

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

CHARTER COMMUNICATIONS, INC.,

Petitioner,

v.

IARNACH TECHNOLOGIES LTD.,
Patent Owner.

IPR2025-00473
U.S. Patent No. 9,674,035

PETITIONER'S REPLY ON DISCRETIONARY DENIAL

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Ex. 1006	U.S. Patent No. 8,160,448 (“Tsuge”)
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Ex. 1008	U.S. Patent Appl. 2008/0253771 (“Noel”)
Ex. 1009	KR Patent No. 10-0414671 (“Go”)
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Ex. 1012	J. Koshy and R. Pandey, "Remote incremental linking for energy-efficient reprogramming of sensor networks," <i>Proceedings of the Second European Workshop on Wireless Sensor Networks, 2005.</i> , Istanbul, Turkey, 2005, pp. 354-365, DOI: 10.1109/EWSN.2005.1462027, ISBN:0-7803-8801-1 (“Koshy”)
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Claim Listing

Ref. #	Listing of Challenged Claims
1[preamble]	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:
1[a]	generating, using at least one computer, an updated configuration file for the ONU, wherein the ONU is configured with an existing configuration file;
1[b]	notifying a virtual cable modem (vCM), prior to successful update of the ONU, that the updated configuration file is available for the ONU;
1[c]	providing, when requested by the vCM, to the vCM, the updated configuration file; and
1[d]	monitoring the vCM for an indication of successful update of the ONU by the vCM using the updated configuration file.
2[a]	2. The method of claim 1, further wherein the operation of generating the updated configuration file includes: detecting a configuration change need for the ONU; and
2[b]	modifying at least one service listed in the configuration file to generate the updated configuration file.
3	3. The method of claim 1, wherein the operation of notifying the vCM includes: changing a variable in a management information base (MIB) of the vCM.
4[a]	4. The method of claim 1, wherein the operation of providing the updated configuration file includes: receiving a dynamic host control protocol (DHCP) request from the vCM;
4[b]	providing the vCM information about a location of the updated configuration file; and
4[c]	permitting the vCM to download the updated configuration file using a file transfer protocol (FTP).
5[preamble]	5. An apparatus for facilitating an update to a configuration file used for operation of an Optical Network Unit (ONU) operable in an Ethernet Passive Optical Network (EPON), the apparatus comprising:

Ref. #	Listing of Challenged Claims
5[a]	a generator that generates an updated configuration file for the ONU, wherein the ONU is configured with an existing configuration file;
5[b]	a notifier that notifies a virtual cable modem (vCM), prior to successful update of the ONU, that the updated configuration file is available for the ONU; and
5[c]	a file provider that provides, when requested by the vCM, to the vCM, the updated configuration file; and
5[d]	a monitor that monitors the vCM for an indication of successful update of the ONU by the vCM using the updated configuration file.
6[a]	6. The apparatus of claim 5, further wherein the generator includes: a detector that detects a configuration change need for the ONU; and
6[b]	a modifier that modifies at least one service listed in the configuration file to generate the updated configuration file.
7	7. The apparatus of claim 5, wherein the notifier includes: a changer that changes a variable in a management information base (MIB) of the vCM.
8[a]	8. The apparatus of claim 5, wherein the file provider includes: a receiver receiving a dynamic host control protocol (DHCP) request from the vCM;
8[b]	a location provider that provides the vCM information about a location of the updated configuration file; and
8[c]	a file transferor that permits the vCM to download the updated configuration file using a file transfer protocol (FTP).
9[preamble]	9. A computer program product comprising a non-transitory computer-readable medium having code stored thereon, the code, when executed by a processor, causing the processor to implement 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:
9[a]	generating an updated configuration file for the ONU, wherein the ONU is configured with an existing configuration file;

Ref. #	Listing of Challenged Claims
9[b]	notifying a virtual cable modem (vCM), prior to successful update of the ONU, that the updated configuration file is available for the ONU; and
9[c]	providing, when requested by the vCM, to the vCM, the updated configuration file; and
9[d]	monitoring the vCM for an indication of successful update of the ONU by the vCM using the updated configuration file.
10[a]	10. The computer program product comprising the non-transitory computer-readable medium of claim 9, further wherein the operation of generating the updated configuration file includes: detecting a configuration change need for the ONU; and
10[b]	modifying at least one service listed in the configuration file to generate the updated configuration file.
11	11. The computer program product comprising the non-transitory computer-readable medium of claim 9, wherein the operation of notifying the vCM includes: changing a variable in a management information base (MIB) of the vCM.
12[a]	12. The computer program product comprising the non-transitory computer-readable medium of claim 9, wherein the operation of providing the updated configuration file includes: receiving a dynamic host control protocol (DHCP) request from the vCM;
12[b]	providing the vCM information about a location of the updated configuration file; and
12[c]	permitting the vCM to download the updated configuration file using a file transfer protocol (FTP).
13[preamble]	13. An apparatus for 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 apparatus comprising:
13[a]	means for generating an updated configuration file for the ONU, wherein the ONU is configured with an existing configuration file;
13[b]	means for notifying a virtual cable modem (vCM), prior to successful update of the ONU, that the updated configuration file is available for the ONU; and

Ref. #	Listing of Challenged Claims
13[c]	means for providing, when requested by the vCM, to the vCM, the updated configuration file; and
13[d]	means for monitoring the vCM for an indication of successful update of the ONU by the vCM using the updated configuration file.
14[a]	14. A method of updating configuration of an Optical Network Unit (ONU) in an Ethernet Passive Optical Network (EPON), the method comprising: receiving a notification that an updated configuration file is available for the ONU, wherein the ONU is configured with a current configuration file;
14[b]	obtaining the updated configuration file;
14[c]	performing, using at least one computer, a first validation of the updated configuration file for structural errors;
14[d]	determining changes between the current configuration file of the ONU and the updated configuration file to identify ONU resources to implement to the changes;
14[e]	performing a second validation about whether the ONU resources to implement the changes are available or not at the ONU; and
14[f]	applying the changes to the ONU when it is determined that the ONU resources to implement the changes are available at the ONU.
15	15. The method recited in claim 14, wherein the operation of receiving the notification includes detecting a change to a management information base (MIB) entry.
16[a]	16. The method recited in claim 14, wherein the operation of obtaining the updated configuration file includes: sending a dynamic host control protocol (DHCP) message;
16[b]	receiving one or more identities of servers storing the updated configuration file; and
16[c]	obtaining the updated configuration file from one of the servers using a file transfer protocol (FTP).
17	17. The method recited in claim 14, further including: indicating an ongoing configuration update using a MIB entry during the updating operation.
18	18. The method recited in claim 14, further including: deleting the updated configuration file from a local memory after successful completion of the applying operation.

