

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

DIRECTV, LLC,
Petitioner,

v.

QURIO HOLDINGS, INC.,
Patent Owner.

Case IPR2015-02007
Patent 8,879,567 B1

Before BARBARA A. BENOIT, KERRY BEGLEY, and
JASON J. CHUNG, *Administrative Patent Judges*.

BEGLEY, *Administrative Patent Judge*.

DECISION
Denying Institution of *Inter Partes* Review
35 U.S.C. § 314(a), 37 C.F.R. § 42.108

DIRECTV, LLC (“Petitioner”) filed a Petition requesting *inter partes* review of claims 1, 3, 6, 10–15, 20, 21, and 26–34 (“challenged claims”) of U.S. Patent No. 8,879,567 B1 (Ex. 1003, “the ’567 patent”). Paper 2

(“Pet.”).¹ Qurio Holdings, Inc. (“Patent Owner”) filed a Preliminary Response to the Petition. Paper 5 (“Prelim. Resp.”).

Pursuant to 35 U.S.C. § 314(a), an *inter partes* review may not be instituted unless “the information presented in the petition . . . and any response . . . shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.” Having considered the Petition and the Preliminary Response, we determine that the information presented does not show that there is a reasonable likelihood that Petitioner would prevail in establishing that any of the challenged claims of the ’567 patent are unpatentable. Accordingly, we deny institution of an *inter partes* review.

I. BACKGROUND

A. THE ’567 PATENT

The ’567 patent is directed to “[a] gateway interconnecting a high speed Wide Area Network (WAN) and a lower speed Wireless Local Area Network (WLAN).” Ex. 1003, [57], 1:55–57. According to the ’567 patent, the disclosed gateway is intended to improve the architecture of traditional residential gateways in which “overall performance” is “limit[ed] . . . to the

¹ In the introduction, the Petition also includes claims 16, 17, 24, and 25 in its request for *inter partes* review. Pet. 1. The Petition, however, does not include these claims in its statements of the asserted grounds and challenged claims, *see id.* at 1–2, and does not feature any discussion of these claims in its analysis, *see id.* at 27–60. Thus, we do not understand claims 16, 17, 24, and 25 to be challenged in the Petition. Even if we were to consider them to be challenged claims, we would conclude that Petitioner has not shown a reasonable likelihood of establishing them to be unpatentable, because the Petition does not address these claims and the deficiencies in Petitioner’s showing regarding independent claims 1 and 20, from which these claims depend, applies to these claims. *See* Ex. 1003, 8:58–9:5, 10:4–20.

wireless LAN bandwidth.” *Id.* at 1:45–51. Figure 1, reproduced below, illustrates system 10 according to one embodiment of the invention. *See id.* at 2:23–27, 2:53–56.

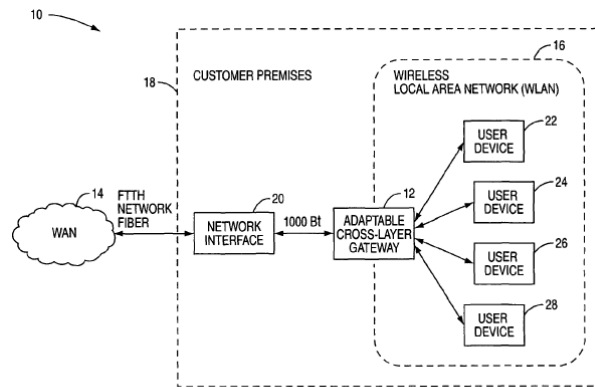


FIG. 1

Figure 1 depicts system 10 with “adaptable cross-layer gateway 12,” “interconnecting” high speed WAN 14 and lower speed WLAN 16. *Id.* Gateway 12, along with network interface 20 and WLAN 16, is included in customer premises 18. *Id.* at 3:1–5. WLAN 16 includes user devices 22–28, which “may be, for example, personal computers” or “Personal Digital Assistants (PDAs).” *Id.* at 3:27–33.

The ’567 patent discloses that the gateway includes an “adaptable cross-layer offload engine” “to manage bandwidth between the high speed WAN and the lower speed WLAN.” *Id.* at [57], 1:60–62; *see id.* at 3:34–43. The patent explains that the use of “cross-layering techniques” in gateway 12 “improves the performance of . . . WLAN 16” to take advantage of the high speed WAN 14. *Id.* at 2:59–62. As data enter the gateway “at the high speed data rate of the WAN, the offload engine stores the data in a non-secure data cache” “in order to take advantage of the high data rate provided by . . . high speed WAN 14.” *Id.* at [57], 1:62–65, 2:56–59.

In addition, the '567 patent discloses that the gateway also includes a “rules check engine” that inspects the data in the non-secure data cache. *Id.* at [57], 1:65–66. With reference to a specific embodiment, the '567 patent explains that this inspection is made according to a number of rules, which may include “Intrusion Detection System (IDS) rules 44, Digital Rights Management (DRM) rules 46, and other general or specific content rules 48.” *Id.* at 4:8–12. The DRM rules “may be rules for protecting media files . . . stored on . . . user devices 22-28 within . . . WLAN 16 when transmitted over . . . WAN 14,” and “may include rules for identifying incoming content to be encoded as a security feature to prevent unauthorized viewing of the specified content . . . within . . . WLAN 16.” *Id.* at 4:16–23.

After inspection by the rules check engine, the data are “moved from the non-secure data cache to the secure data cache.” *Id.* at [57], 1:66–2:3. With reference to a particular embodiment, the '567 patent explains that the secure data cache “is used to temporarily store data from the non-secure data cache . . . that has been inspected and cleared for transmission prior to transmission to . . . user devices 22-28 in . . . WLAN 16.” *Id.* at 4:3–7. Finally, the data are “transmitted to an appropriate user device in the WLAN at the lower data rate of the WLAN.” *Id.* at [57]; *see id.* at 2:1–3.

B. ILLUSTRATIVE CLAIM

Claims 1, 20, and 30 of the '567 patent are independent. Claim 1, reproduced below, is illustrative of the claimed subject matter:

1. A gateway interconnecting a first network to a second network comprising:
an offload engine that includes a number of protocol stack layers from a protocol stack of the gateway and is implemented in a cross-layer architecture enabling

- communication between non-adjacent layers in the protocol stack;
- a secure data cache associated with the offload engine;
- a non-secure data cache;
- a network interface communicatively coupling the offload engine to the first network and providing a first data rate; and
- an interface associated with the offload engine and adapted to communicate with a plurality of user devices within the second network, the interface providing a second data rate that is less than the first data rate of the network interface;

wherein the offload engine is adapted to:

- receive content from the first network via the network interface at the first data rate;
- store the content in the non-secure data cache such that the first data rate is supported by the gateway; and
- transmit the content from the data cache to a corresponding one of the plurality of user devices in the second network via the interface at the second data rate.

Id. at 7:48–8:5.

