

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

ARISTA NETWORKS, INC.,
Petitioner,

v.

CISCO SYSTEMS, INC.,
Patent Owner.

Case IPR2016-00309
Patent 7,224,668 B1

Before BRYAN F. MOORE, MIRIAM L. QUINN, and
MATTHEW R. CLEMENTS, *Administrative Patent Judges*.

CLEMENTS, *Administrative Patent Judge*.

FINAL WRITTEN DECISION
35 U.S.C. § 318(a) and 37 C.F.R. § 42.73

I. INTRODUCTION

Arista Networks, Inc. (“Petitioner”) filed a Petition requesting *inter partes* review of claims 1–10, 12, 13, 15–28, 30, 31, 33–43, 48, 49, 51–64, 66, 67, and 69–72 (“the challenged claims”) of U.S. Patent No. 7,224,668 B1 (Ex. 1001, “the ’668 patent”). Paper 1 (“Pet.”). Cisco Systems, Inc. (“Patent Owner”) filed a Preliminary Response. Paper 7 (“Prelim. Resp.”).

On June 11, 2016, we instituted an *inter partes* review of claims 1–10, 12, 13, 15–28, 30, 31, 33–36, 55–64, 66, 67, and 69–72 of the ’668 patent. After institution of trial, Patent Owner filed a Patent Owner Response (Paper 18, “PO Resp.”) and Petitioner filed a Reply (Paper 33, “Pet. Reply”).¹ Petitioner relies on the Declaration of Dr. Bill Lin (Ex. 1002). Patent Owner relies on the Declaration of Dr. Kevin C. Almeroth (Ex. 2006).

Petitioner filed a Motion to Strike (Paper 41) to which Patent Owner filed an Opposition (Paper 48).

Patent Owner filed a Motion to Strike Petitioner’s Reply (Paper 42) to which Petitioner filed an Opposition (Paper 44).

An oral hearing was held on March 7, 2017. Paper 49 (“Tr.”).

The Board has jurisdiction under 35 U.S.C. § 6. In this Final Written Decision, issued pursuant to 35 U.S.C. § 318(a) and 37 C.F.R. § 42.73, we determine that Petitioner has met its burden of showing, by a preponderance of the evidence, that all of the claims for which trial was instituted are unpatentable. Petitioner’s Motion to Strike is *dismissed-as-moot*. Patent Owner’s Motion to Strike is *dismissed-as-moot*.

¹ Patent Owner’s Motion to Seal (Paper 20) and Petitioner’s Motion to Seal (Paper 35) were granted in our Order of May 7, 2017 (Paper 51).

A. Related Proceedings

The '668 patent is involved in *Cisco Systems, Inc. v. Arista Networks, Inc.*, Case No. 4:14-cv-05343 (N.D. Cal.) and *Cisco Systems, Inc. v. Arista Networks, Inc., Network Devices, Related Software and Components Thereof (II)*, ITC Inv. No. 337-TA-945. Pet. 1; Paper 6, 1. Petitioner also has filed IPR2015-00974 and IPR2015-01710. Paper 6, 1. Petitioner also has filed over a dozen other petitions requesting *inter partes* review of other patents owned by Patent Owner: IPR2015-00973 (U.S. Patent No. 6,377,577), IPR2015-00975 (U.S. Patent No. 8,051,211), IPR2015-00976 (U.S. Patent No. 7,023,853), IPR2015-00978 (U.S. Patent No. 7,340,597), IPR2015-01049 (U.S. Patent No. 6,377,577), IPR2015-01050 (U.S. Patent No. 7,023,853), IPR2016-00018 (U.S. Patent No. 8,051,211), IPR2016-00119 (U.S. Patent No. 7,047,526), IPR2016-00244 (U.S. Patent No. 7,953,886), IPR2016-00303 (U.S. Patent No. 6,377,577), IPR2016-00304 (U.S. Patent No. 7,023,853), IPR2016-00306 (U.S. Patent No. 7,023,853), and IPR2016-00308 (U.S. Patent No. 7,162,537).

B. The '668 patent

The '668 patent relates generally to an internetworking device, such as a router, with improved immunity to denial-of-service (“DoS”) attacks. Ex. 1001, Abstract. At the time, a router typically separated its functionality into a data plane, responsible for accepting transit packets at input ports and routing or switching them to output ports, and a control plane, responsible for higher layer functions, such as establishing routing tables. *Id.* at 1:52–59. DoS attacks were commonly directed at the control plane. *Id.* at 1:59–67. Attempts to solve such problems were difficult to administer and could

result in poor performance when control-plane policies were applied not only to control plane packets, but also to transit packets. *Id.* at 2:24–3:2.

To address these and other issues, the '668 patent discloses an internetworking device whose control plane processes are collectively arranged as a single addressable port such that all packets intended for the control plane always pass through this designated port, which thereby provides the ability to better manage control plane traffic. *Id.* at 3:42–50. A set of port services unique to the control plane may be applied to the aggregate control plane port. *Id.* at 3:54–56.

Figure 1 is reproduced below.

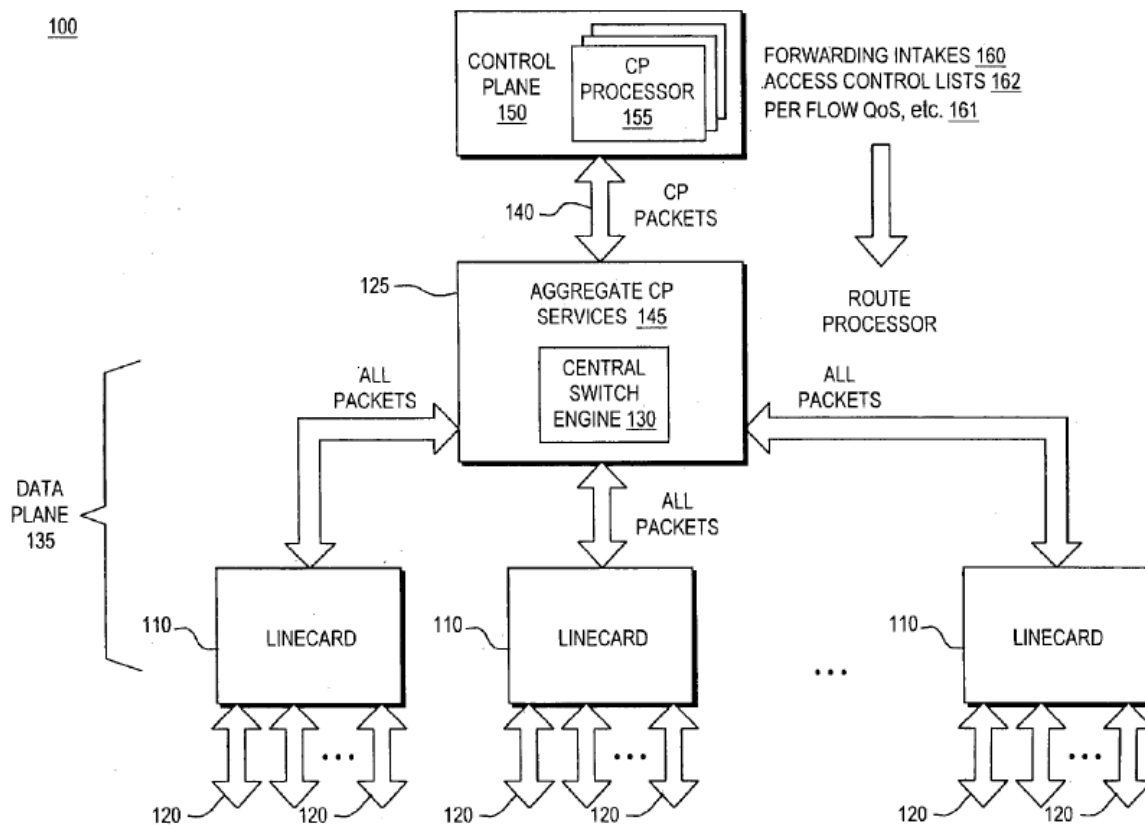


FIG. 1

Figure 1 is a block diagram of internetworking device 100, such as a router, comprising control plane port 140, which defines a single access path

between central switch engine 130 and control plane 150. *Id.* at 4:47–67. Line cards 110 and central switch engine 130 accept packets received on a given port 120 and route them through to another output port 120. *Id.* at 5:5–7. Because all packets destined to control plane 150 pass through central switch engine 130 prior to being routed to functions 155, central switch engine 130 can be used to implement aggregate control plane protection. *Id.* at 5:36–42. Control plane port services determine if a given packet is destined to a control plane process 150. *Id.* at 5:56–58. Control plane port 140 may be a single physical port or may be a virtual address, but either way, it can be treated as a traditional hardware port to which a full range of traditional port control features—e.g., rate limiting, access lists, hierarchical queues based on priority—can be applied to help protect control plane 150 from a DoS attack, or to provide other quality of service (“QoS”). *Id.* at 5:1–4, 5:66–6:44.

C. Illustrative Claim

Of the challenged claims, claims 1, 19, and 55 are independent.

Claim 1 is reproduced below:

1. An internetworking device comprising:
 - a. a plurality of physical network interface ports, each for providing a physical connection point to a network for the internetworking device, the ports being configurable by control plane processes;
 - b. port services, for operating on packets entering and exiting the physical network interface ports, the port services providing an ability to control and monitor packet flows, as defined by control plane configurations;
 - c. a control plane, comprising a plurality of internetworking control plane processes, the control plane

processes for providing high-level control and configuration of the ports and the port services;

d. wherein:

i. a control plane port entity provides access to the collection of control plane processes, so that a set of control plane port services can be applied thereto; and

ii. the control plane port services operate on packets received from specific, predetermined physical ports and destined to the collection of control plane processes in a way that is independent of the physical port interfaces and services applied thereto.

Ex. 1001, 9:17–40.

