:6-9), and 13d (11:44-46). None of the references relied on by Petitioner (alone or in combination) teach or render obvious this limitation, therefore Ground 1 fails.

(a) Tsuge

As discussed above, Tsuge does not contemplate updated configuration files for cable modems, vCMs, ONUs, or anything else. Therefore, it cannot teach or render obvious this limitation.

Tacitly acknowledging that Tsuge fails to teach this limitation, Petitioner alternatively argues (1) "POSAs would have monitored OLT 101 [of Tsuge] for update success because CMTS/CM apparatus management system 250 does not communicate directly with ONU 102 due to differing DOCSIS versus PON communication protocols," (2) "POSAs would have monitored updates at least because knowing if/when updating is successful is important to calculating billing changes regarding services," and (3) "knowing success is essential to determining if further actions or renewed efforts are necessary." Pet. at 45-46 (citing EX1002 ¶176). Petitioner cites only its declarant for these conclusions, and the expert does little more than reword the same conclusions. That is because Petitioner can offer nothing beyond improper hindsight for its statements—Tsuge does not contemplate updated configuration files, so the idea that it can somehow render obvious monitoring non-existent updated configuration files can only be based on a hindsight attempt to reverse engineer the challenged claims.

(b) McKinnon

McKinnon also fails to teach or render obvious this limitation. McKinnon never addresses **vCMs** or **ONUs**, and therefore cannot teach or render obvious monitoring the **vCM** for an indication of successful update of the **ONU** by the **vCM** using the updated configuration file.

Correspondingly, Petitioner cites nothing from McKinnon as purportedly teaching this limitation.[3] *See* Pet. at 44-47, 59-60, 68, 71.

(c) Noel

Noel similarly fails to teach or render obvious this limitation. Noel does not address DPoE, virtual cable modems, or the interaction between EPON and DOCSIS. *See* Section II.B.2. Therefore, Noel also fails to disclose anything which could teach or render obvious monitoring the **vCM** for an indication of successful update of the ONU by the **vCM** using the updated configuration file.

Correspondingly, Petitioner cites nothing from Noel as purportedly teaching this limitation.[4] *See* Pet. at 44-47, 59-60, 68, 71.

B. Ground 3 Fails to Present a Reasonable Likelihood of Prevailing Against Any Claims

Petitioner's Ground 3 relies solely on Bourgart for element [A] of independent claims 14, 20, 26 and 32. Pet. at 74-76, 81-82, 84, 86. But as explained below, Bourgart fails to teach or suggest those claim elements. Bourgart's failings doom Ground 3 for that reason alone.

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[3] Petitioner only cites to McKinnon for generation of configuration files, which is not recited in this limitation. Pet. at 46.

[4] Petitioner only cites to Noel for expectation of success in updating configuration files. Pet. at 46-47.

And for element [D], Petitioner implicitly recognizes that Bourgart does not teach or suggest that aspect of the independent claims, so Petitioner is forced to bring in a second reference: Barrow. Barrow does not save Ground 3, however. Like Bourgart, Barrow also fails to teach or suggest that claim element.