C. ASSERTED PRIOR ART

The Petition relies upon the following asserted prior art references:

- U.S. Patent Application Publication No. 2003/0126086 A1 (published July 3, 2003) (Ex. 1016, “Safadi”);
- U.S. Patent No. 7,412,579 B2 (issued Aug. 12, 2008) (Ex. 1017, “O’Connor”);
- WO 2003/094510 A1 (published Nov. 13, 2003) (Ex. 1011, “Ducharme”);
- Nut Taesombut et al., *A Secure Multimedia System in Emerging Wireless Home Networks*, in COMMUNICATIONS AND MULTIMEDIA SECURITY, PROCEEDINGS OF THE 7TH IFIP-TC6 TC11 INTERNATIONAL CONFERENCE, CMS 2003 76 (2003) (Ex. 1010, “Taesombut”);
- CABLEHOME 1.1 SPECIFICATION, CH-SP-CH1.1-I04-040409 (2004) (Ex. 1013, “CableHome 1.1”);
- Carl Wijting & Ramjee Prasad, *A Generic Framework for Cross-Layer Optimisation in Wireless Personal Area Networks*, 29 WIRELESS PERS. COMM. 135 (2004) (Ex. 1012, “Wijting”);

Vineet Srivastava & Mehul Motani, *Cross-Layer Design: A Survey and the Road Ahead*, IEEE COMM. MAG., Dec. 2005, at 112 (Ex. 1015, “Srivastava”); and

WebSTAR™ DPR2320™ and DPR2325™ Cable Modem Gateway User’s Guide (2005) (Ex. 1014, “DPR2325”).

In addition to these references, the Petition supports its contentions with the Declaration of Tal Lavian, Ph.D. (Ex. 1005).

D. ASSERTED GROUNDS OF UNPATENTABILITY

Petitioner challenges claims 1, 3, 6, 10–15, 20, 21, and 26–34 of the ’567 patent based on the following asserted grounds. Pet. 1, 27, 41.

Basis	References
§ 103	Taesombut, Ducharme, Wijting, and O’Connor
§ 103	CableHome 1.1, DPR2325, Srivastava, Safadi, and O’Connor

II. ANALYSIS

A. CLAIM CONSTRUCTION

Petitioner and Patent Owner each propose constructions for several claim terms. *See* Pet. 10–15; Prelim. Resp. 10–25. On this record and for purposes of this decision, we determine that none of the claim terms requires an express construction to resolve the dispositive issues discussed below.

B. OBVIOUSNESS OVER TAESOMBUT, DUCHARME, WIJTING, AND O’CONNOR

Petitioner argues claims 1, 3, 6, 10–15, 20, 21, and 26–34 of the ’567 patent are unpatentable as obvious over Taesombut, Ducharme, Wijting, and O’Connor. Pet. 27–41. Patent Owner disputes Petitioner’s assertions and supporting evidentiary showing. Prelim. Resp. 26–42.

i. Non-Compliance with 35 U.S.C. § 312(a)(3) and 37 C.F.R. §§ 42.22(a)(2), 42.104(b)(4)–(5)

Under 35 U.S.C. § 312(a)(3), a petition “may be considered only if . . . the petition identifies, in writing and with particularity, each claim

challenged, the grounds on which the challenge to each claim is based, and *the evidence that supports the grounds for the challenge to each claim*” (emphases added). Our rules further address the showing required in a petition. In particular, 37 C.F.R. § 42.104(b)(4) provides that “[t]he petition must specify where each element of the claim is found in the prior art patents or printed publications relied upon” (emphasis added), and 37 C.F.R. § 42.104(b)(5) adds that the Petition must “*identify[] specific portions of the evidence that support the challenge*” (emphasis added). Similarly, 37 C.F.R. § 42.22(a)(2) states that a petition “*must include . . . [a] full statement of the reasons for the relief requested, including a detailed explanation of the significance of the evidence*” (emphases added). For the reasons discussed below, we agree with Patent Owner that the Petition fails to comply with the requirements of 37 C.F.R. § 42.104(b)(4)–(5). See Prelim. Resp. 1. We also determine that the Petition does not meet the standards of 35 U.S.C. § 312(a)(3) and 37 C.F.R. § 42.22(a)(2).

The Petition puts forward an analysis regarding the alleged teaching and suggestions of the four asserted prior art references, Taesombut, Ducharme, Wijting, and O’Connor, including various proposed reasons to combine the references. Pet. 27–41. Throughout its analysis, the Petition refers to the claim language using numerical and alphabetical labels (i.e., elements 1[A], 1[B], 1[C], etc.) to distinguish the elements of the ’567 patent claims according to a chart that Petitioner submits as Exhibit 1032. See generally Pet.; Ex. 1032.

Beginning with the preamble and first element of independent claim 1 (element 1[A]) of the ’567 patent—“[a] gateway interconnecting a first network to a second network comprising: an offload engine that includes a

number of protocol stack layers from a protocol stack of the gateway and is implemented in a cross-layer architecture enabling communication between non-adjacent layers in the protocol stack”—the Petition discusses various alleged teachings and suggestions of all four asserted prior art references. *See* Pet. 31–35; Ex. 1003, 7:48–54; Ex. 1032, 1. With the exception of a few superficial references to some of the claim language, e.g., “cross-layer,” the Petition’s analysis is largely divorced from the claim language and its specific requirements.

This discussion also features various vague conclusions regarding alleged reasons to combine that do not specify which elements Petitioner is proposing to combine to reach the claim elements. For example, the Petition states that “[i]t would be obvious to combine Taesombut, Ducharme, and Wijting because of their overlapping technical teachings with respect to this limitation.” Pet. 32; *see also id.* at 35–36 (featuring identical statement for element 1[B]). This statement, however, fails to specify precisely which elements of Taesombut, Ducharme, and Wijting Petitioner is proposing to combine. Moreover, the Petition proffers: “Because Taesombut and Ducharme describes delivery of video data over a WLAN, one of skill would be motivated to apply Wijting’s cross-layer performance enhancing proxy to similarly improve delivery of video over wireless channels of varying quality.” *Id.* at 34. Again, the Petition is unclear as to which reference, and more particularly, which element of which reference, Wijting’s cross-layering techniques allegedly would have been applied. Likewise, the Petition states that “one of skill would be motivated to improve the gateways of Ta[es]ombut, Ducharme, and Wijting with memory controllers that support secure and non-secure partitions, as suggested in O’Connor.” *Id.*

at 30, 35. This statement appears to be proposing to modify each of Taesombut, Ducharme, and Wijting based on O'Connor's teachings of secure and non-secure memory—leaving the particular modification and combination being proposed unclear. Accordingly, the Petition lacks clarity regarding precisely which portions of the various alleged prior art references Petitioner is alleging teaches or suggests these elements of claim 1 and how Petitioner is proposing to combine the alleged teachings and suggestions to reach the relevant claim elements.