D. Evidence Relied Upon

Petitioner relies upon the following references:

Amara	US 6,674,743 B1	Jan. 6, 2004	Ex. 1004
Moberg	US 6,460,146 B1	Oct. 1, 2002	Ex. 1005
Subramanian	US 6,970,943 B1	Nov. 29, 2005	Ex. 1006
Hendel	US 6,115,378	Sept. 5, 2000	Ex. 1007
3Com, COREBUILDER 3500 IMPLEMENTATION GUIDE, 3Com MSD Technical Publications, November 1999 (“CoreBuilder”)			Ex. 1009

Pet. 2–3. Petitioner also relies upon the Declaration of Dr. Bill Lin (“Lin Decl.”) (Ex. 1002).

E. The Instituted Grounds of Unpatentability

We instituted *inter partes* review based on the following grounds:

References	Basis	Claims challenged
Amara & CoreBuilder	§ 103	1–6, 8, 9, 15–22, 24–27, 33–36, 55–58, 60–63, and 69–72
Amara, CoreBuilder, & Moberg	§ 103	7, 23, and 59

References	Basis	Claims challenged
Amara, CoreBuilder, & Hendel	§ 103	10, 12, 13, 28, 30, 31, 64, 66, and 67

Dec. 23.

II. ANALYSIS

A. Claim Construction

In an *inter partes* review, claim terms in an unexpired patent are interpreted according to their “broadest reasonable construction in light of the specification of the patent” in which they appear. 37 C.F.R. § 42.100(b). Applying that standard, we interpret the claim terms according to their ordinary and customary meaning in the context of the patent’s written description. *In re Translogic Tech., Inc.*, 504 F.3d 1249, 1257 (Fed. Cir. 2007).

Petitioner proposes constructions for “specific, predetermined ports,” and nine means-plus-function terms. Pet. 6–12. In our Decision on Institution, we construed only “specific, predetermined ports,” which we determined “encompasses all ports of the networking device, and is not limited to a subset of ports.” Dec. 8. Apart from Patent Owner alluding to its Preliminary Response (PO Resp. 11), neither party contested or addressed our construction of these terms.² Accordingly, we see no reason to modify our prior determination in light of the record developed at trial.

² We previously instructed Patent Owner that “any arguments for patentability not raised in the [Patent Owner Response] will be deemed waived.” Paper 7, 3; *see also* 37 C.F.R. § 42.23(a) (“Any material fact not specifically denied may be considered admitted.”); *In re Nuvasive*, 842 F.3d 1376, 1379-1382 (Fed. Cir. 2016) (holding Patent Owner waived argument

“[O]nly those terms need be construed that are in controversy, and only to the extent necessary to resolve the controversy.” *Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999)). The parties dispute the meaning of “the control plane port services operate on packets . . . in a way that is independent of the physical port interfaces and services applied thereto.” *Compare* PO Resp. 16–22, with Pet. Reply 2–7. Accordingly, we construe that phrase expressly.

1. “the control plane port services operate on packets received from specific, predetermined physical ports and destined to the collection of control plane processes in a way that is independent of the physical port interfaces and services applied thereto”

Patent Owner argues that “[b]ased on the plain meaning of the claims, both port services and control plane port services are applied to control plane packets.” PO Resp. 17. Petitioner counters that “[t]he Challenged Claims do not require both ‘port services’ and ‘control plane port services’ be applied to control plane packets.” Pet. Reply 2. For the reasons discussed below, we agree with Petitioner.

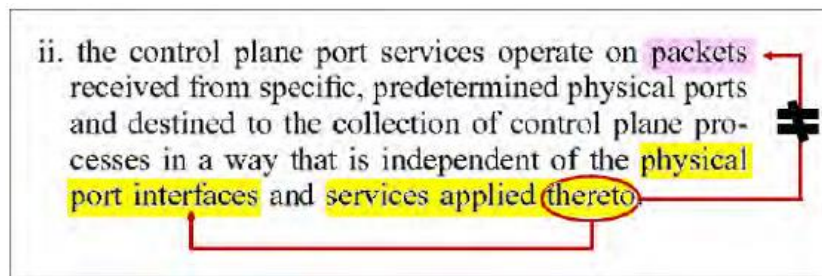
a. Claim language

First, based on the language of the claims, Patent Owner contends that “services applied thereto” refers to “packets received from specific, predetermined physical ports and destined to the collection of control plane processes.” PO Resp. 17–18. According to Patent Owner, “the control plane packets first pass through the ‘specific, predetermined physical ports’

addressed in Preliminary Response by not raising argument in the Patent Owner Response).

and ‘port services’ are ‘applied thereto.’ Then the control plane packets enter the ‘control plane port entity’ where ‘control plane ports services’ operate [execute] on the packets.” *Id.*

Petitioner counters that “services applied thereto” refers to the services, if any, applied to the recited “physical port interfaces,” not to the “packets . . . destined to the collection of control plane processes,” and provides the following annotated claim element:



Pet. Reply 3–4. According to Petitioner, “the term ‘thereto’ acts as a modifier in identifying to what the recited ‘services’ are applied. Because the object ‘physical port interfaces’ comes immediately before this phrase, grammar dictates that the term ‘thereto’ references ‘physical port interfaces.’” *Id.* at 4. Petitioner contends that “the ‘physical port interfaces’ are what the recited ‘services’ are applied to” and that “this reading is the only one that removes all ambiguity as to what type of ‘services’ are referred to in the ‘services thereto’ portion of 1 d.ii—i.e., normal port services.” *Id.* at 5. As a result, according to Petitioner, the limitation “requires the control plane port services to operate on packets in a way that is independent of any port services that have been applied to a physical port interface, but does not require a packet to receive normal port services as a prerequisite to receiving control plane port services.” *Id.* at 4.

We agree with Petitioner. The most natural reading of “thereto” is as a reference to “physical port interfaces” that immediately precedes it in the limitation. Moreover, we understand “the physical port interfaces” to have its antecedent basis in the “specific, predetermined ports” recited earlier in the claim, and we understand “services” to mean the “port services, for operating on packets entering and exiting the physical network interface ports” recited earlier in the claim. As a result, we agree with Patent Owner that packets destined for the control plane processes are “received from specific, predetermined physical ports,” but we do not agree that the claim language itself requires port services be applied to *every* packet received on a physical port. The claim does not recite, for example, “port services, for operating on *every* packet entering and exiting the physical network interface ports.” After considering the parties’ arguments, we find that the language of this limitation requires that the operation of the “control plane port services” be “independent of” the physical port interfaces and services (if any) applied to those interfaces, but does not impose an affirmative requirement that port services be applied at the physical port interface to every packet “received from specific, predetermined physical ports and destined to the collection of control plane processes.”

b. Specification

Patent Owner argues that the Specification describes applying control plane port services “after, and in addition to, normal input port services.” PO Resp. 19 (citing Ex. 1001, 9:1–4, 6:12–15). According to Patent Owner, “the *only* embodiments described in the specification . . . apply port services to control plane packets.” *Id.*; *see also id.* at 19–22 (identifying description of applying port services to control plane packets in both the aggregated

control plane services embodiment and the distributed control plane services embodiment).

Petitioner counters that the '668 patent “explicitly recognizes that *some* packets entering a physical network interface port will not receive normal port services, but will receive control plane port services, if they are destined for the control plane.” Pet. Reply 2–3 (footnote omitted) (emphasis added) (citing Ex. 1001, 6:38–42³ (“Since control plane 150 destined packets will invoke only control plane services, transit traffic and system performance is minimally impacted.”)). Petitioner also argues that the Specification “refers to services being applied to ports.” *Id.* at 5 (citing Ex. 1001, Abstract, 3:54–56, 4:8–12, 6:12–16, 10:24–25, 11:45–46). Finally, Petitioner argues that Patent Owner is attempting to import a preferred embodiment into the claim language. *Id.* at 6–7.

Again, we agree with Petitioner. There is no doubt that the '668 patent discloses embodiments in which control plane port services are applied after, and in addition to, normal input port services, as Patent Owner contends. We are not persuaded, however, that the claims are limited to

³ At oral argument, Patent Owner argued Petitioner takes this statement out of context. Tr. 72:20–73:13. Even when considering this sentence in the context of the whole paragraph, however, we are not persuaded it is merely a typographical error (i.e., a misplacement of “only” in front of “control plane services” instead of in front of “control plane 150 destined packets”). The preceding sentence, for example, states that “the user is afforded significant control over the flow of traffic destined to the control plane 150 just as if the control plane 150 were a hardware interface.” Ex. 1001, 6:37–39. Patent Owner’s interpretation, however, would deprive a user of control over the flow of traffic destined to the control plane by requiring that such traffic always receive normal port services before being forwarded to the control plane 150.

these embodiments for the reasons discussed above in our analysis of the claim language. Moreover, our analysis of the claim language is consistent with the Specification's disclosure that "[s]ince control plane 150 destined packets will invoke *only control plane services*, transit traffic and system performance is minimally impacted." Ex. 1001, 6:39–42 (emphasis added).

For all of the foregoing reasons, we determine that the challenged claims do *not* require both "port services" and "control plane port services" be applied to control plane packets.

B. Level of Ordinary Skill in the Art

Petitioner contends that a hypothetical person of ordinary skill in the art, with respect to and at the time of the '668 patent, would have the following qualifications:

would have had a Masters of Science Degree (or a similar technical Masters Degree, or higher degree) in an academic area emphasizing computer networking or, alternatively, a Bachelor Degree (or higher degree) in an academic area emphasizing the design of electrical, computer, or software engineering and having several years of experience in computer network engineering and the design of computer networks.

Pet. 5; Ex. 1002 ¶ 9.

Patent Owner's expert, Dr. Almeroth, essentially agrees:

[A] person of ordinary skill in the field of art would be a person with a Bachelor of Science degree, or its equivalent, in electrical engineering, computer engineering, computer science, or a related field and either a Master of Science degree, or its equivalent, in one of those fields or approximately two years of related experience in the field of network devices.

