In The
Supreme Court of the United States

SSL SERVICES, LLC,

Petitioner,

v.

CISCO SYSTEMS, INC.,

Respondent.

On Petition for a Writ of Certiorari to the
United States Court of Appeals
for the Federal Circuit

APPENDIX

ALAN M. FISCH
Counsel of Record
R. WILLIAM SIGLER
JOHN T. BATTAGLIA
FISCH SIGLER LLP
5301 Wisconsin Avenue, NW
Fourth Floor
Washington, DC 20015
Supreme.Court@FischLLP.com
202.362.3500

Counsel for Petitioner

NOTE: This order is nonprecedential.

**United States Court of Appeals
for the Federal Circuit**

———————————

SSL SERVICES, LLC,
Appellant

v.

CISCO SYSTEMS, INC.,
Appellee

———————————

2017-1951

———————————

Appeal from the United States Patent and
Trademark Office, Patent Trial and Appeal Board in
No. IPR2015-01754.

———————————

**ON PETITION FOR PANEL REHEARING AND
REHEARING EN BANC**

———————————

Before PROST, *Chief Judge*, NEWMAN, LOURIE,
DYK, MOORE, O'MALLEY, REYNA, WALLACH,
TARANTO, CHEN, HUGHES, and STOLL, *Circuit
Judges*.

PER CURIAM.

O R D E R

Appellant SSL Services, LLC filed a combined petition for panel rehearing and rehearing en banc.

The petition was referred to the panel that heard the appeal, and thereafter the petition for rehearing en banc was referred to the circuit judges who are in regular active service.

Upon consideration thereof,

IT IS ORDERED THAT:

The petition for panel rehearing is denied.

The petition for rehearing en banc is denied.

The mandate of the court will issue on July 17, 2018.

FOR THE COURT

July 10, 2018

/s/ Peter R. Marksteiner
Date Peter R. Marksteiner
Clerk of Court

Entered: February 23, 2016

UNITED STATES PATENT AND TRADEMARK
OFFICE

_____

BEFORE THE PATENT TRIAL AND APPEAL
BOARD

_____

CISCO SYSTEMS, INC.,
Petitioner,
v.
SSL SERVICES LLC,
Patent Owner.

_____

Case IPR2015-01754
Patent 6,158,011

_____

Before KEN B. BARRETT, MICHAEL W. KIM, and
DANIEL N. FISHMAN, *Administrative Patent Judges.*

FISHMAN, *Administrative Patent Judge.*

DECISION
Institution of *Inter Partes* Review
37 C.F.R. § 42.108

I. INTRODUCTION

Cisco Systems, Inc. ("Petitioner") filed a Petition (Paper 2, "Pet.") for *inter partes* review of claims 1–7 of U.S. Patent No. 6,158,011 (Ex. 1001) ("the '011 Patent") pursuant to 35 U.S.C. §§ 311–319. SSL Services LLC ("Patent Owner") filed a Patent Owner Preliminary Response (Paper 8, "Prelim. Resp."). We have jurisdiction under 35 U.S.C. § 314, which provides that an *inter partes* review may be instituted only if "the information presented in the petition . . . shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition."

Petitioner challenges the patentability of claims 1–7 of the '011 Patent under 35 U.S.C. § 103. We determine that there is a reasonable likelihood that Petitioner would prevail in showing that claims 1–7 are unpatentable. Pursuant to 35 U.S.C. § 314, we authorize an *inter partes* review to be instituted as to claims 1–7 of the '011 Patent.

A. *The '011 Patent*

The '011 Patent relates to "a system and method for allowing private communications over an open network, and in particular to a virtual private network which provides data encryption and mutual authentication services for both client/server and peer-to-peer applications at the applications, transport driver, and network driver levels." Ex. 1001, 1:10–16. The '011 Patent acknowledges two known approaches for providing encryption for

such secured communications — first, a dedicated server that provides encryption and authentication services for clients using a network (i.e., a client/server architecture), and, second, private, secured communications between any two cooperating computers on a network (i.e., a peer-to-peer architecture). *Id.* at 1:31–40. According to the '011 Patent, previously known approaches for encrypted peer-to-peer communications over a virtual private network ("VPN") required modifications to various layers of the communications software as compared to client/server applications using a VPN rendering the two architectures mutually exclusive. *Id.* at 1:58–66.