The Petition's analysis of the remaining seven elements of claim 1 (elements 1[B]–[H]) falls further from the specificity required of arguments and supporting evidence in our governing statute and rules. In particular, the Petition's analysis of each of these elements features internal cross-references to its discussion of other elements, with minimal—and often no—additional discussion specifically directed to the language of these claim elements. In particular, the Petition's analysis of the elements Petitioner refers to as 1[C], 1[F], and 1[H] is limited exclusively to cross-references—“See Element 1[A],” “See Elements 1[A] and 1[C],” and “See Preamble of Claim 1 and Element 1[E],” respectively. *Id.* at 36–37. For the other elements of claim 1, the Petition includes internal cross-references to its discussion of other elements of claim 1, along with limited discussion of additional alleged teachings or suggestions of the various asserted prior art references. *See id.* This additional discussion of each claim element is never more than three sentences and, like the preamble and first element, is generally not connected sufficiently to the various specific requirements in the claim language. *See id.*

This web of internal cross references results in multiple levels of abstraction, obscuring Petitioner's position regarding which reference, and which portion of which reference, teaches or suggests each element. The limited—if any—additional discussion the Petition puts forward regarding each element, which is generally divorced from the specific additional claim requirements, fails to cure this lack of clarity. Elements 1[B]–[H] have various specific requirements, including but not limited to “secure data cache associated with the offload engine” (element 1[B]), a “non-secure data cache” (element 1[C]), and an offload engine adapted to “store the content in the non-secure data cache such that the first data rate is supported by the gateway” (element 1[G]). The Petition does not specify expressly where these additional elements are taught or suggested in the prior art references, or provide a sufficiently detailed explanation of how the cited evidence shows that they are taught or suggested. *See id.* Accordingly, we are left without a clear picture of the Petition's position as to where the alleged prior art references teach or suggest each claim element, or how the Petition proposes to combine these teachings and suggestions to reach the invention recited in claim 1.

The Petition's analysis of independent claims 20 and 30, as well as claims 21, 28, 29, and 31–34 that depend from these claims, consists entirely of internal cross references to the Petition's insufficient analysis of independent claim 1 and its dependent claims:

Claim 20: Preamble: See discussion of preamble of Claim 1. **Element 20[A]:** See discussion of Elements 1[A] and 1[F]. **Element 20[B]:** See discussion of Elements 1[A], 1[F], and 1[G]. **Element 20[C]:** See discussion of preamble of Claim 1, and Elements 1[A], 1[F], and 1[H]. **Element 20[D]:** See Claims 6, 10, 12, and Element 12[A]. **Element 20[E]:** See Claims 6, 10, 12, and

Element 12[B]. **Element 20[F]**: See Claims 6, 10, 12, and Element 12[B]. **Claim 21**: See discussion of Element 1[A] and 1[H]. **Claims 26-29**: See preamble of Claim 1. **Claim 30: Preamble / Element 30[A]**: See Elements 1[A], 1[F], 16[A]. **Element 30[B]**: See Element 1[A], 1[G]. **Element 30[C]**: See Claims 6, 10, and Element 12[A]. **Element 30[D]**: See Claim 14. **Element 30[E]**: See Claims 6, 10, and Element 12[B]. **Element 30[F]**: See Claims 6, 10, and Elements 12[B] and 1[H]. **Claims 31-33**: See preamble of Claim 1. **Claim 34**: See discussion of Claim 3.

Id. at 41. The Petition never compares independent claim 1 and its dependent claims—including claims 6, 10, and 12, which are cited repeatedly in this list of internal cross-references—to independent claims 20 and 30 or their dependent claims. Nor does the Petition ever address any differences between the relevant claim language or attempt to explain why these differences do not impact its obviousness analysis. The Petition’s arguments and evidence for these claims—which lack any affirmative analysis of the different claim language and rely exclusively on the Petition’s discussion of different claims—falls far short of the required particularity and detail of supporting arguments and evidence in a petition.

One representative example of the deficiencies in the Petition’s showing resulting from its exclusive reliance on internal cross references for claims 20, 21 and 28–34 is the Petition’s treatment of elements 20[D], [E], and [F] and element 30[E] of independent claims 20 and 30. For each of elements 20[D]–[F] and 30[E], the Petition refers to its analysis of claims 6, 10, and 12. *See id.* The Petition’s analysis of claims 10 and 12, in turn, refers to the analysis of claim 6, without any additional analysis. *See id.* at 38. Accordingly, the Petition relies solely on its analysis of claim 6 for elements 20[D]–[F] and 30[E] of independent claims 20 and 30. *See id.* at 37–38, 41; Prelim. Resp. 37, 41.

Claim 6 recites: “The gateway of claim 1 further comprising a rule check engine adapted to inspect the content from the first network based upon at least one rule prior to transmitting the content to the corresponding one of the plurality of user devices in the second network.” Ex. 1003, 8:17–21. Claim 20, in turn, recites a method with the following steps, which Petitioner categorizes as elements [D]–[F]:

inspecting the content in the data cache based on at least one Digital Rights Management (DRM) rule to identify data to be processed by a *DRM function* [20[D]];

encode the identified data using the *DRM function* such that the encoded data is transmitted to the corresponding one of the plurality of user devices within the second network; and [20[E]]

providing *license keys* for decoding the encoded data to desired ones of the plurality of user devices having permission to consume the encoded data [20[F]].

Id. at 9:22–42 (emphases added); see Ex. 1032, 8–9. Claim 30 recites a gateway, with the element that Petitioner refers to 30[E] requiring that the gateway include “a *DRM encoder* for encoding the converted content for authorized devices of a second network” (30[E]). Ex. 1003, 10:29–40 (emphasis added); see Ex. 1032, 11.

Claim 6 does not feature many of the requirements of elements 20[D]–[F] and 30[E], including the “DRM function” and “license keys” of claim 20 and the “DRM encoder” of claim 30. Similarly, the Petition’s analysis of claim 6, on which the Petition relies to address claims 20 and 30, does not address adequately these elements. See Pet. 37–38, Prelim. Resp. 38–41.

For claim 6, the Petition discusses Taesombut’s teachings regarding its gateway applying DRM rules, see Pet. 37 (citing Ex. 1010 ¶¶ 10, 17, 23,

31, Fig. 4; Ex. 1005 ¶¶ 230–231), Ducharme’s teachings that its Entitlement Management Messages (“EMMs”) indicate whether a client is permitted to unprotect data, *see id.* (citing Ex. 1011, 3:23–4:4, Fig. 2), and Wijting’s teaching that a gateway should provide security, *see id.* at 37–38 (citing Ex. 1012 ¶ 21). The Petition’s analysis of the claim concludes with an assertion that it would have been “obvious to combine the EMMs of Ducharme with the DRM rules of Taesombut, as both are examples of rules or messages for processing digital rights or content permissions in the gateway to facilitate security.” *Id.* at 38. Accordingly, the Petition never specifies or addresses sufficiently where the alleged prior art teaches or suggests the “DRM function” and “license keys” recited in claim 20 and the “DRM encoder” recited in claim 30.

The defects in the Petition outlined above are compounded by the Petition’s repeated citation to broad sections of the Dr. Lavian Declaration to bolster conclusory arguments and reasoning. The Dr. Lavian Declaration is 262 pages—more than four times the maximum length of a petition. *See* Ex. 1005; 37 C.F.R. § 42.24(a)(1)(i). As a result, the Declaration contains vastly more discussion and analysis of the prior art references, their alleged teachings and suggestions, and alleged reasons to combine the references.