Ref. #	Listing of Challenged Claims
19	19. The method of claim 14, further comprising: performing a third validation about whether an Optical Line Terminal (OLT) and a DOCSIS Ethernet passive optical network (DPoE) system include resources to implement the changes in the updated configuration file.
20[preamble]	20. An apparatus for updating configuration of an Optical Network Unit (ONU) in an Ethernet Passive Optical Network (EPON), the apparatus comprising:
20[a]	a receiver that receives a notification that an updated configuration file is available for the ONU, wherein the ONU is configured with a current configuration file;
20[b]	an obtainer that obtains the updated configuration file;
20[c]	a first validator that performs a first validation of the updated configuration file for structural errors;
20[d]	a determiner that determines changes between the current configuration file of the ONU and the updated configuration file to identify ONU resources to implement to the changes;
20[e]	a second validator that performs a second validation about whether the ONU resources to implement the changes are available or not at the ONU; and
20[f]	an applier that applies the changes to the ONU when it is determined that the ONU resources to implement the changes are available at the ONU.
21	The apparatus recited in claim 20, wherein the receiver includes: a detector that detects a change to a management information base (MIB) entry.
22[a]	The apparatus recited in claim 20, wherein the operation of obtaining the updated configuration file includes: a sender that sends a dynamic host control protocol (DHCP) message;
22[b]	another receiver that receives one or more identities of servers storing the updated configuration file; and
22[c]	another obtainer that obtains the updated configuration file from one of the servers using a file transfer protocol (FTP).
23	The apparatus recited in claim 20, further including: an indicator that indicates an ongoing configuration update using a MIB entry during the updating operation.

Ref. #	Listing of Challenged Claims
24	The apparatus recited in claim 20, further including: a deleter that deletes the updated configuration file from a local memory after successful completion of the applying operation.
25	The apparatus recited in claim 20, further comprising: a third validator that performs a third validation about whether an Optical Line Terminal (OLT) and a DOCSIS Ethernet passive optical network (DPoE) system include resources to implement the changes in the updated configuration file.
26[preamble]	A computer program product comprising a non-transitory computer-readable medium having code stored thereon, the code, when executed by a processor, causing the processor to implement a method of updating configuration of an Optical Network Unit (ONU) in an Ethernet Passive Optical Network (EPON), the method comprising:
26[a]	receiving a notification that an updated configuration file is available for the ONU wherein the ONU is configured with a current configuration file;
26[b]	obtaining the updated configuration file;
26[c]	performing a first validation of the updated configuration file for structural errors;
26[d]	determining changes between the current configuration file of the ONU and the updated configuration file to identify ONU resources to implement to the changes;
26[e]	performing a second validation about whether the ONU resources to implement the changes are available or not at the ONU; and
26[f]	applying the changes to the ONU when it is determined that the ONU resources to implement the changes are available at the ONU.
27	The computer program product comprising the non-transitory computer-readable medium recited in claim 26, wherein the operation of receiving the notification includes detecting a change to a management information base (MIB) entry.
28[a]	The computer program product comprising the non-transitory computer-readable medium recited in claim 26, wherein the operation of obtaining the updated configuration file includes: sending a dynamic host control protocol (DHCP) message;
28[b]	receiving one or more identities of servers storing the updated configuration file; and

Ref. #	Listing of Challenged Claims
28[c]	obtaining the updated configuration file from one of the servers using a file transfer protocol (FTP).
29	The computer program product comprising the non-transitory computer-readable medium recited in claim 26, further including: indicating an ongoing configuration update using a MIB entry during the updating operation.
30	The computer program product comprising the non-transitory computer-readable medium recited in claim 26, further including: deleting the updated configuration file from a local memory after successful completion of the applying operation.
31	The computer program product comprising the non-transitory computer-readable medium of claim 26, further comprising: performing a third validation about whether an Optical Line Terminal (OLT) and a DOCSIS Ethernet passive optical network (DPoE) system include resources to implement the changes in the updated configuration file.
32[preamble]	An apparatus for updating configuration of an Optical Network Unit (ONU) in an Ethernet Passive Optical Network (EPON), the apparatus comprising:
32[a]	means for receiving a notification that an updated configuration file is available for the ONU, wherein the ONU is configured with a current configuration file;
32[b]	means for obtaining the updated configuration file;
32[c]	means for performing a first validation of the updated configuration file for structural errors;
32[d]	means for determining changes between the current configuration file of the ONU and the updated configuration file to identify ONU resources to implement to the changes;
32[e]	means for performing a second validation about whether the ONU resources to implement the changes are available or not at the ONU; and
32[f]	means for applying the changes to the ONU when it is determined that the ONU resources to implement the changes are available at the ONU.