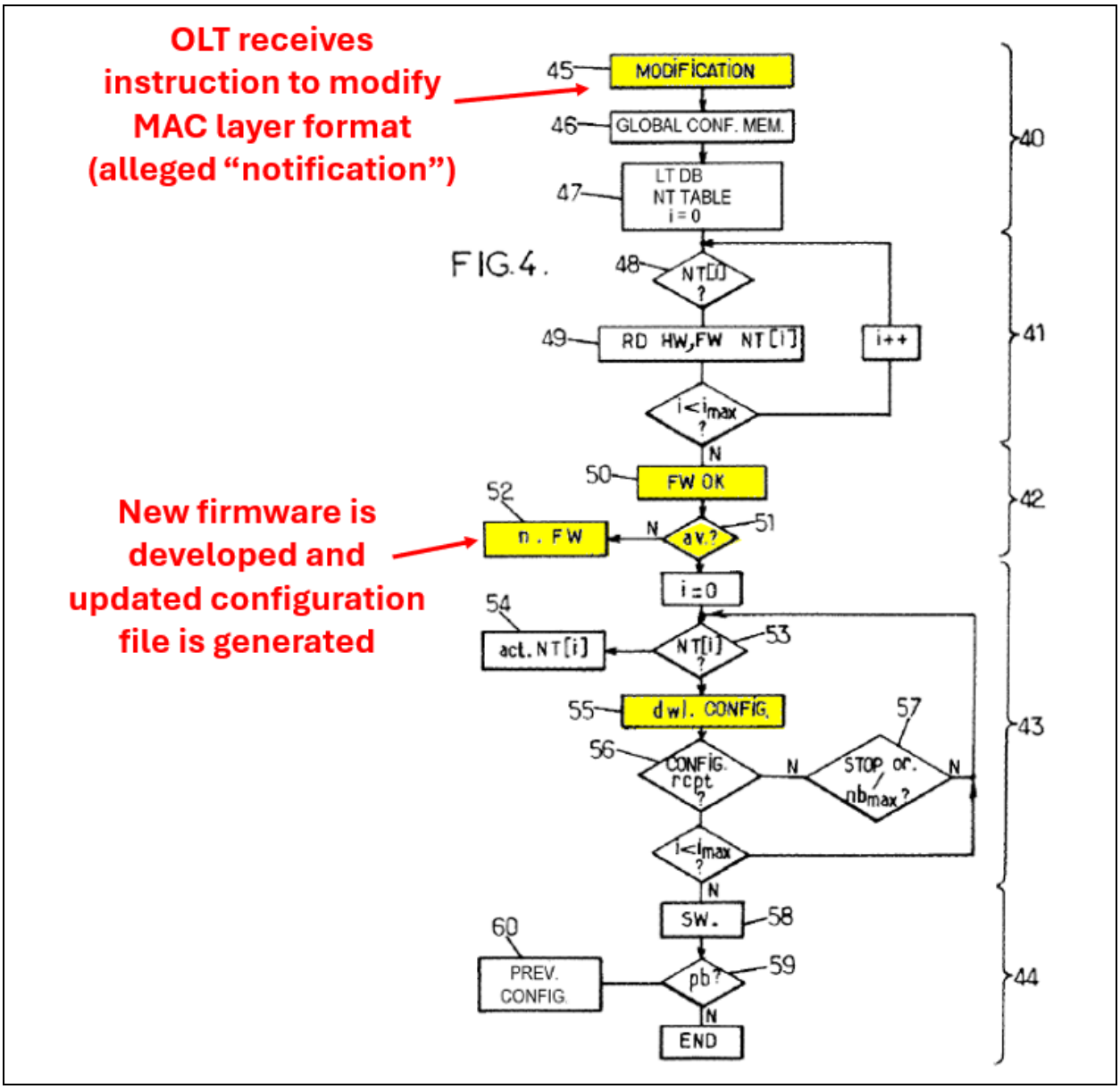
1. Ground 3 Fails to Teach Or Render Obvious "Receiv[ing] A Notification That An Updated Configuration File Is Available For The ONU" As Per Claims 14[A], 20[A], 26[A], & 32[A]

Each of the '035 Patent independent claims 14, 20, 26 and 32 require "receiv[ing] a notification that an updated configuration file is available for the ONU." EX1001 at 11:50-51, 12:25-26, 13:7-8, 14:21-22. The '035 Patent specification explains that, in a preferred embodiment, the DPoE system receives the "notification" from the Operations Support Systems (OSS). *See id.* at Fig. 2 (showing the OSS communicates with the DPoE System). That received notification "set[s] the dpoeVcmDynCfgNow MIB object to set" within the DPoE system. *Id.* at 5:44-45. This changing of the MIB object notifies the DPoE system that an updated configuration file is available. *See, e.g., id.* at 11:66-67, 13:24-26 ("receiving the notification includes detecting a change to a management information base (MIB) entry."). Armed with this notification that an updated configuration file is available, the DPoE system may then choose to "obtain[] the updated configuration file," as per the next element of the independent claims. *Id.* at 11:53, 12:28, 13:10, 14:24; *see also id.* at 5:41-44.