The Petition regularly cites to large sections of the Dr. Lavian Declaration as support for statements for which the Petition does not otherwise provide explanation. For example, in its analysis of element 1[A], the Petition, after asserting that Ducharme suggests packet level processing, states that “[c]oordinated packet data processing suggests a cross-layer architecture in processing offloaded data.” Pet. 34–35; Ex. 1003, 7:48–54; Ex. 1032, 1. Similarly, as noted above, the Petition concludes that

“[b]ecause Taesombut and Ducharme describes delivery of video data over a WLAN, one of skill would be motivated to apply Wijting’s cross-layer performance enhancing proxy to similarly improve delivery of video over wireless channels of varying quality.” Pet. 34. These statements are not otherwise developed or explained in the Petition, and the only citation for each statement is to paragraphs 184–199 of the Dr. Lavian Declaration. *Id.* at 33–35. These sixteen paragraphs of the Dr. Lavian Declaration span approximately eight pages, and feature numerous citations to the various alleged prior art references. *See* Ex. 1005 ¶¶ 184–199.

The Petition’s practice of citing multiple pages of the Dr. Lavian Declaration to support conclusory statements and to expand its thin analysis violates our rules in two respects. First, this practice amounts to incorporation by reference—which is impermissible under our rules. *See* 37 C.F.R. § 42.6(a)(3) (“Arguments must not be incorporated by reference from one document into another document.”); *Cisco Sys., Inc. v. C-Cation Techs., LLC*, Case IPR2014-00454, slip op. at 7–10 (PTAB Aug. 29, 2014) (Paper 12) (informative). This incorporation by reference from the Declaration into the Petition “serves to circumvent the page limits imposed on petitions for *inter partes* review, while imposing on our time by asking us to sift through over 2[6]0 pages of Dr. [Lavian’s] Declaration . . . to locate the specific [relevant] arguments” and supporting evidence. *Cisco Sys., Inc.*, IPR2014-00454, at 10 (Paper 12). We will not consider arguments and information that are not presented and developed in the Petition, and instead are incorporated by reference to the Dr. Lavian Declaration. Second, the Petition’s consistent citations to large portions of the Dr. Lavian Declaration runs afoul of the particularity and specificity required of supporting evidence

under our governing statute and rules. *See* 35 U.S.C. § 312(a)(3); 37 C.F.R. §§ 42.22(a)(2), 42.104(b)(4)–(5).

In sum, the Petition’s vague analysis regarding the alleged teachings and suggestions of Taesombut, Ducharme, Wijting, and O’Connor that is largely divorced from the language of the particular claim elements, with imprecise allegations regarding combining these references as well as supporting citations to a web of internal cross-references and large portions of the lengthy Dr. Lavian Declaration, leaves us “to play archeologist with the record.” *Cisco Sys., Inc.*, IPR2014-00454, at 10 (Paper 12). Based on the deficiencies addressed above, the Petition fails: (1) to specify sufficiently where each element of claims 1, 3, 6, 10–15, 20, 21, and 26–34 of the ’567 patent is found in the combination of Taesombut, Ducharme, Wijting, and O’Connor, and (2) to proffer adequate explanation of the significance of the citations to the alleged prior art references and the Dr. Lavian Declaration—as required under 35 U.S.C. § 312(a)(3), 37 C.F.R. § 42.22(a)(2), and 37 C.F.R. § 42.104(b)(4)–(5). Therefore, we deny institution of the asserted ground of obviousness over Taesombut, Ducharme, Wijting, and O’Connor.

ii. Obviousness Analysis

The asserted ground of obviousness over Taesombut, Ducharme, Wijting, and O’Connor also suffers from other deficiencies in its showing of obviousness. A patent claim is unpatentable as obvious under 35 U.S.C. § 103(a)² if “the differences between” the claimed subject matter and the

² The Leahy-Smith America Invents Act (“AIA”), Pub. L. No. 112-29, 125 Stat. 284, 287–88 (2011), revised 35 U.S.C. § 103, effective March 16,

prior art “are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.” 35 U.S.C. § 103(a); *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007). As explained in *Graham v. John Deere Co.*, 383 U.S. 1 (1966), the legal conclusion of obviousness is resolved on the basis of underlying factual determinations, including: (1) “the scope and content of the prior art,” (2) “differences between the prior art and the claims at issue,” (3) “the level of ordinary skill in the pertinent art,” and (4) any “secondary considerations,” or objective indicia, of nonobviousness. *Id.* at 17–18.

A patented invention “composed of several elements is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art.” *KSR*, 550 U.S. at 418. Rather, “it can be important to identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does.” *Id.* An obviousness determination “cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.” *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006); *see KSR*, 550 U.S. at 418 (quoting *Kahn*, 441 F.3d at 988).

Here, the Petition fails to address meaningfully or explain the differences between the challenged claims of the ’567 patent and the four asserted prior art references. *See* Pet. 15–19, 26–41; *Liberty Mut. Ins. Co. v. Progressive Casualty Ins. Co.*, Case CBM2012-00003, slip op. at 3 (PTAB

2013. Because the ’567 patent was filed before March 16, 2013, our references and citations to § 103 in this decision are to the pre-AIA version.

Oct. 25, 2012) (Paper 7) (representative) (“A petitioner who does not state the differences between a challenged claim and the prior art, and relies instead on the Patent Owner and the Board to determine those differences . . . risks having the corresponding ground of obviousness not included for trial for failing to adequately state a claim for relief.”). Moreover, the Petition does not articulate sufficiently why or how one of ordinary skill in the art would have combined or modified the teachings and suggestions of the references to address such differences.

Instead, as discussed above in § II.B.i, the Petition’s proposed reasons to combine the asserted prior art references are generally vague and conclusory, lacking clarity and detail regarding precisely which elements of the prior art references would have been combined. As we explain in more detail below, the proposed reasons also fail to explain adequately how and why a person of ordinary skill in the art would have made such modifications to arrive at the claimed invention, and whether such a person would have had a reasonable expectation of success in doing so.

As a representative example, independent claim 1 recites: “secure data cache associated with the offload engine” and “a non-secure data cache.” Ex. 1003, 7:55–56. As we explain above in § II.B.i, the Petition does not specify adequately how the asserted prior art teaches or suggests, or combines to meet, these limitations. Our analysis in this section, therefore, is limited by our ability to understand the Petition’s obviousness assertions. From what we can discern, however, the Petition appears to rely on O’Connor as teaching or suggesting a distinction between “secure” and “non-secure” memory, as claim 1 requires. See Pet. 26–27, 35–36. The Petition does not develop or explain a position that any other asserted prior

art reference teaches or suggests such a distinction between secure and non-secure memory.³ *See id.*

In particular, Petitioner argues, and we agree, that O'Connor teaches memory controllers that partition memory into "secure partitions and non-secure partitions" for use in network devices, such as a bridge or a router. Ex. 1017, 2:63–3:8, 6:36–41, Fig. 1; Pet. 26–27. According to the Petition, one "of skill would be motivated to improve the gateways of Ta[es]ombut, Ducharme, and Wijting with memory controllers that support secure and non-secure partitions, as suggested in O'Connor." Pet. 30 (citing Ex. 1005 ¶¶ 197–199); *id.* at 35 (citing Ex. 1005 ¶¶ 200–202). The Petition reasons: "For example, encrypted data received at the gateway in Ta[es]ombut and Ducharme can be stored in non-secure memory, but once the data is decrypted for transcoding or other processing as taught in Ta[es]ombut and Ducharme, one of skill would be motivated to store decrypted data in secure memory, to prevent the unencrypted data from being copied." *Id.* at 30 (citing Ex. 1005 ¶¶ 197–199, 352); *id.* at 35 (citing Ex. 1005 ¶¶ 200–202).