I. INTRODUCTION

In accordance with the Director’s March 26, 2025 “Interim Processes for PTAB Workload Management” Memorandum (“Memorandum”) and Paper No. 6, Petitioner Charter Communications, Inc. (“Petitioner” or “Charter”) responds to the Preliminary Response on Discretionary Denial (“Response”) of Iarnach Technologies Ltd. (“Patent Owner” or “Iarnach”) as follows:

Patent Owner’s Response fails to provide justification for discretionary denial of this Petition. Under the guiding *Fintiv* framework, discretionary denial is inappropriate when the Petition presents compelling merits. Charter’s Petition presents just such a case, explaining why each of claims 1-32 (“Challenged Claims”) of U.S. Patent No. 9,674,035 (“’035 Patent” or “the Patent,” Ex. 1001) over seven uncited references. Patent Owner alleges that the Petition’s primary references only lack one (Tsuge) or two limitations (Bourgart). These allegations are unfounded, as the Petition shows why each of these features is either explicitly disclosed by or rendered obvious in light of the teachings of the primary references, as well as alternate theories rendering these features obvious in light of the knowledge of one of ordinary skill and/or one or more secondary references. Indeed, Petitioner did not even address whether such features would have been obvious in view of one or more secondary references and/or the knowledge of one of ordinary skill.

In addition, while the current Petition ostensibly involves only Charter Communications, Inc. (“Petitioner” or “Charter”) and Iarnach Technologies, Ltd. (“Patent Owner” or “Iarnach”), the validity of the Challenged Claims is an issue of much broader import. Patent Owner’s infringement contentions accuse a “non-exhaustive listing” of at least three third-party devices (provided by Alcatel-Lucent, Commscope and Adtran), all for being compliant with a particular section of the DPOE 2.0 standard. EX2001, ¶46; EX2004 at 1-2. Thus, there is a strong public interest in determining the validity of the ’035 Patent.

This interest is further strengthened here, because Charter does not even use or practice the allegedly infringing aspect of that standard, namely the “Dynamic D-ONU Configuration Update Mechanism” set forth in section 9.5 of the DPOE 2.0 standard. EX2001, ¶¶79-86. Because Patent Owner’s infringement allegations fall flat, it is likely the trial court will never even address invalidity and the Board should assess the Patent’s validity here to remove the threat of future harassment to other providers of DPOE 2.0-compliant equipment over a clearly invalid patent.

II. DISCRETIONARY DENIAL INAPPROPRIATE

A. Discretionary Denial under § 325(d) Is Inappropriate

While not specifically discussed by Patent Owner, this Petition relies on references not identified during prosecution. Under 35 U.S.C. §325(d), both art and arguments relied upon must have been previously presented. *See Advanced Bionics*,

LLC v. MED-EL Elektromedizinische Geräte GmbH, IPR2019-01469, Paper 6, at 8 (PTAB Feb. 13, 2020) (precedential). This Petition thus presents new issues warranting institution. 35 U.S.C. §325(d).

No references were before the Examiner, nor evaluated, either alone or in combination with others. The Board has consistently declined to exercise discretion under Section 325(d) when references were not disclosed. *See, e.g., Advanced Bionics* at 9, n.10 (denial dependent upon “extent to which the asserted art was evaluated during examination”).

Tsuge (EX1006) in view of McKinnon (EX1007), Noel (EX1008), and/or Go (EX1009) teaches all recited limitations of Claims 1-13. Similarly, Bourgart (EX1010), Barrow (EX1011), Tsuge, Go and/or Koshy (EX1012) teach all recited limitations of claims 14-32. This Petition presents new arguments not previously addressed. Denial is inappropriate under 35 U.S.C. §325(d).

B. Discretionary Denial under § 314 Also Is Inappropriate

1. The Underlying Merits Are Strong

Discretionary denial also is inappropriate under 35 U.S.C. §314. While Patent Owner attempts to bury consideration of the Petition’s merits under its *Fintiv* Factor 6 “other considerations,” the Board’s *Fintiv* decision takes the opposite approach, elevating a Petition’s merits to the top of the analysis. Under the existing

precedent, the PTAB will not deny institution where compelling evidence of unpatentability exists. *Apple Inc. v. Fintiv, Inc.*, IPR2020-00019, Paper 11 (PTAB Mar. 20, 2020) (precedential). This Petition provides such evidence. *See e.g. Nokia of Am. Corp. v. TQ Delta*, IPR2022-00471, Paper 11 at 19-21 (PTAB Aug. 18, 2022) (concluding *Fintiv* analysis).

Patent Owner alleges that the merits of Charter's petition are weak. Yet, Patent Owner only alleges that the Petition's primary references lack one (Tsuge) or two limitations (Bourgart). These allegations are unfounded, as the Petition shows why each of these features is either explicitly disclosed by or rendered obvious in light of the teachings of the primary references, alone or in view of the knowledge of one of ordinary skill and/or one or more secondary references.

a. Tsuge Discloses Generating an Updated Configuration File, Or This Feature Would Have Been Obvious To a POSA In Light Of a POSA's Knowledge And/Or in view of Noel and/or McKinnon

Patent Owner alleges that Tsuge fails to teach generating an updated configuration file. Paper 7 at 13. Petitioner disagrees as a POSA would understand Tsuge's method for applying a configuration file to an ONU—a method with which Patent Owner takes no issue—extends to updating configuration files for ONUs at least because Tsuge teaches application of configurations to ONUs having *existing configurations*. Petition at 29 citing EX1002, ¶126.