To remedy such problems, the '011 Patent discloses maintaining the general architecture of the known client/server architecture for encrypted communication and adding one or more "shims" to lower level communications software "in order to accommodate a variety of peer-to-peer communications while utilizing the applications level infrastructure for authentication and session key generation purposes." *Id.* at 2:13–20. Specifically, the '011 Patent discloses:

> The changes made by the present invention to the conventional client server virtual private network may be thought of as, essentially, the addition of means, most conveniently implemented as shims, which add a secured mutual authentication and session key generation channel between the server and all parties to a communication, at all levels at which a communication can be carried out.

Id. at 2:41–48.

Figure 5 of the '011 Patent, reproduced below, shows various embodiments of shims (50, 53, and 55):
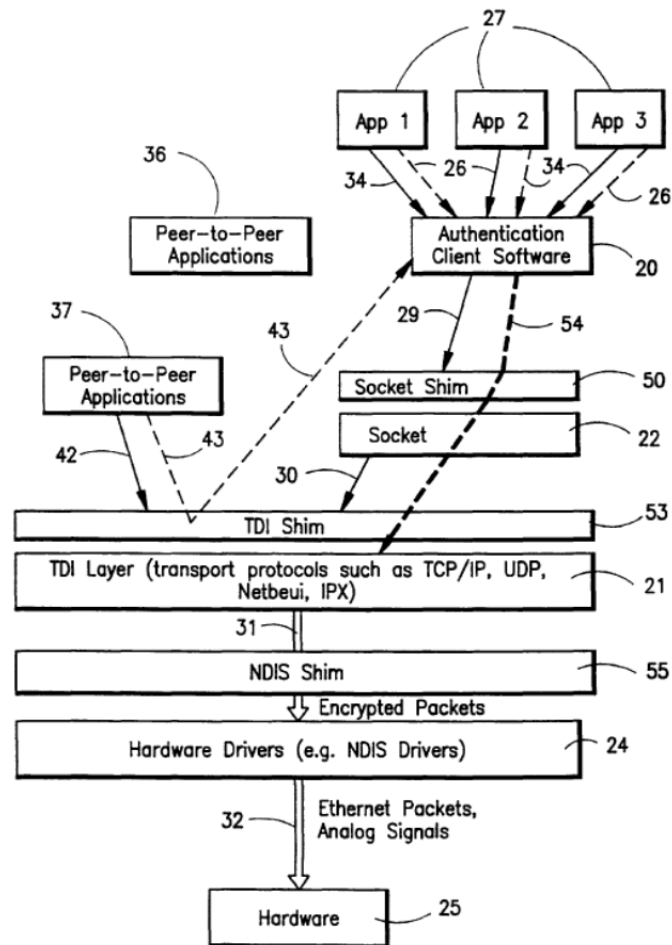

FIG. 5

Figure 5 of the '011 Patent, reproduced above, discloses exemplary shims (50, 53, and 55) inserted

between layers of the communication software
modules to enable support for peer-to-peer secured
communications (36, 37) utilizing applications level
authentication and encryption (20) with minimal
modifications to the various software elements
of the system. The '011 Patent discloses that various
configurations of one or more of shims 50, 53, and 55
may be implemented to provide various levels of
security. *See id.* at 9:46–10:62 (describing functions
of shims 50, 53, and 55 in reference to Figures 3–5).