The Petition supports this asserted reason to combine solely with the Dr. Lavian Declaration, specifically paragraphs 197–199, 200–202, and 352. Paragraph 352 relates to the other asserted obviousness ground, offering a rationale to combine O'Connor's teachings with DPR2325, CableHome 1.1, Srivastava, and Safadi. *See* Ex. 1005 ¶¶ 352–353. Therefore, it is not relevant to this asserted ground. Moreover, in the other cited paragraphs of the Declaration, Dr. Lavian only opines regarding O'Connor's teachings of secure and non-secure memory partitions—he offers no opinion regarding

³ As explained in § II.B.i, we need not and will not consider arguments and evidence not developed or explained in the Petition.

combining O'Connor's teachings with Taesombut, Ducharme, and Wijting or reasoning as to why one of ordinary skill in the art would have done so. *See id.* ¶¶ 197–199, 200–202. Thus, the Petition's asserted reason to combine O'Connor's teaching with Taesombut, Ducharme, and Wijting is merely attorney argument, devoid of evidentiary support, and is entitled to no weight. *See Gemtron Corp. v. Saint-Gobain Corp.*, 572 F.3d 1371, 1380 (Fed. Cir. 2009) (“[U]nsworn attorney argument . . . is not evidence.”); *Enzo Biochem, Inc. v. Gen-Probe, Inc.*, 424 F.3d 1276, 1284 (Fed. Cir. 2005) (“Attorney argument is no substitute for evidence.”). Accordingly, the Petition does not support adequately this alleged reason to combine O'Connor's teachings distinguishing secure and non-secure memory with the other asserted prior art references.

In addition, the Petition's reasoning addresses only an alleged reason to combine O'Connor's teachings with the other asserted prior art references—without addressing how a person of ordinary skill would have done so and whether such a person would have had a reasonable expectation of success in arranging a secure and non-secure data cache in the manner recited in claim 1. *See PAR Pharm., Inc. v. TWI Pharm., Inc.*, 773 F.3d 1186, 1193 (Fed. Cir. 2014) (“A party asserting that a patent is obvious must demonstrate . . . that a skilled artisan would have had reason to combine the teaching of the prior art references to achieve the claimed invention, and that the skilled artisan would have had a reasonable expectation of success from doing so.”) (internal citations and quotations omitted). In sum, the Petition does not present adequate reasoning, with rational underpinning, to support combining O'Connor's teachings of secure and non-secure memory with the other asserted prior art references to reach the “secure data cache associated

with the offload engine” and “a non-secure data cache” recited in independent claim 1.

Turning to independent claims 20 and 30, we provide another example of the deficiencies in the Petition’s obviousness analysis with regard to these claims. Specifically, we consider the Petition’s analysis of claim 6 for elements 20[D]–[F] of claim 20 and elements 30[C] and 30[E] of claim 30 based on the Petition’s reliance on its analysis of claim 6 for these elements of claims 20 and 30. Pet. 37–41; Ex. 1003, 9:22–42, 10:29–40; Ex. 1032, 8–11. As we explain above in § II.B.i, the Petition’s analysis of claim 6 does not identify sufficiently where the asserted prior art teaches or suggests the elements of claims 20 and 30, including the “DRM function” and “license keys for decoding the encoded data” of claim 20 and the “DRM encoder” of claim 30. Even if we were to overlook this deficiency to attempt to address the merits of the Petition’s obviousness analysis, we find the reasons to combine the prior art in the analysis of claim 6 inadequate on the record before us.

In particular, the Petition’s analysis of claim 6 proffers that it would have been “obvious to combine the EMMs of Ducharme with the DRM rules of Taesombut, as both are examples of rules or messages for processing digital rights or content permissions in the gateway to facilitate security.” Pet. 38 (citing Ex. 1005 ¶¶ 230–231). In the cited testimony from the Dr. Lavian Declaration (paragraphs 230–231), however, Dr. Lavian does not opine regarding combining Taesombut and Ducharme, or more specifically, combining Ducharme’s EMMs and Taesombut’s DRM rules. See Ex. 1005 ¶¶ 230–231. Thus, again, the Petition’s proposed reason to combine is mere attorney argument, which is insufficient to support the proposed

combination. Moreover, the Petition acknowledges that both Ducharme and Taesombut have their own means to process digital rights—EMMs and DRM rules, respectively—yet provides no persuasive reason why a person of ordinary skill in the art would have combined the two, e.g., one is insufficient or the combination would be advantageous. *See* Pet. 37–38. Nor does the Petition explain how a person of ordinary skill in the art would have implemented the proposed combination of the EMMs of Ducharme and the DRM rules of Taesombut (e.g., using particular aspects of each), or address whether such a person would have had a reasonable expectation of success in making the combination. Accordingly, the Petition does not provide an adequate reason to combine Taesombut and Ducharme, along with Wijting and O’Connor, to reach the limitations of claims 20 and 30 in the manner proposed in the Petition, or show a reasonable expectation of success in doing so.

Consistent with these examples, the Petition’s numerous other proposed modifications and combinations of the asserted prior art to reach independent claims 1, 20, and 30, as well as the challenged dependent claims, likewise lack sufficient detail and are supported by little to no reasoning. *See id.* at 27–41. We are not persuaded that the Petition adequately explains why a person of ordinary skill would simultaneously make all of the many proposed modifications in combining alleged teachings and suggestions from four different prior art references. Instead, the Petition appears to “rel[y] upon *ex post* reasoning” and impermissible hindsight reconstruction to piece together the asserted prior art references in a manner meant to resemble the ’567 patent claims. *See KSR*, 550 U.S. at 421.

For the reasons given, the Petition does not articulate adequate reasoning, with rational underpinning, to combine Taesombut, Ducharme, Wijting, and O'Connor to reach the invention recited in independent claims 1, 20, and 30, as well as dependent claims 3, 6, 10–15, 21, 26–29, and 31–34. The Petition also does not show sufficiently that a person of ordinary skill would have had a reasonable expectation of success in doing so. Therefore, we determine that the Petition does not show a reasonable likelihood that Petitioner would prevail in establishing that any of the challenged claims would have been obvious over Taesombut, Ducharme, Wijting, and O'Connor.