For example, Tsuge's OLT (101) configures ONUs using CM-ONU correspondence table 551. Petition at 27 citing EX1002, ¶123 (EX1006, 20-29, Fig. 9 (Step 910), 11:4-17, 12:51-62, Fig. 6). The table associates CM IP addresses (1101) with unique ONU-identifiers (MAC address 1104). *Id.* (EX1006, 12:12-15, 63-66, 15:61-16:8, Fig. 11 (annotated):

FIG.11

551 1101	1102	1103	1104
CM IP ADDRESS	CM SETTING INFORMATION MANAGEMENT SERVER IP ADDRESS	CM SETTING INFORMATION FILE NAME	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
⋮	⋮	⋮	⋮

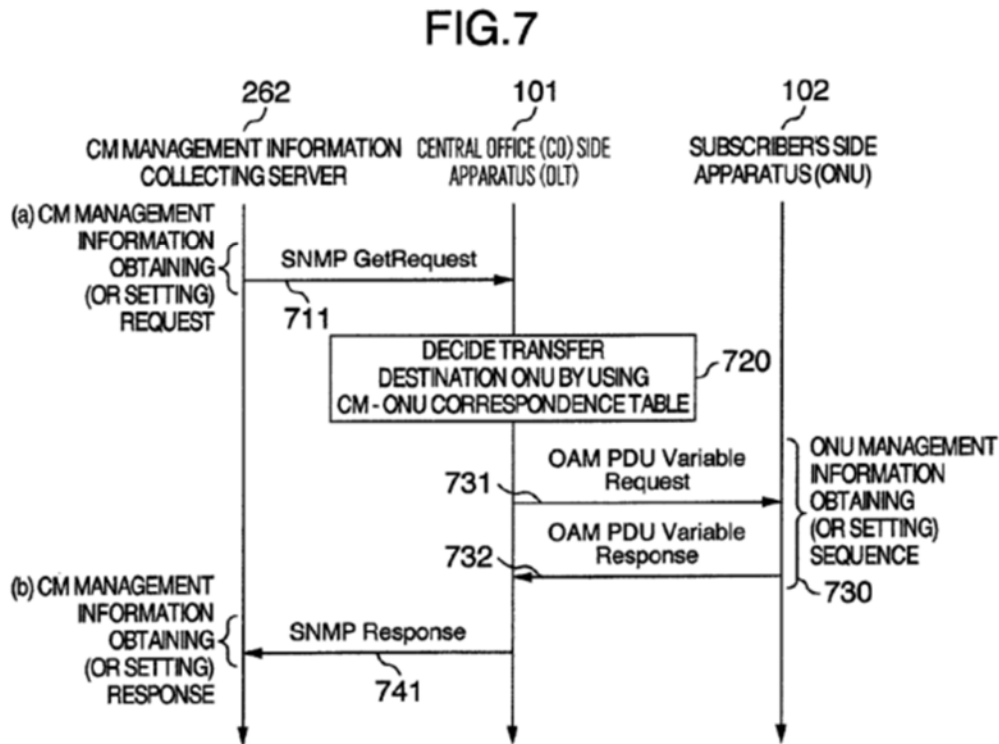
Id. (EX1010, 15:59-33, Fig. 11 (annotated)).

Table 551 also associates ONUs with a setting information file's name [GREEN] and address [PURPLE]. *Id.* citing EX1002, ¶124 (EX1006, 12:66-13:6, Fig. 11). Using that name/location, OLT 101 acquires the file using TFTP. *Id.* citing (EX1006, 40-46, 51-61, Fig. 9 (Step 920)).¹

¹ POSAs would understand Tsuge teaches **computer-generated** configuration files EX1002, ¶135 (*i.e.* electronically stored on server, electronically communicated via TFTP, and interpretable by software module 503). POSAs would have viewed as obvious computer-generated configuration files to ensure instructions would be properly interpreted, stored and transmitted. *Id.*

Tsuge also describes ONUs initially configured with files other than those denoted in table 551. Petition at 29 citing EX1002, ¶¶127-128 (EX1006, 14:29-33 (noting server address/file name may initially be *preset*). Tsuge further notes ONU configuration can occur other than at initial registration. *Id.* (EX1006, 14:33-39). POSAs would understand any subsequent configuration would ultimately employ the file identified in table 551. *Id.* POSAs would understand Tsuge's system contemplated upgrading that file to reflect service changes and system improvements (*i.e.* updated file). *Id.* POSAs would understand Tsuge would thereby update existing ONU configurations. *Id.* citing EX1002, ¶129.

As another example, Tsuge further describes server 262 issuing SNMP setting request messages that force updating. *Id.* (EX1006, 13:7-20, Fig. 7 (Step 711)).



Petition at 30 citing EX1002, ¶129 (EX1006, Fig. 7, 13:16-20 (GetRequest or SetRequest)).

SNMP protocols remotely manage and monitor network-connected devices. *Id.* citing EX1002, ¶130. Communications occur with a managed device's software module (*i.e.* SNMP agent). *Id.* SNMP agents manage a device's MIB. MIBs comprise a hierarchical organization of object variables reflecting the device's resources/settings. *Id.*

GetRequests retrieve MIB data, preparatory to changing values for objects. *Id.* citing EX1002, ¶131. SetRequests are manager-initiated commands setting or changing MIB values, including configuration settings/parameters. *Id.* citing

EX1002, ¶31; *see also* Claim 3 (describing POSAs general knowledge of MIB provoked updating via SetRequests) (Petition at 72-73).

Tsuge illustrates GetRequests in Figure 7. OLT 101 receives request and determines target ONU using table 551. Petition at 31 citing EX1002, ¶132 (EX1006, 13:21-25, Fig. 11). OLT 101 converts request to proper ONU signal 542. *Id.* (EX1006, 13:25-30, Fig. 5). OLT 101 communicates signal using IEEE 802.3ah OAM sub-layer (Step 731), and receives ONU's response (Step 732). *Id.* citing EX1002, ¶132 (EX1006, 13:16-20, Fig. 7). OLT returns data gathered (Step 730) as CM response message 741. *Id.* (EX1006, 13:40-50, Figs. 5, 7).

POSAs would understand Tsuge's ONUs were previously configured because (1) configuration information was obtainable, and (2) GetRequests precede updating ONU configurations via SetRequests. *Id.* citing EX1002 ¶133 (EX1006, 13:12-16, 14:24-29, 14:40-61, 14:62-15:15).