Ex. 2003 ¶ 40. Nominally, we determine that the hypothetical person of ordinary skill in the art would have had either a Masters degree in an

academic area involving computer networking, or a Bachelor's degree in such an area and several years of work experience in computer networking. We note, however, that neither party has explained substantively any significance that the difference in the proffered levels of ordinary skill in the art would play in the obviousness analysis. *See Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966); *Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001) (“[T]he level of skill in the art is a prism or lens through which a judge, jury, or the Board views the prior art and the claimed invention.”); *Ryko Mfg. Co. v. Nu-Star, Inc.*, 950 F.2d 714, 718 (Fed. Cir. 1991) (“The importance of resolving the level of ordinary skill in the art lies in the necessity of maintaining objectivity in the obviousness inquiry.”). To that end, we note that the prior art itself often reflects an appropriate skill level. *See Okajima*, 261 F.3d at 1355.

C. The Parties' Post-Institution Arguments

In our Decision on Institution, we concluded that the arguments and evidence advanced by Petitioner demonstrated a reasonable likelihood that claims 1–6, 8, 9, 15–22, 24–27, 33–36, 55–58, 60–63, and 69–72 were unpatentable as obvious over Amara and CoreBuilder, claims 7, 23, and 59 were unpatentable as obvious over Amara, CoreBuilder, and Moberg, and claims 10, 12, 13, 28, 30, 31, 64, 66, and 67 were unpatentable as obvious over Amara, CoreBuilder, and Hendel. Dec. 23. We must now determine whether Petitioner has established by a preponderance of the evidence that the specified claims are unpatentable over the cited prior art. 35 U.S.C. § 316(e). We previously instructed Patent Owner that “any arguments for patentability not raised in the [Patent Owner Response] will be deemed waived.” Paper 9, 3; *see also* 37 C.F.R. § 42.23(a) (“Any material fact not

specifically denied may be considered admitted.”); *In re Nuvasive*, 842 F.3d 1376, 1379-1382 (Fed. Cir. 2016) (holding Patent Owner waived argument addressed in Preliminary Response by not raising argument in the Patent Owner Response). Additionally, the Board’s Trial Practice Guide states that the Patent Owner Response “should identify all the involved claims that are believed to be patentable and state the basis for that belief.” Office Patent Trial Practice Guide, 77 Fed. Reg. 48,756, 48,766 (Aug. 14, 2012).

With a complete record before us, we note that we have reviewed arguments and evidence advanced by Petitioner to support its unpatentability contentions where Patent Owner chose not to address certain limitations in its Patent Owner Response. In this regard, the record now contains persuasive, unrebutted arguments and evidence presented by Petitioner regarding the manner in which the asserted prior art teaches corresponding limitations of the claims against which that prior art is asserted. Based on the preponderance of the evidence before us, we conclude that the prior art identified by Petitioner teaches or suggests all uncontested limitations of the reviewed claims. The limitations that Patent Owner contests in the Patent Owner Response are addressed below.

*D. Status of CoreBuilder
as a Prior Art Printed Publication*

Before reaching the merits of Petitioner’s obviousness contentions, all of which are based on CoreBuilder, we must determine as a threshold issue whether CoreBuilder is a prior art printed publication under 35 U.S.C. § 102(b).⁴ See Pet. 3 (citing Ex. 1009; Ex. 1010). Petitioner has the burden

⁴ All references to 35 U.S.C. §§ 102, 103 herein will be pre-AIA.

of persuasion to prove unpatentability by a preponderance of the evidence. See 35 U.S.C. § 316(e); *Dynamic Drinkware, LLC v. Nat'l Graphics, Inc.*, 800 F.3d 1375, 1379 (Fed. Cir. 2015).

For purposes of instituting trial, we accepted Petitioner's contention, unchallenged in the Preliminary Response, that CoreBuilder was available as § 102(b) prior art as of November 1999. Dec. 9–10. During trial, however, Patent Owner challenged that contention (PO Resp. 30–32), and Petitioner provided additional argument and evidence in reply (Pet. Reply 13–16).

The determination of whether a document is a “printed publication” under 35 U.S.C. § 102 “involves a case-by-case inquiry into the facts and circumstances surrounding the reference's disclosure to members of the public.” *In re Klopfenstein*, 380 F.3d 1345, 1350 (Fed. Cir. 2004). “Because there are many ways in which a reference may be disseminated to the interested public, ‘public accessibility’ has been called the touchstone in determining whether a reference constitutes a ‘printed publication’ bar under 35 U.S.C. § 102(b).” *Blue Calypso, LLC v. Groupon, Inc.*, 815 F.3d 1331, 1348 (Fed. Cir. 2016) (quoting *In re Hall*, 781 F.2d 897, 898–99 (Fed. Cir. 1986)). “A reference will be considered publicly accessible if it was ‘disseminated or otherwise made available to the extent that persons interested and ordinarily skilled in the subject matter or art exercising reasonable diligence[] can locate it.’” *Id.* (quoting *Kyocera Wireless Corp. v. Int'l Trade Comm'n*, 545 F.3d 1340, 1350 (Fed. Cir. 2008)).

Having reviewed the parties' arguments and supporting evidence, we determine that Petitioner has demonstrated sufficiently that CoreBuilder ([Ex. 1009]) is a printed publication based on the following reasons and factual findings. First, we find that CoreBuilder was shipped with the

CoreBuilder 3500 Switch to 3Com customers at least as early as November 1999. We base our findings on the testimony of Declaration of Patricia Crawford, an employee of 3COM, filed as Exhibit 1010. We also support our findings based on the indicia of publication found on CoreBuilder, Exhibit 1009.

Petitioner asserts that, “[a]s established by the Declaration of Patricia Crawford ([Ex. 1010]), CoreBuilder ([Ex. 1009]) was shipped with the CoreBuilder 3500 Switch to 3Com customers at least as early as November 1999 and thus is prior art under 35 U.S.C. § 102(b).”⁵ Pet. 3. Ms. Crawford testifies that

Exhibit 1009 was shipped with the 3Com CoreBuilder 3500 switch at least as of November, 1999 at least because (1) the process used to ensure that proper documentation was shipped with 3Com products did not change after I transitioned to a SQA Engineer, (2) Exhibit 1009 was given a part number, (3) the cover of Exhibit 1009 indicates it was published November, 1999, and (4) Exhibit 1009 itself indicates it was shipped with the CoreBuilder 3500 switch.

Ex. 1010 ¶ 9.

Patent Owner argues that Petitioner’s reliance on the Crawford Declaration “is an improper incorporation by reference.” PO Resp. 31. Petitioner counters that the citation to the Crawford Declaration is proper because “[t]he Petition itself recites the necessary facts.” Pet. Reply 13–14. We agree with Petitioner. Section 42.6(a)(3) of Title 37 of the Code of Federal Regulations states that “[a]rguments must not be incorporated by reference from one document into another document.” The Board has found

⁵ All references to 35 U.S.C. §§ 102, 103 herein will be pre-AIA.

improper incorporation by reference where, for example, a petition supports conclusory statements by citing to a declaration that, in turn, includes claim charts purporting to show how certain claim elements were met by the prior art. *Cisco Sys., Inc. v. C-Cation Techs., LLC*, IPR2014-00454, Paper 12 (PTAB Aug. 29, 2014) (“*Cisco*”). As explained in *Cisco*, improper incorporations by reference impose on the Board’s time by asking us to sift through the exhibits to locate specific arguments. *Cisco* at 10. Here, though, the Petition states that CoreBuilder “was shipped with the CoreBuilder 3500 Switch to 3Com customers at least as early as November 1999 and thus is prior art under 35 U.S.C. § 102(b)” (Pet. 3), and the cited testimony is factual in nature and is very limited in scope (Ex. 1010 ¶¶ 1–10), both of which mitigate our concern about imposing on the Board’s time and/or unfairly circumventing word limits. We determine, therefore, that the citation to the Crawford Declaration is not an improper incorporation by reference.

Patent Owner also argues that the Crawford Declaration should be afforded no weight because Ms. Crawford has no personal knowledge of Exhibit 1009. PO Resp. 31–32. Petitioner replies that Ms. Crawford’s testimony as to practices and procedures is based on personal knowledge and is sufficient to meet Petitioner’s burden of proof. Pet. Reply 14–15. We agree with Petitioner. As an initial matter, Patent Owner’s assertion that “[t]he Crawford declaration never establishes that Ex. 1009 was ever shipped with a 3Com product” (PO Resp. 31) is contradicted by Ms. Crawford’s explicit testimony that “the cover indicates that Exhibit 1009 was first shipped with the CoreBuilder 3500 Switch in November, 1999” (Ex. 1010 ¶ 8). With respect to personal knowledge, Patent Owner cites no

law to support the proposition that personal knowledge of Exhibit 1009 is necessary in order for Ms. Crawford's testimony to be accorded weight. Although Ms. Crawford did not author Exhibit 1009, she has personal knowledge of the practices and procedures involving technical documentation, such as CoreBuilder, followed by 3Com. Ex. 1010 ¶¶ 3–9. In particular, Ms. Crawford testifies that, “[u]nder the normal procedure at 3Com at the time, when a publication date was included on the front page of 3Com documentation, the publication date indicates the date when the documentation was first shipped with the corresponding product.” *Id.* ¶ 8. Based on this personal knowledge, she testifies that “Published November 1999” on the first page of CoreBuilder “indicates that Exhibit 1009 was first shipped with the CoreBuilder 3500 Switch in November, 1999.” *Id.* Patent Owner suggests that Ms. Crawford's testimony is relevant only to the period when she was a technical writer (PO Resp. 31–32), but that suggestion is contradicted by Ms. Crawford's testimony that “the process used to ensure that proper documentation was shipped with 3Com products did not change after I transitioned to a SQA Engineer” (*id.* ¶ 10; *see also id.* ¶ 7) a position she remained in until the year 2000 (*id.* ¶ 5).