C. OBVIOUSNESS OVER DPR2325, CABLEHOME 1.1, SRIVASTAVA, SAFADI, AND O'CONNOR

In addition, Petitioner contends claims 1, 3, 6, 10–15, 20, 21, and 26–34 of the '567 patent are unpatentable as obvious over DPR2325, CableHome 1.1, Srivastava, Safadi, and O'Connor. Pet. 41–60. Patent Owner opposes. Prelim. Resp. 42–56. As we explain below, we deny institution of this asserted ground for substantially the same reasons outlined above for the asserted ground relying on Taesombut, Ducharme, Wijting, and O'Connor.

i. Non-Compliance with 35 U.S.C. § 312(a)(3) and 37 C.F.R. §§ 42.22(a)(2), 42.104(b)(4)–(5)

First, we agree with Patent Owner that the Petition's analysis of this asserted obviousness ground relying on DPR2325, CableHome 1.1, Srivastava, Safadi, and O'Connor is deficient in failing to conform to the required standards of specificity of arguments and evidence in a petition, for largely the same reasons given above for the asserted ground relying on Taesombut, Ducharme, Wijting, and O'Connor. *See* Prelim. Resp. 1; *supra*

§ II.B.i. The analysis of this asserted ground in the Petition uses the same basic structure, format, and techniques as the asserted ground relying on Taesombut, Ducharme, Wijting, and O'Connor. In particular, the Petition's analysis of claim 1 of the '567 patent begins by discussing various alleged teachings and suggestions of DPR2325, CableHome 1.1, Safadi, and O'Connor for the preamble and DPR2325, CableHome 1.1, Srivastava, and O'Connor for element 1[A], with underdeveloped references to the applicable claim language. *See* Pet. 46–55.

This analysis also features ambiguous assertions regarding how one of ordinary skill would have combined the alleged prior art references, which fail to specify sufficiently which elements of the prior art references Petitioner is proposing to combine, as well as how the alleged combinations would have been made. *See id.* For example, the Petition's statements that "[t]he overlapping technical teachings of DPR2325, CableHome 1.1, Safadi, and O'Connor support their combination," *id.* at 48, and "one of skill would be motivated to improve the gateways of DPR2325, CableHome 1.1, and Safadi with memory controllers that support secure and non-secure partitions, as suggested in O'Connor," *id.* at 53, lack clarity for the reasons explained above for the corresponding statements in the asserted ground relying on Taesombut, Ducharme, Wijting, and O'Connor. *See supra* § II.B.i. Moreover, the Petition represents that: "[o]ne of skill would be motivated to apply *other cross-layer optimizations disclosed in Srivastava* to the gateway of DPR2325, CableHome 1.1, and Safadi, thus improving the ability of the gateway to deliver video[,] audio, and other delay sensitive content more effectively." Pet. 52. This statement appears to be proposing to separately modify each of DPR2325, Cable Home 1.1, and Safadi, as

opposed to a particular combination of references. Moreover, it is unclear what “other cross-layer optimizations” the Petition is proposing to apply to these references. *Id.* As Petitioner and Dr. Lavian acknowledge, Srivastava provides a “survey of cross-layer architectures,” explaining several different examples of “cross-layer designs.” Pet. 52; see Ex. 1005 ¶¶ 335, 364; Ex. 1015, 114–116, Fig. 1 (depicting “the different kinds of cross-layer design proposals” explained in the article). Therefore, the “other cross-layer optimizations disclosed in Srivastava” that the Petition proposes to combine with DPR2325, CableHome 1.1, and Safadi lacks specificity and clarity.

In addition, after discussing the preamble and element 1[A], the Petition switches to rely heavily on internal cross-references for the remaining seven elements of claim 1 (elements 1[B]–[H])—with little to no additional analysis of the particular requirements of these claim elements. See Pet. 53–55. Like the asserted ground relying on Taesombut, Ducharme, Wijting, and O’Connor, the Petition’s analysis of elements 1[C] and 1[F] consists only of cross-references—“See Element 1[A]” and “See Elements 1[A] and 1[C],” respectively. *Id.* The discussion of the other claim elements also features internal citations, with brief additional discussion that is not sufficiently detailed and connected to the claim language. See *id.* Thus, the Petition fails to specify sufficiently where Petitioner is alleging the various claim elements—such as “secure data cache associated with the offload engine” (element 1[B]), a “non-secure data cache” (element 1[C]), and an offload engine adapted to “store the content in the non-secure data cache such that the first data rate is supported by the gateway” (element 1[G])—are taught or suggested in the prior art references, and how the prior art references would have been combined to reach the recited elements.

Moreover, the Petition’s analysis of independent claims 20 and 30, as well as dependent claims 21, 28, 29, and 31–34, consists exclusively of the same list of internal cross-references to the Petition’s analysis of claim 1 and its dependent claims that is featured in the asserted ground relying on Taesombut, Ducharme, Wijting, and O’Connor. *Compare id.* at 60, *with id.* at 41. For the reasons we explain above in § II.B.i, this lack of any analysis directed to the particular elements of claims 20, 21, and 28–34 falls far below the requirements in our governing statute and rules for specificity and detail of supporting arguments and evidence.

In addition, many of the Petition’s assertions regarding teachings and suggestions of CableHome 1.1, DPR2325, Srivastava, Safadi, and O’Connor, and reasons to combine these references, are not adequately explained in the Petition and instead feature a supporting citation to vast portions—consistently more than thirty pages—of the Dr. Lavian Declaration. *See* Pet. 48–55. For example, the statements regarding combining O’Connor’s “memory controllers that support secure and non-secure partitions” and Srivastava’s “other cross-layer optimizations,” discussed above, both cite paragraphs 335–397 of the Dr. Lavian Declaration. *See id.* at 52–53. These sixty-three paragraphs of the Declaration cover approximately thirty-seven pages. *See* Ex. 1005 ¶¶ 335–397. Similarly, the Petition elsewhere states, without explanation, that “[i]t would be obvious that data would be added to a QoS queue in CableHome 1.1 at the data rate of incoming traffic, and [sic] packets are dropped at all, they are . . . dropped from the queue.” Pet. 55. This sentence cites the same sixty-three paragraphs of the Declaration (¶¶ 335–397), as well as page 158 of CableHome 1.1. *Id.* Based on our review, the cited

page of CableHome 1.1 alone is not sufficient support for the proposition in this sentence. Accordingly, for each of these statements, the Petition leaves the Board to review nearly forty pages of declaration testimony to discern whether there is sufficient evidence and reasoning to support the statement. As we explain above, this we will not do. These repeated citations to voluminous portions of the Dr. Lavian Declaration are improper under our rules, as they constitute improper incorporation by reference and fail to comply with the particularity and detail required of supporting evidence. *See* 35 U.S.C. § 312(a)(3); 37 C.F.R. §§ 42.22(a)(2), 42.104(b)(4)–(5); *Cisco Sys., Inc.*, IPR2014-00454, at 7–10 (Paper 12).