Alternatively, POSAs understand Tsuge retrieves and applies configuration files identified via DHCP in table 551 if rebooted. *Id.* citing EX1002 ¶134 (EX1006, 11:57-12:2). POSAs would have viewed as obvious updating such files between initialization and reboot (*see below*). During prosecution, applicant did not contest, nor does claim preclude, updating due to reboot. *Id.* citing EX1002 ¶134 (EX1003, 249-250, 258-270); Section IV(C).

In any event, based on POSAs' knowledge and Tsuge alone, and/or in view of Noel, and/or McKinnon, POSAs would further have viewed as obvious ***updating configuration files*** for previously configured ONUs to accommodate service upgrades and/or system changes. Petition at 31-32 citing EX1002, ¶136.

POSAs would understand subscriber services change, as do network capabilities/configurations. Petition at 32 citing EX1002, ¶137. POSAs would understand Tsuge's system must accommodate changing customers' services, and/or allow necessary updates improving/maintaining services. *Id.*

Tsuge discloses service classes (*e.g.* "default," "premium"). *Id.* citing EX1002, ¶138 (EX1006, Fig. 11). POSAs would have been motivated to permit subscription changes in service levels, and to technical improvements and/or adding services to existing/new service classes. *Id.* As discussed above, Tsuge incorporates mechanisms by which POSAs could have successfully prompted such updates (*e.g.* SetRequest and/or reboot). *Id.* citing EX1002, ¶138.

Additionally, Noel and/or McKinnon suggest computer-generated, updated configuration files for previously configured ONUs. *Id.* citing EX1002, ¶139.

Configuration changes for Tsuge's service classes would affect multiple ONUs. Noel reconfigures multiple ONUs. *Id.* citing EX1002, ¶140 (EX1008,

[0023]). Noel proposes an “efficient method for configuring Optical Network Terminals (ONTs) in a network[,]” such as to “allow[] a network operator *to change services*” on multiple ONU(s). *Id.* (EX1008, [0003]) (emphasis added).

Like Tsuge, Noel transmits configuration file (392) to associated ONTs when requested. Petition at 33 citing EX1002, ¶142 (EX1008, [0044], FIG. 3D). Noel’s teachings contemplate successfully modifying existing ONU configurations. *Id.* citing EX1002, ¶141 (EX1008, [0026], [0048]). A “flow chart illustrating configuring Optical Network Terminals (ONTs)” encompasses updating existing ONT configurations:

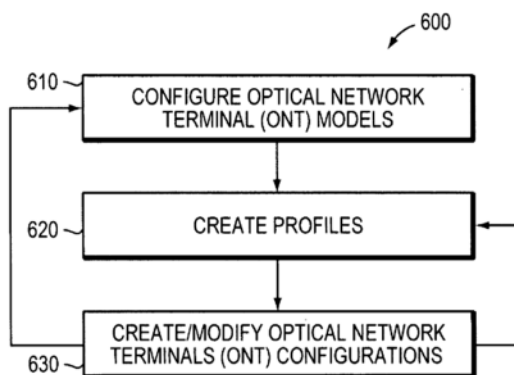


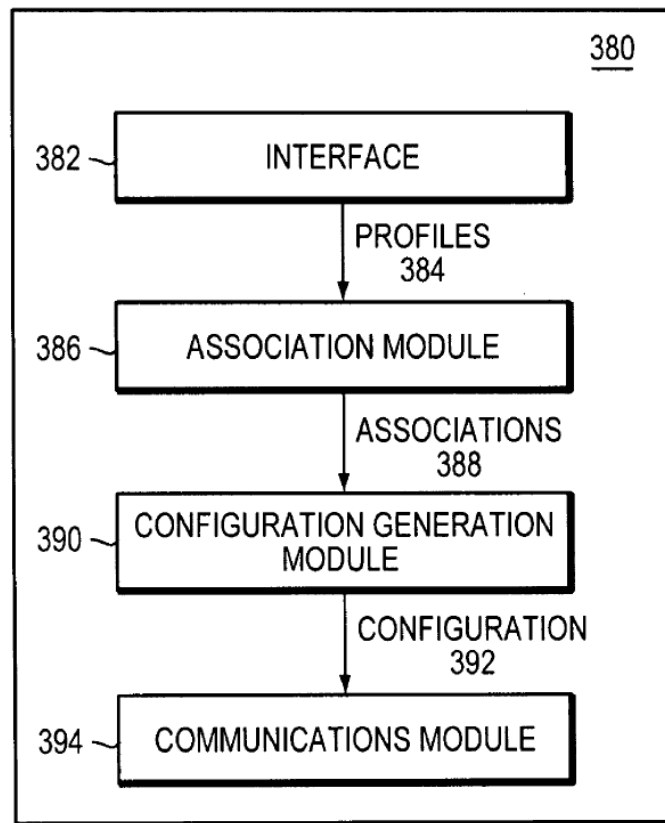
FIG. 6

Id. citing EX1002, ¶141 (EX1008, [0013], FIG. 6)

Noel further discloses easy-to-use graphical interfaces (GUIs) by which network operators modify configuration files to simultaneously change services for

multiple ONTs. *Id.* citing EX1002, ¶141 (EX1008, [Abstract], [0003], [0027]-[0028]).²

Noel's interface 382 alters stored profiles 384 defining communication parameters associated with ONTs (388). Configuration generation module (390) computer-generates configuration files (392) from these profiles:³



Petition at 34 citing EX1002, ¶142 (EX1008, [0044], Fig. 3D).

² ONTs and ONUs are synonymous. EX1002, ¶142.