Petitioner alleges that Bourgart (and only Bourgart) teaches receiving the claimed "notification" when "Bourgart's OLT receives instructions [] to update ONT configurations" because those instructions purportedly "indicate availability of updated configuration files." Pet. at 75. For support, Petitioner relies on just a portion of Bourgart's Figure 4 and the corresponding text from Bourgart's specification. *Id.* (citing EX1010 (Bourgart) at Fig. 4 steps 45, 50-52 and 11:16-17, 11:28-34). But as explained below, nothing in Bourgart's Figure 4 (or anything else in Bourgart) teaches receiving the claimed "notification that an updated configuration file is available for the ONU." Rather, in Bourgart, the purported updated configuration file is generated **after** the OLT receives the instruction; the updated configuration file is not available at the time the instruction is received. So Bourgart's instruction cannot be the claimed "notification" that indicates the availability of an updated configuration file.

Bourgart Figure 4 "illustrates a typical algorithm for modifying the MAC layer format of NTs, this algorithm being executable by an LT." EX1010 (Bourgart) at 11:13-15. First, in step 45, the OLT receives "an instruction to modify the MAC layer format." *Id.* at 11:16-17. Then, the OLT performs steps 46-49 to initialize and identify the ONU's hardware and firmware. *Id.* at 11:17-27. Next, in step 50, system begins "collecting the necessary firmware [] corresponding to the desired configuration." *Id.* at 11:28-30. "During a step 51, there is a test to ascertain whether

this firmware is available." *Id.* at 11:30-31. If the necessary firmware is not available, then the "new firmware is developed" in step 52. *Id.* at 11:31-32. Only then—well after the OLT has received the instruction to modify the MAC layer format in step 45—is the necessary firmware compiled into a purported configuration file and downloaded to the OLT in step 55. *Id.* at 11:35-42. Thus, the instruction received in step 45 cannot be the claimed "notification that an updated configuration file is available for the ONU" because, at the time the instruction is received in step 45, the updated configuration file does not exist; the updated configuration file is not created until much later in steps 50-52. *Id.* at 11:16-34.



Id. at Fig. 4 (annotations added).

Since Bourgart does not teach or suggest receiving the claimed "notification that an updated configuration file is available for the ONU," and the Petition only relies on Bourgart for this claim element, the Petition fails to present a reasonable likelihood of success on Ground 3 for at least this reason. *See Harmonic Inc. v. Avid Tech., Inc.*, 815 F.3d 1356, 1363 (Fed. Cir. 2016) ("[T]he petitioner has the burden

from the onset to show with particularity why the patent it challenges is unpatentable."); *Wasica Fin. GmbH v. Cont'l Auto. Sys.*, 853 F.3d 1272, 1286-87 (Fed. Cir. 2017) (explaining the Board cannot consider a "theory of *prima facie* obviousness [which is] absent from the petition").

2. Ground 3 Fails to Teach Or Renders Obvious "Determining Changes Between the Current Configuration File of the ONU and the Updated Configuration File To Identify ONU Resources To Implement To The Changes" As Per Claims 14[D], 20[D], 26[D], & 32[D]

Each of '035 Patent independent claims 14, 20, 26 and 32 require "determin[ing] changes between the current configuration file of the ONU and the updated configuration file to identify ONU resources to implement to the changes." EX1001 ('035 Patent) at 11:56-58, 12:31-34, 13:13-15, 14:28-31. The '035 Patent specification explains that, in a preferred embodiment, "the vCM creates a configuration delta (calculates the difference) between [the current active CM config file] CMO and [the newly downloaded CM config file] CMN." *Id.* at 6:16-18. "The configuration delta is used to drive the DPoE ONU configuration update." *Id.* at 6:27-28. And using the configuration delta, "the DPoE System is expected to confirm the availability of hardware and software resources on the DPoE System, vCM and target DPoE ONU to make sure that the new configuration can be executed successfully." *Id.* at 6:35-39.