B. Related Matters

Both parties identify the following related court
proceedings involving the '011 Patent: *SSL Services,
LLC v. Cisco Systems, Inc.*, Case No. 2:15-cv-00433
(E.D. Tex.); *SSL Services, LLC v. Citrix Systems,
Inc.*, Case No. 13-1419 (Fed. Cir.); *Juniper Networks,
Inc. v. SSL Services, LLC*, Case No. 4:08-cv-05758
(N.D. Cal.); and *SSL Services, LLC v. Citrix Systems,
Inc*, Case No. 2:08-cv-00158 (E.D. Tex.). Pet. 1; Paper
5, 2. Patent Owner identifies additional court
proceedings involving the '011 Patent: *SSL Services,
LLC v. Citrix Systems, Inc.*, Case No. 13-1420 (Fed.
Cir.) and *Juniper Networks, Inc. v. SSL Services,
LLC*, Case No. 10-1107 (Fed. Cir.). Paper 5, 2.
Both parties also identify the following related
Ex Parte Reexamination proceedings involving the
'011 Patent: Control No. 90/011,242 ("the '242
reexamination"), Control No. 90/020,048 ("the '048
reexamination"), and Control No. 90/013,253 ("the
'253 reexamination"). Pet. 1; Paper 5, 2.

C. Illustrative Claims

Independent claim 1, reproduced below, is exemplary of the invention:

1. Apparatus for carrying out communications over a multi-tier virtual private network, said network including a server and a plurality of client computers, the server and client computers each including means for transmitting data to and receiving data from an open network, wherein said means for transmitting data to and receiving data from an open network includes a lower set of communications drivers, said lower set of communications drivers being arranged to receive function calls and requests for service from an applications program in order to transmit and receive said data comprising:

means for intercepting said function calls and requests for service sent by said applications program to said lower level set of communications drivers, said intercepted function calls and requests for service being limited to communications functions with no reference to encryption functions;

means for causing an applications level authentication and encryption program in said one of said client computers to communicate with the server in response to receiving said intercepted function calls and requests for service by generating a session

key, using the session key generated by the applications level authentication and encryption program to encrypt file sent by the applications program, and sending function calls and requests for service to the lower level set of communications drivers in order to transmit said encrypted files over said open network.

D. References Applied by Petitioner

Petitioner challenges the patentability of claims 1–7 on the basis of the following items of art:

Alden et al., U.S. Patent No. 6,101,543 (filed Oct. 25, 1996) (Ex. 1006) ("Alden").

Yasuhiro Takahashi et al., *Communication Method with Data Compression and Encryption for Mobile Computing Environment*, INET96 Proc. (June 24–28, 1996), http://www.isoc.org/inet96/proceedings/a6/a6_2.htm (Ex. 1007) ("Takahashi").

Bob Quinn & Dave Shute, *Windows™ Sockets Network Programming* (Alan R. Feuer, ed., 4th prtg. 1997) (Ex. 1008) ("Quinn").

Bruce Schneier, *Applied Cryptography* (Paul Farrell, ed., 1994) (Ex. 1009) ("Schneier").

E. The Alleged Ground of Unpatentability

The Petition sets forth a single ground of unpatentability of claims 1–7 of the '011 Patent as obvious (35 U.S.C. § 103(a)) over the combination of Alden, Takahashi, Quinn, and Schneier. Pet. 10–60. Petitioner also cites the Declaration of Dr. Michael Caloyannides (Ex. 1004) as support for the contentions of obviousness.

II. ANALYSIS

A. "Duplicative" Issues

Our discretion as to whether to institute an *inter partes* review under 35 U.S.C. § 314(a) is guided, in part, by the further language of 35 U.S.C. § 325(d), which provides: "In determining whether to institute or order a proceeding under this chapter, chapter 30, or chapter 31, the Director may take into account whether, and reject the petition or request because, the same or substantially the same prior art or arguments previously were presented to the Office." Patent Owner argues we should deny the Petition under 35 U.S.C. § 325(d) because the issues raised by Petitioner have been previously considered by the Patent Office. Prelim. Resp. 21–25; *id.* at 25 ("[T]he Petition here presents prior art and arguments duplicative of issues already considered by the PTO on multiple occasions."). Specifically, Patent Owner contends the '242 reexamination confirmed patentability of the '011 Patent over Alden and Takahashi and the Office, in the '048 reexamination, declined to institute reexamination because the combination of Alden and Takahashi had already

been considered and, thus, relies on the same prior art previously considered. *Id.* at 23–24. Patent Owner suggests the Petitioner's additional reliance on Quinn and Schneier in the proposed combination should not alter the conclusion of the prior reexamination proceedings because these additional references are not relied on for curing the alleged deficiencies in Alden and Takahashi in the prior reexamination proceedings. *Id.* at 24.