³ Noel notes configuration files may be dynamically generated upon request. EX1002, ¶142 (EX1008, [0037]). Like Tsuge's CM setting information file, however, it may also be pre-generated and stored in advance of request. *Id.*

McKinnon updates configuration files in DOCSIS networks having optical fiber. *Id.* citing EX1002, ¶143 (EX1007, 1:18-22, 45-49). To service ever-increasing throughput demands: “Data packets representing voice or video, for example, now can be identified and given priority transmission over data packets representing email, file transfers, and text-based Web documents.” *Id.* at 34-35 citing EX1002, ¶143 (EX1007, 3:51-60). Data packets are transmitted downstream from CMTSs to CMs. *Id.* citing EX1002, ¶143 (EX1007, 1:55-61). McKinnon computer-generates CM configuration files pre-authorizing bandwidth. *Id.* at 35 citing EX1002, ¶143 (EX1007, 7:48-8:2 (*e.g.* temporarily suspending downloads where bandwidth exceeded)).

McKinnon’s CM is initially assigned a configuration file. *Id.* citing EX1002, ¶144 (EX1007, 13:31-40). McKinnon explains advantages of updating configurations based upon subsequent performance. *Id.* citing EX1002, ¶144 (EX1007, 28:27-55). Additionally, McKinnon touts desirability of easy-to-use GUIs through which subscribers can modify services. *Id.* citing EX1002, ¶144 (EX1007, 28:56-29:24).

McKinnon describes modifications based upon events occurring **after** initial configuration. *Id.* citing EX1002, ¶145 (EX1007, 17:1-26; 24:15-38; 28:64-29:46). These may require changing bandwidth allocations. *Id.* citing EX1002, ¶145 (EX1007, 26:56-27:21, Fig. 23 (Step 2302)).

McKinnon generates updated configuration files using Bandwidth Allocator 92 and transmits them to TFTP servers. *Id.* citing EX1002, ¶146 (EX1007, 26:56-27:21, Fig. 23 (Step2304)). Commands sent to CMs “caus[e] the CMs to acquire and implement the CM configuration files maintained on the TFTP server.” *Id.* citing EX1002, ¶146 (EX1007, 27:17-21). These CMs have existing configuration files. *Id.* citing EX1002, ¶146.

Based upon POSAs’ knowledge and disclosures in Tsuge, Noel and/or McKinnon, POSAs would have viewed as obvious computer-generating updated configuration files and sending to Tsuge’s vCM for reconfiguring EPON ONUs. Petition at 36 citing EX1002, ¶147. POSAs would have been motivated to accommodate after-arising circumstances. *Id.* The desire for an easy-to-use, self-service GUI would also have motivated POSAs to provide for generating updated configuration files. *Id.*

As set forth in the Petition’s discussion of Elements 1[a]-[d], POSAs would have reasonably expected success in generating updated configuration files for reconfiguration of Tsuge’s ONUs. *Id.* citing EX1002, ¶148. POSAs would reasonably expect to generate modified Tsuge CM setting information files, stored for retrieval, from profiles or other information (*e.g.* terms of SLAs) updated via GUIs, as described in both McKinnon and Noel. *Id.* citing EX1002, ¶183. Additionally, POSAs also would reasonably have expected successfully modifying Tsuge’s CM setting

information files to respond to measured performance, as described in McKinnon.
Id.

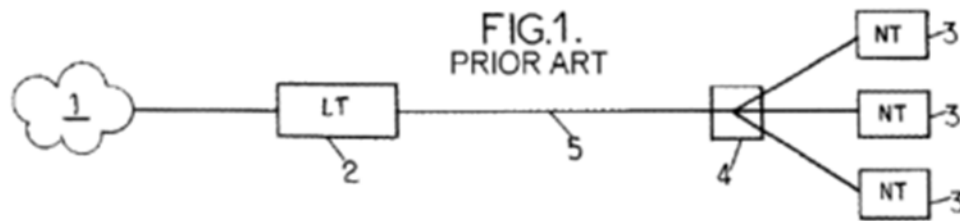
For at least these reasons, Tsuge discloses generating an updated configuration file, or this feature would have been obvious to a POSA in light of a POSA's knowledge and/or in view of Noel and/or McKinnon.

b. Bourgart Discloses Both Receiving a Notification of an Updated Configuration File And Determining Changes Between Current and Updated Configuration Files, Or These Feature Would Have Been Obvious To a POSA In Light of a POSA's Knowledge And/Or in View of Barrow

Patent Owner alleges that Bourgart fails to teach receiving a notification of an updated configuration file and/or determining changes between current and updated configuration files. Paper 7 at 13. Petitioner disagrees as, to one of ordinary skill in the art, both of these features are explicitly disclosed in Bourgart and/or obvious in view a POSA's knowledge and/or Barrow.

First, Bourgart discloses this element, describing OLTs receiving notifications that updated configuration files are available for previously-configured ONUs. Petition at 74 citing EX1002, ¶330.

Bourgart discloses telecommunications networks including a line between line-termination device (LT) and network-termination devices (NTs). *Id.* citing EX1002, ¶325 (EX1008, 1:15-18). Bourgart represented this network schematically:



Id. at 75 citing EX1002, ¶325 (EX1010, 1:22-23).

NTs may comprise ONUs. *Id.* citing EX1002, ¶326 (EX1010, 5:51-54). LTs may comprise OLTs. *Id.* citing EX1002, ¶326 (EX1010, 5:5:47-50; 6:3-9). Line 5 may be an EPON optical line. *Id.* (EX1010, 1:59-2:6).

Because communication protocols are “likely to change,” Bourgart proposes a “low-cost solution” for reconfiguring NTs that “does not require service interruption.” *Id.* citing EX1002, ¶¶327-328 (EX1010, 1:59-60, 2:11-16, 2:32-34).

Bourgart’s LT communicates reconfiguration instructions to connected NTs. *Id.* citing EX1002, ¶329 (EX1010, 2:38-55). OLTs may update ONUs’ clock frequency, line coding, scrambling and data encryption, bandwidth allocation, data format, and/or communications modes. *Id.* citing EX1002, ¶329 (EX1008, 8:15-23).

Bourgart’s OLT receives instructions (*i.e.* notifications) to update ONT configurations. *Id.* citing EX1002, ¶331 (EX1010, 11:16-17). Notifications indicate availability of updated configuration files. *Id.* (EX1010, 11:28-34, Fig. 4 (Steps 50-52)).