Finally, we are not persuaded by Patent Owner's argument that the publication date on Exhibit 1009 is insufficient evidence of public availability and is inadmissible hearsay for that purpose. PO Resp. 32 (citing *Standard Innovation Corp. v. Lelo, Inc.*, Case IPR2014-00148, Paper 42, 13–18 (PTAB April 23, 2015)). As Petitioner points out, *Standard Innovation Corp. v. Lelo, Inc.* is inapposite because the petitioner in that case relied solely on a document's copyright date, whereas Petitioner is relying on the publication date on Exhibit 1009 in combination with

Ms. Crawford’s testimony explaining its meaning and significance. Pet. Reply 15–16. In particular, Ms. Crawford testifies that “Exhibit 1009 was shipped with the 3Com CoreBuilder 3500 switch at least as of November, 1999.” Ex. 1010 ¶ 10). Moreover, Petitioner points out that CoreBuilder was publicly accessible on the 3Com website. Pet. Reply 15 n.10 (“The document also states: ‘The most current versions of guides and release notes are available in Adobe Acrobat Reader Portable Document Format (PDF) or HTML from the 3Com World Wide Web site: *http://www.3com.com*,’ Ex. 1009 at 21.”). In light of the evidence that Exhibit 1009 was shipped to 3Com customers, and available electronically to anyone, as early as November 1999 (three years before the Nov. 27, 2002, filing date of the ’668 patent), we determine that Exhibit 1009 was “disseminated or otherwise made available to the extent that persons interested and ordinarily skilled in the subject matter or art exercising reasonable diligence, [could] locate it.” *SRI Int’l, Inc. v. Internet Sec. Sys. Inc.*, 511 F.3d 1186, 1194 (Fed. Cir. 2008) (quoting *Bruckelmyer v. Ground Heaters, Inc.*, 445 F.3d 1374, 1378 (Fed. Cir. 2006)).

E. Claims 1–6, 8, 9, 15–22, 24–27, 33–36, 55–58, 60–63, and 69–72 – Obviousness Over Amara and CoreBuilder

Petitioner argues that claims 1–6, 8, 9, 15–22, 24–27, 33–36, 55–58, 60–63, and 69–72 are unpatentable under 35 U.S.C. § 103 as obvious over the combination of Amara and CoreBuilder. Pet. 12–40.

2. Amara (Exhibit 1004)

Amara, titled, “Method and Apparatus for Providing Policy-based Services for Internal Applications,” describes a packet-forwarding device that

provides policy-based services for internal applications. Ex. 1004, Title, Abstract. Figure 3 is reproduced below.

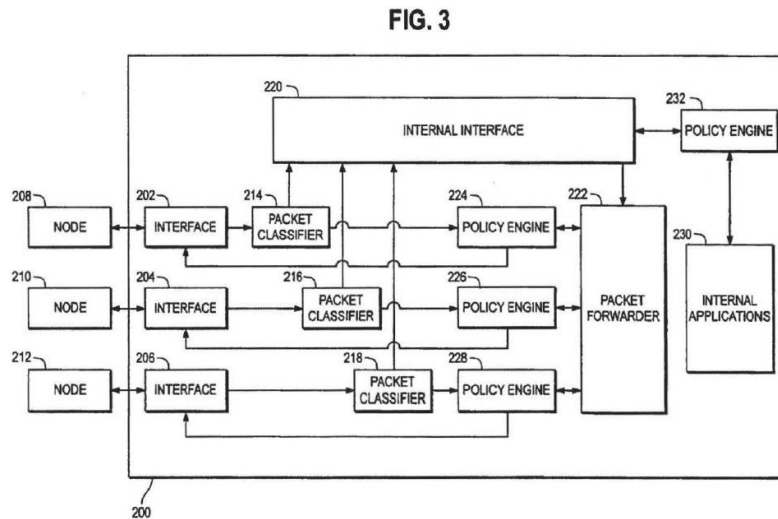


Figure 3, above, is a block diagram of packet forwarding device 200. Device 200 includes interfaces 202–206 that are able to transmit packets to and to receive packets from nodes 208–212, respectively. *Id.* at 5:51–55. Packet classifiers 214–218 classify the packets received by nodes interfaces 202–206, respectively, as either internally destined packets or external packets, based on the packets’ destination addresses. *Id.* at 5:55–58. Packet classifiers 214–218 forward the internally destined packets to internal interface 220, and packet classifiers 214–218 forward the external packets to packet forwarder 222 via policy engines 224–228, respectively. *Id.* at 5:58–62. Internal interface 220 forwards the internally destined packets from packet classifiers 214–218 to internal applications 230 and forwards the internally generated packets from internal applications 230 to packet forwarder 222. *Id.* at 5:63–6:2. Packet forwarder 222 forwards the external packets from packet classifiers 214–218 and the internally generated packets from internal interface 220 to one or more of interfaces 202–206, via policy

engines 224–228, based on the destination addresses of the packets. *Id.* at 6:3–8.

Device 200 applies policies to the internal packets and to the external packets. Specifically, policy engine 232 applies a policy to the internally destined packets used by internal applications 230 and to the internally generated packets generated by internal applications 230. *Id.* at 6:9–12. Policy engines 224–228 apply policies to the external packets forwarded by packet classifiers 214–218, respectively, and typically also apply policies to the external packets forwarded by packet forwarder 222. *Id.* at 12–16. The policies applied to internal packets may differ from those applied to external packets. *Id.* at 6:17–19.

3. CoreBuilder (Ex. 1009)

CoreBuilder describes features of the 3Com CoreBuilder 3500 Layer 3 High-Function Switch. Ex. 1009, 21, 27. CoreBuilder “is intended for the system or network administrator who is responsible for configuring, using, and managing the CoreBuilder 3500 system.” *Id.* at 21. CoreBuilder teaches multiple management interfaces, including an Administration Console and Web Management software. *Id.* at 29. The Administration Console “is a menu-driven command line interface that is embedded in the system software.” *Id.* at 28. Web Management software is a suite of HTML-based applications that are embedded in the software and which can be accessed from a web browser. *Id.* at 29. The management interfaces may be used to configure, e.g., port state, port mode, autonegotiation, VLANs, routing interfaces, packet filters, and quality of service (QoS). *Id.* at 29–30. Packet filters allow a router “to make a permit-or-deny decision for each packet based on the packet contents.” *Id.* at 210. A filter may be applied to

the receive path, to the transmit path, or to the receive internal path. *Id.* at 211–212. The administrator “can control and manage packet filters from the bridge packetFilter menu of the Administration Console.” *Id.* at 215. The administrator can create standard or custom packet filters, delete packet filters, edit, save, and load custom filters, and assign filters to one or more ports and processing path. *Id.* at 215–216.

4. Petitioner’s Initial Positions

Petitioner asserts that a combination of Amara and CoreBuilder renders obvious claims 1–6, 8, 9, 15–22, 24–27, 33–36, 55–58, 60–63, and 69–72. Pet. 12–40. We have reviewed the Petition, Patent Owner’s Response, and Petitioner’s Reply, as well as the relevant evidence discussed in those papers and other record papers, and are persuaded that the record sufficiently establishes Petitioner’s contentions for claims 1–6, 8, 9, 15–22, 24–27, 33–36, 55–58, 60–63, and 69–72, and we adopt Petitioner’s contentions discussed below as our own. For example, independent claim 1 recites “a plurality of physical network interface ports . . . the ports being configurable by control plane processes.” Petitioner relies upon Amara’s internal applications 230 as teaching the recited “control plane processes,” and relies upon CoreBuilder’s explicit teaching of such internal applications, such as the Administration Console, configuring the plurality of physical network interface ports. *Id.* at 25. Independent claim 1 also recites “port services” that “operat[e] on packets entering and exiting the physical network interface ports, the port services providing an ability to control and monitor packet flows.” Petitioner relies upon Amara’s teaching of policy engines 224–228 that execute and apply policies—e.g., dropping, logging, encrypting/decrypting, network address translation, and prioritization—to

external packets passing through device 200. *Id.* at 26–27. Independent claim 1 also requires that the recited “port services” are “defined by control plane configurations.” Petitioner relies upon Amara’s internal applications 230 and upon CoreBuilder’s teaching of an Administration Console, or other management interface, for defining various port services. *Id.* at 27.

Independent claim 1 also recites that “the control plane port services operate on packets received from specific, predetermined physical ports and destined to the collection of control plane processes.” Petitioner relies upon Amara’s internal interface 220 as the recited “control plane port entity” and upon Amara’s policy engine 232 for applying the recited “control plane port services” to internal interface 220. *Id.* at 29–31. Petitioner sets forth reasons to combine Amara and CoreBuilder on pages 18–23 of the Petition. Petitioner performs a similar analysis for claims 2–6, 8, 9, 15–22, 24–27, 33–36, 55–58, 60–63, and 69–72. Pet. 31–50.

5. *Patent Owner’s Assertions Concerning the References*

i. *“the control plane port services operate on packets . . . in a way that is independent of the physical port interfaces and services applied thereto”*

Patent Owner argues that the combination of Amara and CoreBuilder does not teach this limitation because Amara’s policy engines 224–228—alleged by Petitioner to be the recited “port services”—do not operate on Amara’s internally destined packets—alleged by Petitioner to be the recited “packets . . . destined to the collection of control plane processes.” PO Resp. 22–25. This argument is unavailing because it is predicated upon a construction of this limitation that we declined to adopt for the reasons discussed above.

Patent Owner also argues that “Petitioner’s new theory regarding Amara’s ‘packet classifiers’ performing ‘port services’ has no merit.” PO Resp. 25–28. Petitioner counters that, “[e]ven under Cisco’s flawed construction, Amara discloses applying both ‘port services’ and ‘control plane port services’ to the control plane packets.” Pet. Reply 8–11. Again, these arguments are based upon a construction of this limitation that we declined to adopt for the reasons discussed above. As a result, we do not rely on Petitioner’s arguments and evidence in support of this alternative position.

ii. *“the port services providing the ability to control and monitor packet flows, as defined by control plane configurations”*

Patent Owner argues that “Petitioner has failed to show that the combination of Amara and CoreBuilder teaches or suggests configuring policies for ‘monitor[ing] packet flows’” because “CoreBuilder’s packet filters do not log packets.” PO Resp. 30. Petitioner counters that “[b]ecause Amara discloses port services that ‘monitor packet flows,’ CoreBuilder need not.” Pet. Reply 11.