Petitioner argues the Petition is not cumulative or duplicative of the prior reexamination proceedings because: (1) Petitioner was not involved in the prior reexamination proceedings; (2) the proposed combination including Quinn and Schneier was not considered in the prior reexamination proceedings; and (3) the prior reexamination proceedings addressed only particular claims of the '011 Patent (i.e., independent claims 2, 4, and 7) whereas the Petition challenges all claims (1–7). Pet. 19.

The language of 35 U.S.C. § 325(d) does not require we deny a petition merely because certain art was considered previously by the Patent Office. Cisco (Petitioner here) does not appear to have been a party in the prior reexamination proceedings. Furthermore, this Petition addresses claims 1, 3, 5, and 6 that were not addressed in the prior reexaminations. Moreover, the '242 reexamination never considered the combination of Alden and Takahashi but instead considered Alden alone as an anticipatory reference (Ex. 1018, 201) and considered Takahashi in combination with another reference — not with Alden (*id.* at 119).

The Examiner in the '048 reexamination denied the reexamination request based on the combination of Takahashi and Alden (Ex. 1019, 248–85)

suggesting the reexamination request failed to present a substantial new question of patentability because "it is not merely enough to propose new prior art combination[s] that have not been previously considered. It must be demonstrated that the prior art presents [a] new non-cumulative technological teaching that was not previously considered" (*id.* at 14). In other words, the Examiner determined the request in the '048 reexamination failed to explain why the proposed combination presented a substantial new question of patentability by merely combining the references that were separately considered in the '242 reexamination. The Examiner's finding in the '048 reexamination is not binding on us. A different party (the requester of the reexamination — not the Petitioner here) presented arguments in that reexamination and the '048 reexamination did not address claims 1, 3, 5, and 6.

The '253 reexamination also presented arguments by a different party, did not address any of the references combined in this Petition, and, like the '242 reexamination and the '048 reexamination was directed only to claims 2, 4, and 7.

For the above reasons, we decline to exercise our discretion under 35 U.S.C. § 325(d) to deny this Petition based on the prior art and arguments presented in previous reexamination proceedings before the Office.

B. Claim Construction

As a step in our analysis for determining whether to institute a review, we may determine the meaning of the claims for the purpose of this

Decision. In an *inter partes* review, a claim in an unexpired patent shall be given its broadest reasonable construction in light of the specification of the patent in which it appears. 37 C.F.R. § 42.100(b); *see also In re Cuozzo Speed Techs., LLC*, 793 F.3d 1268, 1278–79 (Fed. Cir. 2015), *cert. granted sub nom. Cuozzo Speed Techs., LLC v. Lee*, 84 U.S.L.W. 3218 (U.S. Jan. 15, 2016) (No. 15-446) ("We conclude that Congress implicitly approved the broadest reasonable interpretation standard in enacting the AIA."). Under the broadest reasonable construction standard, claim terms are given their ordinary and customary meaning, as would be understood by one of ordinary skill in the art in the context of the entire disclosure. *In re Translogic Tech., Inc.*, 504 F.3d 1249, 1257 (Fed. Cir. 2007).

The Petition purports to construe various terms as they are construed in a *Markman* Order (Ex. 1010) from the U.S. District Court for the Eastern District of Texas. Pet. 7. The Petition also asserts the expert testimony of Dr. Caloyannides (Ex. 1004) applies the same *Markman* Order claim construction. Pet. 7. In addition, Petitioner proposes construction of three "means" recitations in the claims and a construction of the term "shim." *Id.* at 7–10.