Second, Bourgart discloses determining changes between the current configuration file of the ONU and the updated configuration file as claimed and/or it would have been obvious to POSAs from Bourgart alone, and/or in view of Barrow. Petition at 76 citing EX1002, ¶335.

Differences between existing and updated configuration files are determined to identify and verify needed ONU resources. *Id.* citing EX1002, ¶336 (EX1010, 9:49-57). Bourgart “envisage[s]” taking account of “hardware limitations” of equipment in updating NT configurations. *Id.* at 77 citing EX1002, ¶336 (EX1010, 3:25-31). Bourgart “interrogat[es] the NTs concerning their hardware features to list the NTs that *are capable of supporting the change.*” *Id.* (EX1010, 9:49-57, 11:23-27). Bourgart then determines if updates would exceed ONU capabilities. *Id.* citing EX1002, ¶336 (EX1010, 3:18-24, 37-48).

POSAs also would have deemed this step obvious in view of Bourgart. *Id.* citing EX1002, ¶337.

Bourgart interrogates NTs to determine whether resources will support updates. *Id.* citing EX1002, ¶338 (EX1010, 3:25-31, 9:52-54). This determination would obviously entail identifying new requirements (*i.e.* changes from existing configurations). *Id.* Doing so would simplify updates, saving time, processing resources and avoiding unnecessary messaging overhead. *Id.*

POSAs would have reasonably expected success identifying changes. Bourgart describes successfully identifying additional/new resources required of updated configurations. *Id.* citing EX1002, ¶339 (EX1010, 3:25-31, 4:24-30, 9:52-54).

POSAs also would have deemed this step obvious in view of Barrow. *Id.* citing EX1002, ¶¶340-341.

Barrow reconfigures remote networked telecommunications elements, such as integrated services hubs (ISHs). *Id.* citing EX1002, ¶342 (EX1011, 2:1-67). Like ONUs, ISHs are “hardware component[s] that link[]...devices such as telephones and computers to [] network[s] through a plurality of [network] interfaces,” which “require[] configuration files to set parameters for the various interfaces for the POTS ports, Ethernet ports, etc.” *Id.* at 77-78 citing EX1002, ¶342 (EX1011, 2:1-67).

Barrow notes needing to periodically “update parameters in the configuration file” after initial configuration. *Id.* at 78 citing EX1002, ¶343 (EX1011, 2:1-67, 7:59-67). Barrow’s “Update module” dynamically updates ISH configurations without rebooting by identifying and dynamically applying changes:

Each module checks the new configuration file against its current parameters, determines if any changes require it to reboot[.] ...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.

Id. citing EX1002, ¶344 (EX1011, 3:3-20, 8:25-60, 9:3-9). Barrow depicts this process:

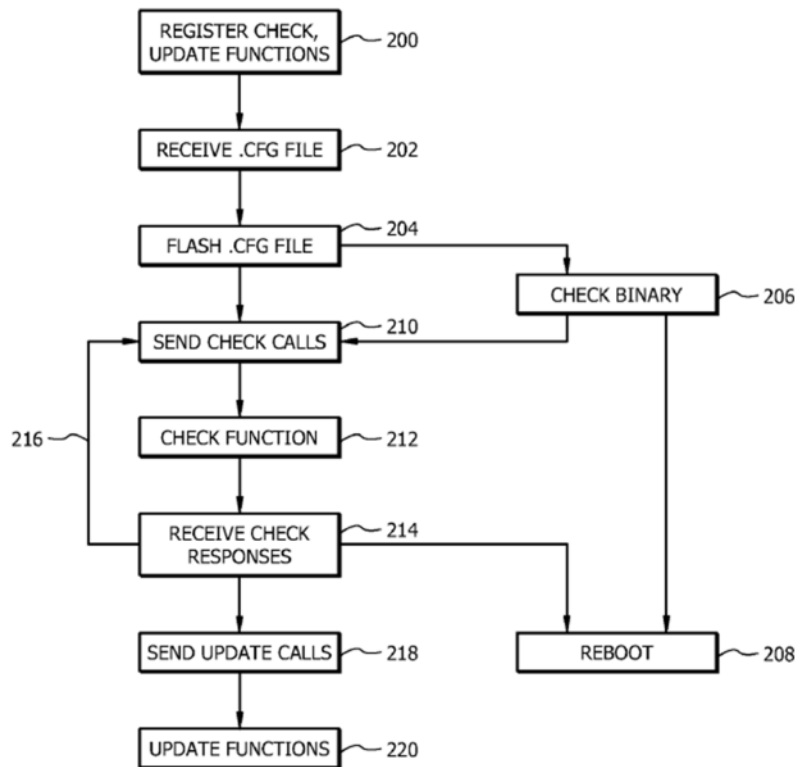


FIG. 3

Id. at 79 citing EX1002, ¶345 (EX1011, FIG. 3 (Step 220), 9:3-9).

POSAs would have been motivated to employ Barrow's update module to determine configuration changes to reduce processing, time and cost of evaluating whether resources are sufficient. *Id.* citing EX1002, ¶346.

Barrow's approach is straightforward for computers with consistently-format-
ted configuration files such that POSAs would reasonably have expected success in
Bourgart's system. *Id.* citing EX1002, ¶347 (EX1010, 9:49-63).

Thus, Bourgart discloses both receiving a notification of an updated configuration file and determining changes between current and updated configuration files, or these feature would have been obvious to a POSA in light of a Bourgart alone or in combination with a POSA's knowledge and/or Barrow.

In sum, because the only supposed deficiencies of the Petition identified by Patent Owner are non-existent, the Petition's merits are strong and discretionary denial is inappropriate. *See, e.g., Nokia*, IPR2022-00471, Paper 11 at 19-21 (PTAB Aug. 18, 2022) (concluding *Fintiv* analysis).