We agree with Petitioner. Patent Owner’s argument mischaracterizes our Institution Decision in *Arista Networks, Inc. v. Cisco Systems, Inc.* IPR2015-00974, Paper 7 (PTAB Feb. 16, 2016) (“974 DI”). Patent Owner suggests that we determined that Amara’s teaching of logging packets does not teach “monitor packet flows,” as claimed. PO Resp. 29 (“Petitioner admits, and the Board agreed, that Amara does not disclose that the alleged “‘port services providing the ability to control and monitor packet flows’ of Amara are ‘defined by control plane configurations.’”). To the contrary, our determination in that case was based Petitioner’s failure to persuade us that

Amara discloses, for anticipation purposes, that its dropping, prioritizing, and logging policies are “defined by control plane configurations,” as required by the claim. 974 DI 13–14. As a result, we concluded that “Amara does not adequately disclose this limitation expressly or inherently.” *Id.* at 13.

In this case, Petitioner challenges the claims based on obviousness, not anticipation, and is relying upon CoreBuilder to teach the “defined by control plane configurations” limitation (Pet. 27), not to teach a port service that provides the ability to monitor packet flows. Pet. Reply 12. For that, Petitioner relies upon Amara. *Id.* We are persuaded that Amara’s teaching of logging policy teaches a “port service[] providing the ability to . . . monitor packet flows.” See Pet. 27 (citing Ex. 1004, 1:36–38, 5:16–21; Ex. 1002 ¶ 36).

6. Evidence of Secondary Considerations

Patent Owner asserts that even if all of the other factors weigh in favor of the obviousness of certain claims, those factors are outweighed by Patent Owner’s proffered evidence concerning objective indicia of non-obviousness, i.e., secondary considerations. PO Resp. 55–66 (citing Exs. 2015–2024, 2028–2045). Petitioner disagrees. Pet. Reply 26–27 (citing Exs. 1001, 1024–1027, 2015, 2032–2040, 2043–2045).

i. Law – Objective Indicia of Nonobviousness

Factual inquiries for an obviousness determination include secondary considerations based on objective evidence of non-obviousness. *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966). Notwithstanding what the teachings of the prior art would have suggested to one of ordinary skill in the art at the time of the invention, the totality of the evidence submitted,

including objective evidence of non-obviousness, may lead to a conclusion that the challenged claims would not have been obvious to one of ordinary skill in the art. *In re Piasecki*, 745 F.2d 1468, 1471–72 (Fed. Cir. 1984).

We note that it is not sufficient that a product or its use merely be within the scope of a claim in order for objective evidence of nonobviousness tied to that product to be given substantial weight. There must also be a causal relationship, termed a “nexus,” between the evidence and the claimed invention. *Merck & Co. v. Teva Pharm. USA, Inc.*, 395 F.3d 1364, 1376 (Fed. Cir. 2005). A nexus is required in order to establish that the evidence relied upon traces its basis to a novel element in the claim, not to something in the prior art. *Institut Pasteur v. Focarino*, 738 F.3d 1337, 1347 (Fed. Cir. 2013). Objective evidence that results from something that is not “both claimed and *novel* in the claim” lacks a nexus to the merits of the invention. *In re Kao*, 639 F.3d 1057, 1068 (Fed. Cir. 2011).

All types of objective evidence of nonobviousness must be shown to have nexus. *In re GPAC Inc.*, 57 F.3d 1573, 1580 (Fed. Cir. 1995) (nexus generally); *In re Huang*, 100 F.3d 135, 140 (Fed. Cir. 1996) (commercial success); *Wm. Wrigley Jr. Co. v. Cadbury Adams USA LLC*, 683 F.3d 1356, 1364 (Fed. Cir. 2012) (copying); *Rambus Inc. v. Rea*, 731 F.3d 1248, 1256 (Fed. Cir. 2013) (long-felt need); *Muniauction, Inc. v. Thomson Corp.*, 532 F.3d 1318, 1328 (Fed. Cir. 2008) (praise). The stronger the showing of nexus, the greater the weight accorded the objective evidence of nonobviousness. *See Ashland Oil, Inc. v. Delta Resins & Refractories, Inc.*, 776 F.2d 281, 306 (Fed. Cir. 1985), cert. denied, 475 U.S. 1017 (1986).

“Where the allegedly obvious patent claim is a combination of prior art elements, . . . the patent owner can show that it is the claimed

combination as a whole that serves as a nexus for the objective evidence” *WBIP, LLC v. Kohler Co.*, 829 F.3d 1317, 1330 (Fed. Cir. 2016) (citing *Rambus*, 731 F.3d at 1258). “[T]here is a presumption of nexus for objective considerations when the patentee shows that the asserted objective evidence is tied to a specific product and that product is the invention disclosed and claimed in the patent.” *WBIP*, 829 F.3d at 1329. Secondary consideration evidence is accorded less weight for claims that are considerably broader than the particular features in the merits of the claimed invention. *See ClassCo, Inc. v. Apple, Inc.*, 838 F.3d 1214, 1221 (Fed. Cir. 2016).

ii. Long-Felt Need

Establishing long-felt need first requires objective evidence that an art recognized problem existed in the art for a long period of time without solution. *See In re Gershon*, 372 F.2d 535, 539, (CCPA 1967); *Orthopedic Equip. Co., Inc. v. All Orthopedic Appliances, Inc.*, 707 F.2d 1376 (Fed. Cir. 1983). Second, the long-felt need must not have been satisfied by another before the invention by applicant. *Newell Cos. v. Kenney Mfg. Co.*, 864 F.2d 757, 768 (Fed. Cir. 1988). Third, the invention must in fact satisfy the long-felt need. *In re Cavanagh*, 436 F.2d 491 (CCPA 1971). *See also Perfect Web Techs., Inc. v. InfoUSA, Inc.*, 587 F.3d 1324, 1332–33 (Fed. Cir. 2009) (articulating all three factors).

a. Recognized Need for Long Period of Time

Patent Owner asserts that “a long-felt need existed to better manage DoS attacks and improve QoS.” PO Resp. 58. “After emerging in the 1990s, DoS attacks proliferated rapidly, causing increasing disruption at a time when society was becoming more dependent on networking

technology.” *Id.* (citing Ex. 2042). Exhibit 2042 includes a “timeline to highlight some of the major trend events in attack technology evolution” that begins in July 1999. Ex. 2042, 4. Patent Owner also cites a report titled, “The Changing Face of Distributed Denial of Service Mitigation.” *Id.* at 59 (citing Ex. 2041 (“DDoS attacks continue to increase, going up 60 percent in the past 3 years”)).

We find that the cited exhibits support adequately Patent Owner’s assertion that DoS attacks were a need to be solved, and that it was long-felt since at least 1999.

b. Not Satisfied Earlier by Another

Patent Owner does not address whether other solutions satisfied the need to protect against DoS attacks, or even assert that it was first to satisfy the aforementioned long-felt need. PO Resp. 58–59. As a result, we do not find that Patent Owner has shown that the need was not satisfied earlier by another.

c. Nexus

Patent Owner asserts that its “Catalyst 6500 Series Switches, Nexus 7000 Series Switches and 12000 Series Routers, for example, are commercial embodiments of the claimed invention because they employ Patent Owner’s Internet Operating System or Nexus Operating System (collectively, “IOS”), which includes Patent Owner’s Control Plane Policing (“CoPP”) feature, which includes command-line expressions to configure and implement a control plane port entity and control plane port services. PO Resp. 56–57. According to Patent Owner, “[t]he control plane port entity and control plane port services . . . are coextensive with the claims as

a whole.” *Id.* at 57 (citing Ex. 2015; Ex. 2006 ¶ 102).⁶ Patent Owner further argues that it “is entitled to a presumption of nexus for its objective evidence because [it] has established that [its] CoPP feature provided in a [Patent Owner] device running [IOS] is coextensive with the claims.” *Id.* at 57 (citing *WBIP*, 829 F.3d at 1329).

Petitioner asserts that “[t]here is no nexus for the secondary considerations.” Pet. Reply 26. Specifically, Petitioner asserts that we should disregard Exhibit 2015 because Patent Owner’s reliance on it “improperly attempts to bypass word limits by reference to a lengthy claim chart” and because it “contains only conclusory assertions and disparate quotations” that do not adequately explain how the products meet the claim limitations. *Id.*

IOS supports hundreds of command-line expressions. *See, e.g.*, Ex. 2032. Of those, only six are associated with the CoPP feature. PO Resp. 56–57. As a result, Patent Owner does not assert that its *routers* are coextensive with the merits of the claimed invention. Instead, Patent Owner asserts that its “control plane port entity and control plane port services *included in*” its routers are coextensive with the merits of the claimed invention. *Id.* at 57. Patent Owner equates its control plane entity and control plane port services with its CoPP feature. *Id.* at 58 (“Cisco is entitled to a presumption of nexus for its objective evidence because Cisco has established that Cisco’s CoPP feature provided in a Cisco device running Cisco IOS is coextensive with the claims.”) (citing Ex. 2015).

⁶ Exhibit 2015 is the subject of Petitioner’s Motion to Strike (Paper 41), which we address below.

We are persuaded that Patent Owner has shown sufficient nexus between the CoPP feature of IOS and the claims of the '668 patent.

d. Whether Proposed Solution Satisfies Need

Patent Owner does not assert that its Catalyst 6500 Series Switches, Nexus 7000 Series Switches and 12000 Series Routers running IOS with its CoPP feature satisfied the long-felt need to protect against DoS attacks. PO Resp. 58–59. Petitioner points out that a page on Cisco's website describes DoS attacks as problems as recently as March 2013. Pet. Reply 27 (citing Ex. 1027). We find that Patent Owner has not shown that its commercial embodiments satisfy the aforementioned long-felt need.

e. Conclusion

In summary, we find that Patent Owner has not provided sufficient supporting evidence and analysis to show adequately that (1) the long-felt need was not earlier satisfied by another, and (2) Patent Owner's proffered solution satisfied that need. Accordingly, we find that Patent Owner has proffered very weak evidence of long-felt need for the invention set forth in independent claims 1.

iii. Failure of others

As evidence that others tried, and failed, to protect against DoS attacks, Patent Owner identifies three techniques discussed in the '668 patent, including "reverse pass forwarding," "selective packet discard," and "identification, based on packet type, using an access list configured on an input interface to explicitly deny or limit specific problematic packet types." PO Resp. 59–60 (citing Ex. 1001, 2:24–34, 2:59–65, 3:10–14). Patent Owner also cites articles stating that, "[t]here still does not exist a tool or process that can fully protect a Web site from a DDoS attack" (Ex. 2041, 3)

and “the problem of denial of service on the Internet has not significantly changed in recent years” (Ex. 2042, 19). PO Resp. 60–61.