Patent Owner provides no proposed claim constructions but emphasizes that rule 37 C.F.R. § 42.104 requires a petition to identify how a claim is to be construed. Prelim. Resp. 26. Patent Owner argues:

> Here, the Petition fails to comply with that rule. Petitioner identifies only two terms for construction for claims 2, 4, and 7 of the '011

> patent. Yet, in the pending district court litigation between SSL and Cisco, Petitioner identified 21 terms for construction. Therefore, the Petition does not comply with the rule and the Petition should be denied.

Id. (footnotes omitted). We disagree that the Petition fails to construe the claims. To the contrary, as discussed *supra*, the Petition adopts the construction of various terms from the earlier *Markman* Order. Pet. 7 (citing Ex. 1010).

Means for Transmitting Data To and Receiving Data from an Open Network

Use of the word "means" in a claim gives rise to a rebuttable presumption that 35 U.S.C. § 112, sixth paragraph analysis applies to interpret the claim. *Personalized Media Commc'ns, LLC v. Int'l Trade Comm'n*, 161 F.3d 696, 703–04 (Fed. Cir. 1998). In deciding whether that presumption has been rebutted, "the focus remains on whether the claim as properly construed recites sufficiently definite structure to avoid the ambit of § 112, ¶ 6." *Id.* at 704. Petitioner argues, in accord with the above-identified *Markman* Order, the '011 Patent rebuts the presumption that means-plus-function interpretation applies to this element because the claims each recite sufficient structure that performs the recited function of this means. Pet. 7–8 (citing Ex. 1010, 21). We note the Court's *Markman* Order adopts this position based on Patent Owner's arguments in the proceeding. Ex. 1010, 19. Specifically, the *Markman* Order holds:

Regarding claims 2, 4 and 7 of the '011
patent, the Court finds that the claims do not
need to be construed as a "means-plus-
function" element because the claims recite
sufficient structure to perform the claimed
function in its entirety. For example, claim 2
recites "wherein said means . . . includes . . .
applications level encryption and
authentication software . . . ; at least one
lower level set of communications driver; and
a shim." Similarly, claims 4 and 7 recite
"wherein said means . . . includes a lower set
of communications drivers, said lower set of
communications drivers being arranged to
receive function calls and requests for service
from an applications program in order to
transmit and receive said data." *Accordingly,
as it applies to claims 2, 4 and 7 of the '011
patent, Plaintiff [(SSL — Patent Owner
here)] has rebutted the presumption that the
claim was intended to be drafted in means-
plus-function format.* Indeed, the claims
explicitly recite the lower level
communications driver.

Id. at 21 (emphasis added).

Claim 1, not at issue in the *Markman* Order,
similarly recites that this means "includes a lower
set of communications drivers, said lower set of
communications drivers being arranged to receive
function calls and requests for service from an
applications program in order to transmit and
receive said data." Therefore, each independent
claim (1, 2, 4, and 7) includes a recitation that this

means element includes a lower level set of communications drivers. We agree that the claims recite structure adequate to rebut the presumption that this phrase is a means-plus-function term. Thus, for purposes of this Decision, we do not apply 35 U.S.C. § 112, sixth paragraph and, instead, construe "means for transmitting data to and receiving data from an open network" as structure that includes, at least, a lower set of communications drivers.

Means for Intercepting . . .

Claim 1 of the '011 Patent recites an apparatus that includes a "means for intercepting said function calls and requests for service sent by said applications program to said lower level set of communications drivers." Ex. 1001, 12:51–53. We find insufficient structure is recited in claim 1 for this means element to rebut the presumption that § 112, sixth paragraph claim interpretation applies. Thus, we seek to identify the claimed function, and then we look to the specification to identify the corresponding structure that performs the claimed function. *Med. Instrumentation & Diagnostics Corp. v. Elekta AB*, 344 F.3d 1205, 1210 (Fed. Cir. 2003); *Cardiac Pacemakers, Inc. v. St. Jude Med., Inc.*, 296 F.3d 1106, 1113 (Fed. Cir. 2002).