For the reasons given above, we conclude the Petition fails: (1) to specify sufficiently where each element of claims 1, 3, 6, 10–15, 20, 21, and 26–34 of the '567 patent is found in the combination of CableHome 1.1, DPR2325, Srivastava, Safadi, and O'Connor, and (2) to proffer adequate explanation of the significance of the citations to the alleged prior art references and the Dr. Lavian Declaration—as required under 35 U.S.C. § 312(a)(3), 37 C.F.R. § 42.22(a)(2), and 37 C.F.R. § 42.104(b)(4)–(5). Thus, we deny institution of the asserted ground of obviousness over CableHome 1.1, DPR2325, Srivastava, Safadi, and O'Connor.

ii. Obviousness Analysis

In addition, this asserted ground has numerous deficiencies on the merits of its obviousness analysis. Specifically, the Petition does not adequately identify or discuss the differences between the challenged claims and the five asserted prior art references (DPR2325, CableHome 1.1, Srivastava, Safadi, and O'Connor) and, thus, fails to perform a sufficient *Graham* analysis. *See* Pet. 19–27, 41–60; *Liberty Mut. Ins. Co.*, CBM2012-

0003, at 3 (Paper 7). Nor does the Petition provide sufficiently articulated and supported reasons why a person of ordinary skill in the art would have combined elements of the asserted references to reach the claimed invention. Rather, as outlined above in § II.C.i, the Petition's proposed reasons to combine are superficial and lack sufficient detail regarding which elements of the prior art Petitioner is proposing to combine, which, together with other deficiencies, cause the Petition to fall below the required standards for specificity of arguments and evidence. In addition, as we detail below, the reasons to combine proffered in the Petition do not explain sufficiently why and how a person of ordinary skill would have made the alleged combination to reach the invention recited in the challenged claims. As a result, the Petition fails to support sufficiently Petitioner's obviousness assertions under governing legal standards.

For example, in the present asserted ground, like the asserted ground relying on Taesombut, Ducharme, Wijting, and O'Connor addressed above, the Petition appears to rely on O'Connor's disclosure of memory controllers that partition memory into secure and non-secure partitions to teach or suggest a distinction between secure and non-secure memory as required in the "secure data cache associated with the offload engine" and the "non-secure data cache" limitations of independent claim 1. *See* Pet. 45–46, 52–54. The Petition does not articulate or develop sufficiently a position that any other asserted prior art reference teaches or suggests such a distinction between secure and non-secure memory. *See id.* In addition, the Petition proffers the same reason to combine this teaching of O'Connor with the references asserted in this ground:

[O]ne of skill would be motivated to improve the gateways of DPR2325, CableHome 1.1, and Safadi with memory controllers that support secure and non-secure partitions, as suggested in O'Connor. Ex. 1005 at ¶¶ 335-97. For example, encrypted data received at the gateway in Safadi can be stored in non-secure memory, but once the data is decrypted for transcoding or converting to another DRM scheme as taught in Safadi, one of skill would be motivated to store decrypted data in secure memory, to prevent the unencrypted data from being copied, a security goal of CableHome 1.1. Ex. 1005 at ¶¶ 335-97.

Id. at 52–53. The Petition elsewhere repeats these statements with supporting citations to a smaller subset of Exhibit 1005, the Dr. Lavian Declaration, namely paragraphs 381–384. *Id.* at 45–46.

As an initial matter, as we note above, the Petition's citation to sixty-three paragraphs of the Dr. Lavian Declaration (¶¶ 335–397), spanning approximately thirty-seven pages, to support these statements constitutes impermissible incorporation by reference. *See supra* § II.C.i. Nonetheless, even if we consider the cited testimony for this particular asserted reason to combine, it does not support adequately the Petition's assertion.

Similar to the asserted ground relying on Taesombut, Ducharme, Wijting, and O'Connor, the portions of the Dr. Lavian Declaration that the Petition cites for this proposed reason to combine O'Connor's teachings with DPR2325, CableHome 1.1, and Safadi do not support the Petition's proffered reasoning. *See* Pet. 45–46, 52–53; Ex. 1005 ¶¶ 335–397. In particular, Dr. Lavian makes no reference to a motivation to store data, once decrypted, in secure memory. *See* Ex. 1005 ¶¶ 335–397. Therefore, for the reasons we explain above, the Petition's asserted reason to combine O'Connor's teaching with the other prior art references is again only

attorney argument without evidentiary support in the record and is entitled to no weight. *See supra* § II.B.ii; *see, e.g., Gemtron Corp.*, 572 F.3d at 1284.

Moreover, the cited portions of the Dr. Lavian Declaration offer reasons to combine O'Connor's teachings with the other asserted references that differ from the reason to combine proposed in the Petition. Because this testimony differs from the arguments made in the Petition, we need not consider it. Even considering the testimony, we do not find it persuasive. Specifically, in paragraphs 380 and 382, Dr. Lavian opines: "O'Connor's architecture is generic and can be used in a gateway device or any other device that requires this type of separation of secure and non-secure memory." Ex. 1005 ¶¶ 380, 382 (quoting Ex. 1017, 6:36–41). Dr. Lavian, however, does not explain adequately, with sufficient supporting evidence, that any of the other alleged prior art references would "require[]" such a separation between secure and non-secure memory. *See id.* ¶¶ 379–383. In addition, Dr. Lavian's opinion that O'Connor's architecture is "generic" and "can" be used in other gateways or devices is not enough, as it does not address whether a person of ordinary skill would have had reason to make the combination. *See Belden Inc. v. Berk-Tek LLC*, 805 F.3d 1064, 1072 (Fed. Cir. 2015) ("[O]bviousness concerns whether a skilled artisan not only could have made but would have been motivated to make the combinations or modifications of prior art to arrive at the claimed invention.").

Moreover, in paragraph 352, Dr. Lavian, after explaining O'Connor's teaching of secure and non-secure memory partitions as well as alleged teachings of the other four references, concludes that:

It is a predictable and natural step for a person skilled in the art to combine these conventional schemes to develop a gateway as well to achieve the same business goals and same purpose,

which are to provide an efficient and useful gateway device between WLAN and WAN, and to combine with the other references for this purpose, and to improve the security of the data being processed in the device, as suggested by Safadi and other references in this ground.

Ex. 1005 ¶ 352. These general assertions related to combining all five of the alleged prior art references—without specifying which elements would be combined—lack adequate support and development. *See* 37 C.F.R.

§ 42.65(a) (“Expert testimony that does not disclose the underlying facts or data on which the opinion is based is entitled to little or no weight.”); *KSR*, 550 U.S. at 418 (quoting *Kahn*, 441 F.3d at 988) (“[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements . . .”). Thus, Dr. Lavian’s testimony does not support sufficiently the Petition’s assertion that a person of ordinary skill in the art would have incorporated O’Connor’s teachings of secure and non-secure memory into the other asserted prior art references.