Petitioner argues that Patent Owner “has not shown that the claimed invention addressed . . . a problem that others had failed to solve.” Pet. Reply 27 (citing Ex. 1027). Exhibit 1027 is a page on Cisco’s website that describes DoS attacks as a problem as recently as March 2013.

After describing the techniques identified by Patent Owner (Ex. 1001, 2:24–44), the ’668 patent states that “[w]hile these methods all provide some level of control plane protection . . . [t]here also remain packet types and scenarios in which a stated feature set[] do[es] not provide adequate control plane protection” (*id.* at 2:45–49). Elsewhere, the ’668 patent states that “[t]he primary goal of Denial of Service (DoS) protection, or otherwise maintaining a specific Quality of Service (QoS) at the control plane 150 is to maintain packet forwarding and protocol states while the device 100 is either under attack or experiencing normal to heavy traffic load.” *Id.* at 5:24–28. Accordingly, we understand the problem that the ’668 patent purports to solve to be protecting the control plane of internetworking devices, such as routers, from DoS attacks. Exhibit 2041 describes a lack of tools or processes “that can fully protect a *Web site*,” not a router, from a DoS attack. Ex. 2041, 3. Exhibit 2042 is similarly focused on DoS attacks generally rather than efforts to protect the control plane of an internetworking device. As a result, we give these documents little weight as evidence of the failure of others to protect the control plane of an internetworking device. Accordingly, the only evidence of failure of others to which we give any substantial weight is the description in the background section of the ’668 patent itself.

In summary, we find that Patent Owner has provided some evidence and analysis to show that others tried, and failed, to solve the specific problem solved by the '668 patent. Accordingly, we find that Patent Owner has proffered weak evidence of failure of others to solve the specific problem solved by the '668 patent.

iv. Copying

Patent Owner asserts that Petitioner copied the patented control plane entity and control plane port services embodied in Cisco's CoPP feature in Petitioner's commercial internetworking devices:

Arista copied the patented control plane entity and control plane port services embodied in Cisco's CoPP feature in its commercial internetworking devices. (See Ex. 2015; Ex. 2032; Almeroth Decl., ¶ 102.) Arista's copying is well-documented and evinces a deliberate effort to duplicate the claimed subject matter. (See Ex. 2045; Ex. 2034; Ex. 2035; Ex. 2036; Ex. 2037; Ex. 2033; Ex. 2043; Ex. 2044; Ex. 2015.) Beyond reproducing every element of independent claims 1, 19, and 55 in rival commercial products, Arista even copied Cisco's name for its innovative feature: "Control Plane Policing." (See Ex. 2024, p. 47; Ex. 2031, pp. 1217–1219.) As shown below in a chart comparing the products, Arista also copied verbatim the series of unique command-line expressions used with Cisco's CoPP feature. (Compare Ex. 2028; with Ex. 2031).

PO Resp. 61. Patent Owner also argues that Petitioner's employees, as former employees of Patent Owner, had access to and knowledge of Patent Owner's proprietary technology. *Id.* at 61–63. Patent Owner also argues that Petitioner copied the name of its feature (i.e., "Control Plane Policing") and the names of the CLI commands associated with that feature. *Id.* at 63–66.

Petitioner asserts that Patent Owner “fails to establish any nexus between the alleged ‘copying evidence’ and the ’668 patent claims” because “the cited evidence relates to allegations about feature names and command line interfaces (CLIs),” but “none of the claims recite feature name(s) or CLI expressions.” Pet. Reply 27.

We agree with Petitioner. Neither the feature name nor the command-line expressions are claimed in the ’668 patent. Even assuming that Petitioner copied these aspects of IOS, and even assuming that Arista’s products embody the limitations of the challenged claims, as asserted in Exhibit 2015, that is not sufficient evidence to show that Petitioner copied the functionality claimed in the ’668 patent.

In summary, we find that Patent Owner has not provided sufficient supporting evidence and analysis to show adequately that Petitioner copied the functionality claimed in the ’668 patent. Accordingly, we find that Patent Owner has proffered very weak evidence of copying of the functionality claimed in the ’668 patent.

v. Overall Weighing of Relevant Factors Concerning Obviousness, Including Secondary Considerations

We now weigh Patent Owner’s evidence of secondary consideration in conjunction with the other factors relevant to obviousness for independent claim 1. In summary, we find, for the reasons set forth above, that Amara and CoreBuilder account for all of the limitations of independent claim 1. We find further that Petitioner has identified sufficient evidence, in the cited prior art, that the modification itself, as well as the rationale for the modification, were well known to one of ordinary skill in the art, at the time of the invention.

Against the above findings, we weigh the Patent Owner's evidence of secondary considerations, each of which we have analyzed above, and summarize as follows: (1) very weak evidence of long-felt need; (2) weak evidence of failure of others; and (3) very weak evidence of copying.

Overall, upon weighing the *Graham* factors, we determine that the very weak evidence of each of long-felt need and copying, and the weak evidence of failure of others, does not outweigh our finding, based on strong evidence, that the internetworking device of Amara/CoreBuilder accounts for every limitation of independent claim 1. Furthermore, as claims 2–6, 8, 9, and 15–18, each depend ultimately from independent claim 1, we determine that a similar weighing for each of claims 2–6, 8, 9, 15–18 results in the same conclusion. We reach the same result with respect to independent claims 19 and 55, and claims 20–22, 24–27, 33–36, 56–58, 60–63, and 69–72 for the same reasons.

Accordingly, for these reasons, we determine that Petitioner has met its burden of showing that the subject matter of claims 1–6, 8, 9, 15–22, 24–27, 33–36, 55–58, 60–63, and 69–72 would have been obvious in view of the combination of Amara and CoreBuilder for the reasons discussed above.

7. Conclusion

For the foregoing reasons, we are persuaded that Petitioner has established, by a preponderance of the evidence, that claims 1–6, 8, 9, 15–22, 24–27, 33–36, 55–58, 60–63, and 69–72 are unpatentable as obvious over the combination of Amara and CoreBuilder.

*F. Claims 7, 23, and 59 –
Obviousness over Amara, CoreBuilder, and Moberg*

Petitioner argues that dependent claims 7, 23, 41, and 59 are unpatentable under 35 U.S.C. § 103(a) as obvious over the combination of Amara, CoreBuilder, and Moberg. Pet. 40–42. We have reviewed the Petition, Patent Owner's Response, Petitioner's Reply, as well as the relevant evidence discussed in those papers and other record papers, and are persuaded that the record sufficiently establishes Petitioner's contentions for claims 7, 23, 41, and 59, and we adopt Petitioner's contentions discussed below as our own.

1. Petitioner's Initial Positions

The claims require the control plane processes to be distributed across multiple processors. Petitioner relies upon Moberg's teaching of primary and secondary CPUs. *Id.* at 42. Specifically, Petitioner cites Moberg's teaching that "it would be desirable for . . . the secondary processor [to be] able to off load work from the primary processor, thus making use of both processors simultaneously" (Ex. 1005, 2:26–30) and, in reference to step 608 of Figure 8, that "anything that was off-loaded from the primary processor to the secondary processor is run by the secondary processor" (*id.* at 8:25–28). Petitioner sets forth reasons to combine Amara, CoreBuilder, and Moberg on pages 41–42 of the Petition.

2. Moberg's Status as Prior Art

Patent Owner argues that "Moberg is not prior art under § 102(a) because the inventors of the '668 patent conceived of the invention prior to October 1, 2002, and the inventors and their patent attorney exercised reasonable diligence in constructively reducing the invention to practice

during the entirety of the 59 day critical period;” and (2) “Moberg cannot be used to establish unpatentability even as § 102(e) art because, at the time of the invention, the ’668 patent and Moberg patent were both subject to assignment to Cisco, thus disqualifying Moberg under § 103(c).” PO Resp. 34–35.

Petitioner counters that (1) Moberg is prior art under § 102(a) because Cisco has not met its burden to prove an earlier invention date and has not shown reasonably continuous diligence; (2) Patent Owner cannot rely on § 103(c) because the claimed invention was not assigned to Patent Owner until November 26, 2002, and Patent Owner has not provided evidence that the named inventors of the ’668 patent were “subject to an obligation of assignment,” as required by § 103(c). Pet. Reply 21–22.

We agree with Petitioner that Moberg is prior art for the reasons explained below.

a. Principles of Law

Petitioner has the burden of persuasion to prove unpatentability by a preponderance of the evidence. *Dynamic Drinkware, LLC v. Nat’l Graphics, Inc.*, 800 F.3d 1375, 1379 (Fed. Cir. 2015). Petitioner also has the initial burden of production to show that a reference is prior art to certain claims under a relevant section of 35 U.S.C. § 102. *Id.* Once Petitioner has met that initial burden, the burden of production shifts to Patent Owner to argue or produce evidence that the asserted reference is not prior art to certain claims, for example, because those claims are entitled to the benefit of priority of an earlier-filed application. *Id.* at 1380. Once Patent Owner has met that burden of production, the burden is on Petitioner to show that the

claims at issue are not entitled to the benefit of priority of the earlier filed application. *Id.*

Section 102(a) recites “[a] person shall be entitled to a patent unless . . . (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, *before the invention thereof by the applicant for patent*” (emphasis added). An inventor “may date his patentable invention back to the time of its conception, if he connects the conception with its reduction to practice by reasonable diligence on his part, so that they are substantially one continuous act.” *Mahurkar v. C.R. Bard, Inc.*, 79 F.3d 1572, 1577 (Fed. Cir. 1996) (internal citation and quotations omitted).