Petitioner presents three invalidity theories for this claim element—none of which have merit. Pet. at 76-79. *First*, Petitioner alleges that Bourgart alone teaches this claim element because it "envisages taking account of hardware limitations of equipment in updating NT configurations," "interrogates the NTs concerning the hardware features to list the NTs that are capable of supporting the change," and "determines if updates would exceed ONU capabilities." Pet. at 76-77 (internal citations and emphasis omitted). For support, Petitioner relies on five passages from Bourgart (reproduced below), none of which teach to determine the changes between the current and updated configuration files, as claimed.

(1) "Such a method makes the replacement of the network termination devices unnecessary, since the latter can be updated on the initiative of the line-termination device, within the limit of their compatibility with the required performance. The invention makes easier the possible upgrades of the over-the-line communication protocol used by the network-termination devices." EX1010 (Bourgart) at 3:18-24.

(2) "The envisaged protocol modifications are compatible with the performance required in that account is taken of the hardware limitations of the equipment used. For example, the speed of modulation, the granularity of the allocation of timeslots between clients, etc. can be limited because of the non-zero up and down time of the components of the line- and/or network-termination devices." *Id.* at 3:25-31.

(3) "Moreover, the line-termination device may provide the interface with a telecommunication network of the Internet type. This line-termination device has real-time knowledge of the nature and the version of the

connected network-termination devices and of the state of the communications over the shared line. The reconfiguration of the line-termination devices in order to change the communication protocol over the line may therefore be carried out with no risk of disruption associated with a lack of information concerning the state of the traffic on the line, as could be the case if a distinct device of the line-termination device were planned to perform this reconfiguration." *Id.* at 3:37-48.

(4) "The reconfiguration header 26 (downlink) makes it possible to address the remote NTs or network-termination devices individually and/or collectively, to interrogate the NTs concerning their hardware, software and/or firmware versions, in order to determine which configuration file to send, in order to implement a new frame format. **The LT may interrogate the NTs concerning their hardware features** in order to list the NTs that are capable of supporting the change of MAC layer format." *Id.* at 9:49-57 (emphasis added).

(5) "There follows a phase 41 of identifying the necessary firmware, this phase using a loop on the indices i. During a step 48, there is a test to ascertain whether the i^{th} NT is present. If it is, **the LT interrogates this NT concerning its hardware and firmware** version during a step 49." *Id.* at 11:23-27 (emphasis added).

Pet. at 76-77 (citing EX1010 at 3:18-24, 3:25-31, 3:37-48, 9:49-57, 11:23-27).

As even a cursory glance reveals, the first three passages have absolutely nothing to do with determining the changes between a current and an updated configuration file. The last two passages are arguably tangentially relevant, but they are different from the claim language because they merely teach that an OLT

"interrogates" the ONUs to determine what hardware and firmware they use so that the OLT can identify whether the ONUs are capable of supporting the new MAC layer formats. At most, such an interrogation merely compares the ONU hardware/firmware with the purported updated configuration file. But that is different from determining changes between the current configuration file of the ONU and the updated configuration file, as claimed.