Elsewhere, the Petition concludes that “[t]he overlapping technical teachings of DPR2325, CableHome 1.1, Safadi, and O’Connor support their combination.” Pet. 48 (citing Ex. 1005 ¶¶ 333–339). The cited testimony of Dr. Lavian does not discuss or cite to O’Connor, again leaving this statement in the Petition without support. *See* Ex. 1005 ¶¶ 333–339. In addition, we are not persuaded that the Petition shows sufficiently that O’Connor’s teachings regarding secure and non-secure memory overlap with the other references in any meaningful way. Further, even if we were to agree that O’Connor’s teachings overlap with the other references, this alone is not sufficient. *See Purdue Pharma L.P. v. Depomed, Inc.*, Nos. 2015-2029, 2015-2030, 2015-2032, slip op. at 10–11 (Fed. Cir. Mar. 24, 2016) (non-precedential) (upholding Board’s determination that expert opinion

regarding “interrelated teachings” of the asserted prior art, without “explain[ing] in sufficient detail how or why a skilled artisan would have been motivated to combine” the prior art features was insufficient to support a conclusion of obviousness).

Accordingly, the Petition does not proffer adequate reasoning, with rational underpinning, to support combining O’Connor’s teachings of secure and non-secure memory with the other asserted prior art references to reach the “secure data cache associated with the offload engine” and “a non-secure data cache” recited in independent claim 1. In addition, the Petition fails to address adequately how a person of ordinary skill in the art would have made the combination and whether such a person would had a reasonable expectation of success in arranging a secure and non-secure data cache as recited in claim 1. *See PAR Pharm.*, 773 F.3d at 1193.

In another example relevant to independent claims 20 and 30, we look to the Petition’s analysis of claim 6 for elements 20[D]–[F] of claim 20 and elements 30[C] and 30[E] of claim 30 based on the Petition’s reliance on its analysis of claim 6 for these elements of claims 20 and 30. Ex. 1003, 9:22–42, 10:29–40; Ex. 1032, 8–11; Pet. 55–60. As outlined above, the Petition’s analysis of claim 6 does not identify sufficiently where the asserted prior art teaches or suggests the elements of claims 20 and 30. *See supra* §§ II.B.i, II.C.i. Nonetheless, if we attempt to address the merits of the Petition’s obviousness arguments for these claims, we do not find the Petition’s proposed reasons to combine the asserted prior art to be sufficient.

In particular, the Petition, after explaining Safadi’s DRM scheme and distinct security measures in DPR2325 and CableHome 1.1, concludes that “th[e] security goal in CableHome 1.1 and DPR2325 (which implements

CableHome 1.1) can be achieved by improving the rule based processing in CableHome 1.1 and DPR2325 to include the content inspection and DRM scheme conversion for the LAN disclosed in Safadi, in order to improve the security of content distributed on the WLAN.” Pet. 57 (citing Ex. 1005 ¶¶ 399–403). Similarly, the Petition provides that one of ordinary skill “would be motivated to apply the DRM scheme mapping implemented in the gateway of Safadi to the enhance the suite of security features already employed in the gateways disclosed in DPR2325 (Ex. 1014 at 64-77) and CableHome 1.1 (Ex. 1011 at 175-243), in order to implement a CableHome 1.1 compliant gateway with enhanced security features such as copy protection and data encryption, suggested as a goal for CableHome 1.1 gateways.” Pet. 43 (citing Ex. 1005⁴ ¶¶ 340–354).

The only cited testimony of Dr. Lavian that is relevant to this particular alleged reason to combine is paragraph 352, in which he opines that it would have been a “predictable and natural step” to combine the five asserted references for general reasons, including “to improve the security of data being processed in the device, as suggested by Safadi and other references.” Ex. 1005 ¶ 352. As we explain above, this testimony is entitled to little to no weight, because it lacks supporting evidence and explanation. *See* 37 C.F.R. § 42.65(a).

The Petition’s assertion that each of CableHome 1.1, DPR2325, and Safadi teach or suggest security features and, relatedly, seek to maintain security of data is not enough to support the proposed combination in the

⁴ The Petition cites Ex. 1015, Srivastava, but we assume, given that Srivastava is not relevant to this statement, that Petitioner intended to cite Ex. 1005, the Dr. Lavian Declaration.

Petition. Safadi's disclosed DRM scheme is distinct from the various security features of DPR2325 (e.g., parental control filters, popup window filters) and CableHome 1.1 (e.g., general explanation that "copy protection" and "data encryption" "can be used" to prevent security threats) to which the Petition directs our attention. *See* Pet. 55–57; Ex. 1013, 175, 309–310; Ex. 1014, 65, 69–75; Ex. 1016 ¶¶ 17, 21; Ex. 1005 ¶¶ 342–343, 347. The Petition and the cited testimony of Dr. Lavian do not explain adequately why a person of ordinary skill would have had reason to add the particular DRM scheme disclosed in Safadi to CableHome 1.1 and DPR2325. Nor do they explain sufficiently how a person of ordinary skill would have implemented Safadi's DRM scheme into CableHome 1.1's and DPR2325's gateway, and whether such a person would have had a reasonable expectation of success in doing so. Accordingly, the Petition does not show an adequately supported and articulated reason to combine the asserted prior art references, with a reasonable expectation of success, to reach the limitations of claims 20 and 30 in the manner proposed in the Petition.

In addition to the exemplary reasons to combine discussed above, the Petition proposes many other modifications and combinations of the five asserted prior art references to reach independent claims 1, 20, and 30, as well as the challenged dependent claims. *See* Pet. 41–60. These proposed reasons are similarly conclusory, without adequate detail and evidence to support a determination that it would have been obvious to combine the elements of the asserted prior art as proposed in the Petition. Rather, the Petition strains to make numerous modifications to five different prior art references, picking and choosing aspects of each, in an attempt to reach the invention recited in the challenged claims. "This type of piecemeal analysis

is precisely the kind of hindsight that [we] must not engage in.” *In re NTP, Inc.*, 654 F.3d 1279, 1299 (Fed. Cir. 2011) (“Care must be taken to avoid hindsight reconstruction by using the patent in suit as a guide through the maze of prior art references, combining the right references in the right way so as to achieve the result of the claims in suit.”).

In conclusion, the Petition does not make a sufficient showing that a person of ordinary skill—without improper hindsight—would have combined elements of DPR2325, CableHome 1.1, Srivastava, Safadi, and O’Connor to reach the invention recited in independent claims 1, 20, and 30, as well as dependent claims 3, 6, 10–15, 21, 26–29, and 31–34. The Petition also does not show adequately that a person of ordinary skill would have had a reasonable expectation of success in making such a combination. Thus, Petitioner has not shown a reasonable likelihood that it would prevail in establishing that the challenged claims would have been obvious over DPR2325, CableHome 1.1, Srivastava, Safadi, and O’Connor.

III. CONCLUSION

For the reasons given, we determine that the information presented in the Petition does not establish that there is a reasonable likelihood that Petitioner would prevail in showing that any of the challenged claims—claims 1, 3, 6, 10–15, 20, 21, and 26–34 of the ’567 patent—are unpatentable. Therefore, we do not institute an *inter partes* review of any of the challenged claims on any of the asserted grounds.

IV. ORDER

For the reasons given, it is:

ORDERED that pursuant to 35 U.S.C. § 314(a), the Petition is *denied*.

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Patent 8,879,567 B1

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