“Conception must be proved by corroborating evidence which shows that the inventor disclosed to others his completed thought expressed in such clear terms as to enable those skilled in the art to make the invention.” *Coleman v. Dines*, 754 F.2d 353, 359 (Fed. Cir. 1985). The requirement for corroboration of inventor’s testimony arose out of a concern that inventors testifying at trial would be tempted to remember facts favorable to their case by the lure of protecting their patent or defeating another’s patent. *Mahurkar*, 79 F.3d at 1577 (citing *Price v. Symsek*, 988 F.2d 1187, 1195 (Fed. Cir. 1993)); *see also Kridl v. McCormick*, 105 F.3d 1446, 1449 (Fed. Cir. 1997) (“The tribunal must also bear in mind the purpose of corroboration, which is to prevent fraud, by providing independent confirmation of the inventor’s testimony.”). However, “[t]here is no particular formula that an inventor must follow in providing corroboration of his testimony of conception.” *Singh v. Brake*, 222 F.3d 1362, 1367 (Fed. Cir. 2000) (citing *Kridl*, 105 F.3d at 1450). Rather, a rule of reason applies

to determine whether the inventor's testimony has been corroborated. *Price*, 988 F.2d at 1194. "The rule of reason, however, does not dispense with the requirement for some evidence of independent corroboration." *Coleman*, 754 F.2d at 360.

"Reasonable diligence must be shown throughout the entire critical period, which begins just prior to the competing reference's effective date and ends on the date of the invention's reduction to practice." *Perfect Surgical Techniques, Inc. v. Olympus Am., Inc.*, 841 F.3d 1004, 1007 (Fed. Cir. 2016) (citation omitted); *see also id.* at 1009 ("A patent owner . . . must show that there was reasonably continuous diligence."). "Under this standard, an inventor is not required to work on reducing his invention to practice every day during the critical period." *Id.* (citing *Monsanto Co. v. Mycogen Plant Sci., Inc.*, 261 F.3d 1356, 1369 (Fed. Cir. 2001)). "[P]eriods of inactivity within the critical period do not automatically vanquish a patent owner's claim of reasonable diligence." *Id.* Rather, "the point of the diligence analysis . . . is to assure that, in light of the evidence as a whole, 'the invention was not abandoned or unreasonably delayed.'" *Id.* (quoting *Brown v. Barbacid*, 436 F.3d 1376, 1379 (Fed. Cir. 2006)). A party alleging diligence must provide corroboration with evidence that is specific both as to facts and dates. *Gould v. Schawlow*, 363 F.2d 908, 920 (CCPA 1966); *Kendall v. Searles*, 173 F.2d 986, 993 (CCPA 1949). The rule of reason does not dispense with the need for corroboration of diligence that is specific as to dates and facts. *Gould*, 363 F.2d at 920; *Kendall*, 173 F.2d at 993; *see Coleman v. Dines*, 754 F.2d 353, 360 (Fed. Cir. 1985).

Section 103(c)(1) recites

Subject matter developed by another person, which qualifies as prior art only under one or more of subsections (e), (f), and (g) of section 102, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the claimed invention was made, owned by the same person or subject to an obligation of assignment to the same person.

b. Whether Moberg is Prior Art Under § 102(a)

Applying the framework from *Dynamic Drinkware*, we determine that Petitioner has met its initial burden of production by asserting that Moberg is prior art under 35 U.S.C. § 102(a). Pet. 3 (“Moberg published prior to the Critical Date and thus is prior art under 35 U.S.C. §§ 102(e) & 102(a).”).

The burden of production having shifted to Patent Owner, Patent Owner asserts that “Moberg is not prior art under § 102(a) because the inventors of the ’668 patent conceived of the invention prior to October 1, 2002, and the inventors and their patent attorney exercised reasonable diligence in constructively reducing the invention to practice during the entirety of the 59 day critical period.” PO Resp. 35–42. For conception, Patent Owner provides a draft specification, titled “Control Plane Security and Quality of Service Functional Specification” (Ex. 2009, “CoPP Specification”) and testimony from R. Wayne Ogozaly (Ex. 2008), a named inventor of the ’668 patent. *Id.* at 35–37. Mr. Ogozaly testifies that he and his co-inventors “conceived of the invention recited in the ’668 Patent in the United States prior to July 19, 2002.” Ex. 2008 ¶ 6. Mr. Ogozaly’s testimony is corroborated by the CoPP Specification, which Ms. Laurie Wall testifies was deposited in Patent Owner’s document management system on July 19, 2002 (Ex. 2010 ¶¶ 6–7). Patent Owner’s declarant, Dr. Almeroth, maps the disclosure from the CoPP Specification to claims 7, 23, and 59.

Ex. 2047; PO Resp. 36. For reduction to practice, Patent Owner provides the testimony of Dr. Ogozaly, the billing records from David J. Thibodeau, Jr. (the patent attorney who prepared and filed the application that eventually issued as the '668 patent) (Ex. 2011), testimony of Ms. Wall authenticating those records, and the testimony of Mr. Thibodeau (Ex. 2012) regarding his work between September 30, 2002 (just prior to the issuance of Moberg) and November 27, 2002 (constructive reduction to practice). PO Resp. 37–42.

In light of Patent Owner's arguments and evidence, we determine that Patent Owner has met its burden of production, and the burdens⁷ concerning this issue are on Petitioner. Petitioner replies that Moberg is prior art under 102(a) because Cisco has not met its burden to prove an earlier invention date. Pet. Reply 17–20. Specifically, Petitioner contends that the CoPP Specification “does not confirm the inventors conceived of having two processors simultaneously perform control plane services.” *Id.* at 17–18 (citing Ex. 2009, 17 for a “standby” processor). We agree. The claims require the “control plane processes”—as opposed to the “control plane port services”—be distributed across multiple processors. Dr. Almeroth identifies, for claim 1, disclosure in the CoPP Specification of “Distributed CP Services” performed by a “distributed Switch Engine” in each linecard, (Ex. 2047, 5–6), but these disclosures relate to distributed control plane port services, not to distributed control plane *processes*. Dr. Almeroth identifies, for claim 7, disclosure in the CoPP Specification of “active and standby Control Plane Processors.” *Id.* at 6. But he does not identify, and we cannot discern, where the CoPP Specification describes distributing control plane

⁷ We mean both the burden of production and the burden of persuasion.

processes across both the active and the standby Control Plane Processors. Moreover, based on the use of “active” and “standby,” we are persuaded by Petitioner’s argument that “a ‘standby’ processor . . . presumably takes over if the primary (active) control plane processor fails.” Pet. Reply 17.

Having considered the parties’ arguments and evidence, we are persuaded that Petitioner has met its burden of persuasion by showing sufficiently that Moberg is “before the invention thereof by” the named inventors of the ’668 patent.

c. Whether Moberg Can Preclude Patentability Under § 103(c)

Although we determine above that Moberg is prior art under § 102(a), we exercise our discretion to determine whether Petitioner has shown that Moberg is also prior art under § 102(e). Again applying the framework from *Dynamic Drinkware*, we determine that Petitioner has met its initial burden of production by asserting that Moberg is prior art under 35 U.S.C. § 102(e). Pet. 3 (“Moberg published prior to the Critical Date and thus is prior art under 35 U.S.C. §§ 102(e) & 102(a).”).

The burden of production having shifted to Patent Owner, Patent Owner asserts that “as § 102(e) prior art, Moberg cannot be used to establish unpatentability of the ’668 patent under § 103(c) because both the ’668 patent and the Moberg reference were assigned, or subject to assignment, to [Patent Owner] at the time of the invention.” PO Resp. 42–43. Specifically, Patent Owner argues that Moberg was assigned to Patent Owner on January 27, 1999, that the named inventors of the ’668 patent were under “an obligation of assignment to the same person,” and that, on November 26, 2002, the named inventors of the ’668 patent assigned their rights in the invention to Patent Owner. *Id.* As a result, according to Patent Owner,

“both the ’668 patent and the Moberg reference were assigned, or subject to assignment, to [Patent Owner] at the time of the invention,” and therefore “cannot preclude patentability of the ’668 patent.” *Id.* at 43.

In light of Patent Owner’s arguments and evidence, we determine that Patent Owner has not met its burden of production. Under § 103(c) of Title 35 of the U.S. Code, Moberg shall not preclude patentability only “where [Moberg] and the claimed invention were, *at the time the claimed invention was made*, owned by the same person or subject to an obligation of assignment to the same person.” Emphasis added. Patent Owner does not identify a “time the claimed invention was made.” To the extent that Patent Owner is relying upon its conception date (*see* PO Resp. 36–37) of July 19, 2002, Petitioner points out correctly that (1) the claimed invention was not yet owned by Patent Owner because the named inventors of the ’668 patent did not assign their rights in the invention to Patent Owner until November 26, 2002; and (2) there is no evidence, such as employment agreements, to support Patent Owner’s contention that the named inventors of the ’668 patent were “subject to an obligation of assignment.” Pet. Reply 21–22. Patent Owner’s sole assertion in this regard (PO Resp. 43) is uncorroborated by documentary evidence. As a result, Patent Owner has not met its burden of production to show that Moberg cannot preclude patentability under § 103(c).

Furthermore, to the extent that Patent Owner is relying upon the November 27, 2002, filing date as “the time the claimed invention was made” for 103(c) purposes, both Moberg and the ’668 patent would then be commonly owned “at the time the claimed invention was made,” but

Moberg would be prior art under § 102(a) and the § 103(c)(1) exception would not apply.

Having considered the parties' arguments and evidence, we are persuaded that Petitioner has met its burden of persuasion by showing sufficiently that Moberg issued before the November 27, 2002, filing date of the '668 patent and, therefore, is prior art to the '668 patent under 102(e).

3. Whether Moberg Teaches Distributing Control Plane Processes Across Multiple Processors

Patent Owner argues that Moberg “does not disclose *distributing control plane processes* across multiple processors” because it identifies “routing table computations” and “network management” router tasks in relation to only the primary CPU. PO Resp. 43–44. Patent Owner acknowledges that Moberg teaches that some functions may be offloaded to a secondary processor, but argues that “[t]his statement does not mean the primary processor can offload all types of processing performed by the primary CPU.” *Id.* at 45. According to Patent Owner, Moberg distinguishes between “communication intensive tasks” that are distributed across processor and slow-path tasks that are performed by primary processor 166. *Id.* at 46.