2. Analysis of The *Fintiv* Factors Also Weighs Against Discretionary Denial

Even if the Petition's strong merits did not conclude the *Fintiv* analysis, the *Fintiv* factors themselves also favor institution.

a. Potential for Stay

Petitioner has challenged all three patents asserted in the Lawsuit, and review has already been instituted for U.S. Patent 9,287,982 (IPR2024-01287). In its Response, Patent Owner makes much ado about the Board's decision to decline institution of review of U.S. Patent 8,942,378 (the "'378 Patent") (IPR2024-01286). However, since the filing of its Response, Patent Owner has agreed to dismiss its infringement allegations with respect to the '378 Patent, mooted any relevance that patent and petition might have had.

At this point, a final written decision on the '982 Patent is anticipated at or before a jury's verdict. Moreover, because the combined petitions would resolve validity of the two remaining asserted patents, a stay is expected. However, without "specific evidence" how the court will rule, this factor is neutral. *Sand Revolution II, LLC v. Continental Intermodal Group-Trucking LLC*, IPR2019-01393, Paper 24 at 7 (PTAB June 16, 2020) (informative).

b. Trial Timing

Jury selection is scheduled for February 9, 2026. EX1017, 1. As noted above, a final written decisions in IPR2024-01287 is likely around the time of trial (*i.e.* 18 months from filing). While a final written decision for this Petition may be likely issue until a few months after a trial, such timing is not dispositive. *See, e.g., Google, LLC v. Flypsi, Inc.*, IPR2023-00361, Paper 9 at 8-9 (PTAB July 31, 2023) (finding trial two months *before* FWD deadline slightly *avored* institution). Moreover, given that institution was already granted for the '982 Patent coupled with Patent Owner's withdrawal of the '378 Patent, the trial date is more likely to be changed if institution is granted here as the two remaining patents at issue will both be under review.

Contrary to Patent Owner's aspersions, Petitioner was diligent in filing this petition about 3 months before §315(b) deadline. This factor is neutral. *Fintiv*, Paper 11 at 11 ("expeditiously" filed petitions "weigh[] against [denial]").

c. Litigation Investment

While parties have engaged in more discovery since the filing of this Petition, the litigation is still in relatively early stages, weighing against denial. For example, the parties are just beginning the claim construction process, and no decision on claim construction is expected until after the Board decides whether to institute the current Petition. *Samsung Elecs. v. Netlist, Inc.*, IPR2022-00063, Paper 13 at 8 (PTAB May 5, 2022) (instituting where no “claim construction” had occurred).

d. Issue Overlap

This Petition challenges all claims of the Patent, whereas only claims 1-18, 20-24, 26-30, and 32 are asserted in the litigation. Additionally, Petitioner previously challenged all claims of remaining two asserted patents, including non-asserted claims. Moreover, as Patent Owner notes, the Petition also relies upon two additional prior art references not at issue in its preliminary invalidity contentions, McKinnon and Go. And while these references are secondary references, they are not merely “ancillary,” but form the basis of three of the five asserted Grounds (Grounds 1-2 and 4). Indeed, the McKinnon reference—discussed at some length above—is cited over 40 times throughout the Petition as the lead secondary reference for Grounds 1 and 2 (addressing claims 1-13) and Go describes specific teaching related to DOC-SIS MIBs at issue in fifteen (15) of thirty-two (32) asserted claims (claims 3, 7, 11, 15-17, 19, 21-23, 25, 27-29 and 31). These significant differences between the issues

in the litigation and petitions warrant consideration by the Board. Moreover, collectively, these petitions dispose of all issues raised in the litigation, as well as issues the district court will not address, weighing against denial. *Markforged, Inc. v. Continuous Composites, Inc.*, IPR2022-00679, Paper 7 at 32-33 (PTAB Oct. 25, 2022).

e. Litigation Parties

Petitioner is defendant, which is typical. *Sand Revolution II*, Paper 24 at 12-13.

f. Other Considerations

The Challenged Claims are alleged to cover a particular aspect of the DPoE v2.0 standard, so their cancelation will provide public good, weighing against denial. EX1016, ¶¶41-46. Indeed, Patent Owner's infringement contentions implicate a "non-exhaustive listing" of at least three third-party devices (provided by Alcatel-Lucent, Commscope and Adtran), all for being compliant with section 9.5 of the DPOE 2.0 standard. EX2001, ¶46; EX2004 at 1-2. Thus, there is a strong public interest in determining the validity of the '035 Patent.

This interest is further strengthened here, because Charter does not even use or practice the "Dynamic D-ONU Configuration Update Mechanism" set forth in section 9.5 of the DPOE 2.0 standard. EX2001, ¶¶79-86. Because Patent Owner's infringement allegations fall flat, it is likely the trial court will never even address invalidity and the Board should assess the Patent's validity here to remove the

threat of future harassment to other providers of DPOE 2.0-compliant equipment over a clearly invalid patent.

III. CONCLUSION

Patent Owner's response fails to provide justification for discretionary denial of this Petition because (1) the merits of the Petition, which rely on uncited references never considered by the Office, are strong and fully conclude the *Fintiv* analysis and (2) analysis of the *Fintiv* factors also weigh against discretionary denial.

Dated: May 27, 2025

Respectfully submitted,

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CERTIFICATE OF COMPLIANCE

I hereby certify that this petition complies with the type-volume limitations of 37 C.F.R. §42.24 because it contains 3,885 words (as determined by the Microsoft Word word-processing system used to prepare the petition), excluding the parts of the petition exempted by 37 C.F.R. §42.24.

Dated: May 27, 2025

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CERTIFICATE OF SERVICE

The undersigned certifies that, pursuant to 37 C.F.R. §§ 42.6(e), a true and correct copy of the forgoing PETITIONER’S REPLY ON DISCRETIONARY DENIAL was served via email to lead and backup counsel of record for Patent Owner as follows:

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