Second, likely recognizing that Bourgart does not teach this claim element, Petitioner asserts that the claim element would nonetheless be obvious in view of Bourgart because "Bourgart interrogates NTs to determine whether resources will support updates." Pet at 77. And, according to Petitioner, such an interrogation "would obviously entail identifying new requirements (*i.e.*, changes from existing configurations)." *Id.* For support, Petitioner cites Bourgart passages (2) and (4) from above. But none of those passages teach or suggest determining changes between current and updated configuration files. Rather, at most, those Bourgart passages teach to "interrogate" an ONU to identify what hardware/firmware it uses and then compare that identified hardware/firmware with the updated changes to the MAC layer format. Neither of those passages teach to compare current and updated configuration files to determine changes between the two, as claimed.

Third, likely recognizing that Bourgart does not even suggest this claim element, Petitioner asserts that a POSITA would have modified Bourgart to include

Barrow's configuration update module. Pet. at 77-79. But even if a POSITA would have modified Bourgart as proposed, the combination still would not have disclosed this claim element.

Barrow teaches that each Integrated Service Hub ("ISH") contains a "configuration update module 53 which manages updating of configuration parameters." EX1011 (Barrow) at 4:55-56. When the ISH receives a new configuration file, "the update module 53 loads the new file into flash memory." *Id.* at 8:34-38. The update module then "performs the check function" "by reading the new configuration file in flash memory" and then "compar[ing] the new parameters to the previously stored parameters to see if any changes have actually been made." *Id.* at 8:46-52. "Each parameter used in a module is designated as to whether or not it can be dynamically changed or requires a system reboot." *Id.* at 8:52-54. "A reboot is required if a parameter change is needed and it is one which requires reboot." *Id.* at 8:56-58. However, "a reboot is not needed if there is no parameter change or the change which is needed can be made dynamically, i.e. without a reboot." *Id.* at 8:58-60.

In sum, Barrow's configuration update module 53 compares the parameters of an existing configuration file to those of an updated configuration file to determine if a reboot is required. *Id.* at 8:46-60; *see also id*. at 3:12-15 ("each module checks the new configuration file against its current parameters, determines if any changes

require it to reboot, and notifies the update module if reboot is needed.") But comparing current and updated configuration files "**to determine if a reboot is required**" (as in Barrow) is not the same as comparing current and updated configuration files to identify ONU resources to implement the changes (as in '035 claims 14[D], 20[D], 26[D] and 32[D]). Thus, even the combination of Bourgart and Barrow fails to teach or suggest this claim element.

Because Bourgart, alone or in combination with Barrow, does not teach or suggest determining the claimed "changes between the current configuration file of the ONU and the updated configuration file to identify ONU resources to implement to the changes," the Petition fails to make a *prima facie* case of invalidity and the *Inter Partes* Review cannot be instituted based on Ground 3 for at least this reason. *See Harmonic Inc.*, 815 F.3d at 1363; *Wasica*, 853 F.3d at 1286-87.

C. Grounds 2, 4, and 5 Fail to Present a Reasonable Likelihood of Prevailing Against Any Claims

Grounds 2, 4, and 5 challenged only dependent claims of the '035 Patent. *See* Pet. at 24 (asserting Grounds 2, 4, and 5 against Claims 3, 7, 11, 15-19, 21-25, and 27-31); EX1001 ('035 Patent) at 9:57-14:38. Because Petitioner failed to present a reasonable likelihood of success of invalidating any independent claims, its challenges to the dependent claims necessarily fail as well. Thus, for foregoing reasons, the Petition should be denied.

VII. Conclusion

Patent Owner respectfully requests that the Board refuse to institute *inter partes* review for the reasons stated herein.

Dated: May 27, 2025

Respectfully submitted,

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CERTIFICATE OF SERVICE

The undersigned certifies that pursuant to 37 C.F.R. § 42.6(e), a copy of the foregoing was served via email to lead and backup counsel of record for Petitioners as follows:

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CERTIFICATE OF COMPLIANCE

Pursuant to 37 C.F.R. § 42.24(d), the undersigned hereby certifies that this brief complies with the type-volume limitation of 37 C.F.R. § 42.24 because this brief contains 8,813 words.

Dated: May 27, 2025

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