Petitioner counters that Patent Owner's distinction is irrelevant because the “communication intensive tasks” it identifies are described in Moberg as being performed by a third set of processors in the interfaces 160. Pet. Reply 17.

We agree with Petitioner. Patent Owner's distinction between fast-path and slow-path tasks is not persuasive because Moberg teaches explicitly that the “communications intensive tasks” are performed by “an

independent processor” in each interface. Ex. 1005, 5:6–20. Petitioner, in contrast, relies upon Moberg’s teaching of “such router tasks as routing table computations and network management.” *Id.* at 4:45–46. Although Moberg states that “primary CPU 166 *may* be responsible” (*id.* (emphasis added)) for those tasks, Moberg also teaches a secondary processor that can offload work from the primary processor such that the router “make[s] use of both processors simultaneously.” *Id.* at 2:26–30. Specifically, Moberg teaches “a list of projects or functions that are to be assigned to and performed by the secondary processor” which “may include functions and projects typically performed by the primary processor.” *Id.* at 6:11–15. “The software designer may determine which functions are to be performed by the secondary processor rather than the primary processor.” *Id.* at 6:15–17. Moberg teaches that “anything that was off-loaded from the primary processor to the secondary processor is run by the secondary processor” even when the initialization sequence for the secondary processor otherwise remains suspended. *Id.* at 8:25–27.

Dr. Lin testifies that Moberg’s “routing table computations and network management” are, like Amara’s internal applications 230, functions for controlling and configuring the routing device, and that a person of ordinary skill in the art would have understood that “*some* of the internal applications 230 would be off-loaded from the primary CPU to the secondary CPU” (emphasis added) because doing so “would provide the benefit of increased processing power.” Ex. 1002 ¶¶ 74–75. As a result, we are persuaded that a person of ordinary skill in the art would have found it obvious to offload *some* control plane functions to a secondary CPU while

continuing to execute other control plane functions on the primary CPU, thereby rendering them “distributed across multiple processors.”

4. Conclusion

For the foregoing reasons, we are persuaded that Petitioner has established, by a preponderance of the evidence, that claims 7, 23, and 59 are unpatentable as obvious over the combination of Amara, CoreBuilder, and Moberg.

G. Claims 10, 12, 13, 28, 30, 31, 64, 66, and 67 – Obviousness over Amara, CoreBuilder, and Hendel

Petitioner argues that claims 10, 12, 13, 28, 30, 31, 43, 48, 49, 64, 66, and 67 are unpatentable under 35 U.S.C. § 103(a) obvious over the combination of Amara, CoreBuilder, and Hendel. Pet. 52–60. Petitioner sets forth reasons to combine Amara, CoreBuilder, and Hendel on pages 54–57 of the Petition. In particular, Petitioner argues that a person of ordinary skill in the art would have combined Amara, CoreBuilder, and Hendel because doing so would “provide the ability to support larger amounts of system traffic and a larger network” (e.g., a greater number of physical interface ports) by reducing the risk of a single policy engine 232 becoming a bottleneck. *Id.* at 56–57 (citing Ex. 1002 ¶¶ 99–101).

We have reviewed the Petition, Patent Owner's Response, Petitioner's Reply, as well as the relevant evidence discussed in those papers and other record papers, and are persuaded that the record sufficiently establishes Petitioner's contentions for claims 10, 12, 13, 28, 30, 31, 43, 48, 49, 64, 66, and 67, and we adopt Petitioner's contentions discussed below as our own.

Patent Owner argues that Petitioner fails to meet its burden to show that a person of ordinary skill in the art would have combined Hendel with

Amara and CoreBuilder. PO Resp. 47–55. Specifically, Patent Owner argues that Petitioner presents no evidence that adding more ports to a device necessarily results in more control plane traffic. *Id.* at 52. Petitioner replies that Hendel teaches that distributing policy processing is beneficial because traffic increases with increasing ports, and that, even assuming control plane traffic increases more slowly than transit traffic, nothing in Hendel suggests that distributing processing would not be beneficial for control plane traffic as well. Pet. Reply 24. We agree with Petitioner. Hendel teaches a “scalable architecture which allows for easily increasing the number of subsystems 210 as a way of increasing the number of external connections, thereby allowing greater flexibility in defining the surrounding network environment.” *Id.* at 7:14-18; *see also* Pet. 56 (describing Hendel’s teachings regarding the advantages of a scalable architecture). We credit the testimony of Dr. Lin that a person of ordinary skill in the art at the time of the invention would have understood this advantage would apply to distribution of control plane port services, such those performed by Amara’s policy engine 232, as well as normal port services.

Patent Owner also argues that (1) Dr. Lin’s testimony is unsupported by “actual evidence of such bottlenecks ever occurring;” and (2) Petitioner presents no evidence that a device having so many ports that its control plane traffic overwhelmed a single policy engine actually existed. *Id.* at 51–53. Petitioner replies that “actual evidence of router bottlenecks or overloading . . . is irrelevant.” Pet. Reply 25. We agree with Petitioner. Petitioner need not provide evidence of *actual* occurrences of bottlenecks in order to show sufficiently that a person of ordinary skill in the art at the time

would have appreciated Hendel’s teachings regarding the advantages of distributed policy processing.

Patent Owner also argues that “Dr. Lin attempted to present a new theory that a single ‘policy engine’ could be overwhelmed during a denial-of-service attack.” PO Resp. 53–54. This theory was not articulated in the Petition (see Pet. 55–57) and, therefore, we do not rely on it.

Finally, Patent Owner argues that there would be no need to distribute control plane port services to Hendel’s subsystems because “Hendel explicitly states that it is unconcerned about the throughput of its control plane.” PO Resp. 54 (citing Ex. 1007, 7:53–57 (“The communication between the CPS and the individual subsystems need not be as fast or reliable as the internal links between subsystems, because, as appreciated below, the CPS is not normally relied upon to forward the majority of traffic through the MLDNE.”)). Petitioner replies that this disclosure is not a teaching away, but rather “simply recognizes an uncontroversial fact that control plane communications require less bandwidth than data plane communications.” Pet. Reply 25. Petitioner asserts that, “precisely because the control plane communications are not “as fast or reliable,” the control plane policies (i.e., policy engine 232 in Amara) should be applied before the control plane bus (element 251 in Hendel)—and therefore in the distributed subsystems.” *Id.* at 25–26. We agree with Petitioner. Hendel’s acknowledgement that communications between the CPS and individual subsystems (over which control plane traffic passes) “need not be as fast or reliable as” the internal links between subsystems (over which transit traffic passes) does not lead us to understand Hendel as being “unconcerned” about the throughput of its control plane, as Patent Owner contends. We find that

Hendel’s recognition that control plane traffic requires less reliability or speed than transit traffic does not contradict its teaching to use a distributed architecture. Stated differently, the advantages of a distributed architecture of acquiring flexibility and scalability are not undercut by Hendel’s statement that control plane traffic need not be as fast or reliable as other traffic. *See Meiresonne, v. Google*, 849 F.3d 1379, 1383 (Fed. Cir. 2017) (describing a website abstract as sometimes as informative as “gibberish” did not amount to promoting abandonment of text descriptions).

For the foregoing reasons, we are persuaded that Petitioner has shown, by a preponderance of the evidence, that claims 10, 12, 13, 28, 30, 31, 64, 66, and 67 are unpatentable as obvious over the combination of Amara, CoreBuilder, and Hendel.

H. Petitioner’s Motion to Strike

Petitioner filed a Motion to Strike (Paper 41) to which Patent Owner filed an Opposition (Paper 48). Petitioner moves to strike Exhibits 2015 and 2047 and exhibits discussed exclusively therein (Exhibits 2016–2023 and 2027) on the grounds that they are improperly incorporated by reference into Patent Owner’s Response. Paper 41, 1–3. Exhibit 2015 is a claim chart mapping descriptions of Patent Owner and Petitioner’s products to the claims of the ’668 patent. Exhibit 2047 is a claim chart mapping disclosure from a document relied upon to corroborate a conception date to claims 7, 23, and 59.

Even considering Exhibit 2015, we determine that Patent Owner’s secondary considerations arguments and evidence do not outweigh the evidence of obviousness. Likewise, even considering Exhibit 2047, we

determine that Patent Owner’s evidence of its conception date is insufficient. As a result, we dismiss Petitioner’s Motion to Strike as moot.

I. Patent Owner’s Motion to Strike

Patent Owner filed a Motion to Strike Petitioner’s Reply (Paper 42) to which Petitioner filed an Opposition (Paper 44). Patent Owner moves to strike (1) “Petitioner’s new argument that claimed ‘port services’ are executed by Amara’s ‘packet classifiers’” (Paper 42, 2–5); and (2) “Petitioner’s new argument that CoreBuilder discloses ‘monitoring packet flows’” (*id.* at 5).

We do not rely upon either of Petitioner’s alleged new arguments and, therefore, Patent Owner’s Motion to Strike is dismissed as moot.

J. Papers Under Seal

This Final Written Decision discusses or cites information in papers that are subject to a Protective Order. For those papers, the Parties should follow the guidance related to 37 C.F.R. § 42.56. *See* Office Patent Trial Practice Guide, 77 Fed. Reg. 48,756, 48,761 (Aug. 14, 2012).

III. CONCLUSION

Petitioner has demonstrated, by a preponderance of the evidence, that claims 1–10, 12, 13, 15–28, 30, 31, 33–36, 55–64, 66, 67, and 69–72 of the ’668 patent are unpatentable. Petitioner’s Motion to Strike is *dismissed-as-moot*. Patent Owner’s Motion to Strike is *dismissed-as-moot*.

IV. ORDER

Accordingly, it is

ORDERED claims 1–10, 12, 13, 15–28, 30, 31, 33–36, 55–64, 66, 67, and 69–72 of the '668 patent are held unpatentable;

FURTHER ORDERED that Petitioner's Motion to Strike is *dismissed-as-moot*;

FURTHER ORDERED that Patent Owner's Motion to Strike is *dismissed-as-moot*; and

FURTHER ORDERED that because this is a final written decision, parties to the proceeding seeking judicial review of the decision must comply with the notice and service requirements of 37 C.F.R. § 90.2.

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Patent 7,224,668 B1

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