Petitioner argues the function of this means for intercepting is, as the claim recites, *intercepting function calls and requests from the applications program to the lower level drivers* and contends the structure performing that function is socket shim 50 or TDI shim 53. Pet. 8–9 (citing Ex. 1001, 9:46–64, 10:16–62, 11:6–8; Ex. 1004, 34–39). The cited portion

of Dr. Caloyannides' expert testimony (Ex. 1004, 34–39 (i.e., ¶¶ 69–77)), supports Petitioner's position that the ordinary skilled artisan would understand the corresponding structure to be shims 50 or 53. Thus, for purposes of this Decision, we construe the structure corresponding to this recited means for intercepting to be shim 50, shim 53, and equivalent structures.

Means for Causing . . .

Claim 1 of the '011 Patent also recites that the apparatus includes a "means for causing an applications level authentication and encryption program in said one of said client computers to communicate with the server in response to receiving said intercepted function calls and requests for service." Ex. 1001, 12:57–60. As above, we find insufficient structure recited in claim 1 to rebut the presumption that § 112, sixth paragraph claim interpretation applies.

Petitioner argues the function of this means for causing is, as the claim recites, *causing an applications level authentication and encryption program to communicate with the server* and contends the structure performing that function is, as above, socket shim 50 or TDI shim 53. Pet. 9–10 (citing Ex. 1001, 9:52–56, 10:30–35, 11:6–8; Ex. 1004, 39–45). The cited portion of Dr. Caloyannides' expert testimony (Ex. 1004, 39–45 (i.e., ¶¶ 78–88)), supports Petitioner's position that the ordinary skilled artisan would understand the corresponding structure to be shims 50 or 53. Thus, for purposes of this Decision, we construe the structure

corresponding to this recited means for causing to be shim 50, shim 53, and equivalent structures.

Shim

Claims 2–6 all include a recitation of a shim that performs various functions. Furthermore, as discussed above, the means for intercepting and means for causing recited in claim 1 are deemed to correspond to the structure of a *shim*. Petitioner construes *shim* "to be *software that is added between two existing layers, which utilizes the same function calls of the existing layers.*" Pet. 10 (citing Ex. 1004, 46–50). Petitioner contends this construction is consistent with Patent Owner's statements in prosecution (citing Ex. 1002, 7) and consistent with the Court's construction in earlier litigation (citing Ex. 1010, 27). *Id.* Petitioner also observes this proposed construction is consistent with the specification of the '011 Patent. *Id.* ("[I]t is generally desirable to minimize modification of the existing levels by adding a layer to perform the desired functions, calling upon the services of the layer below, while utilizing the same function calls so that the higher layer also does not need to be modified. Such a layer is commonly referred to as a 'shim'." (quoting Ex. 1001, 3:64–4:2)).

For purposes of this Decision, we adopt Petitioner's construction of shim to mean *software that is added between two existing layers, which utilizes the same function calls of the existing layers.*

Other Claim Terms

For the purposes of this Decision, and at this juncture, we determine that it is unnecessary to construe any other claim terms.

C. Claims 1–7 Obvious over Alden, Takahashi, Quinn, and Schneier

Petitioner contends that claims 1–7 are obvious over the combination of Alden, Takahashi, Quinn, and Schneier and provides analysis of each claim, mapping each feature of each claim (1–7) to disclosures of the combined references (*id.* at 19–60).

1. Alden (Ex.1006)

Alden discloses a pseudo network adapter for coupling to a virtual private network. Ex. 1006, 3:2–3. The pseudo adapter captures packets from the local protocol stack appearing to the protocol stack as a driver for a network adapter. *Id.* at 3:3–9. The pseudo adapter transmits captured packets to an encryption engine and encapsulates the encrypted packet into a tunnel packet. *Id.* at 3:19–25. Alden Figure 21, reproduced below, depicts an exemplary data flow in an exemplary pseudo adapter embodiment.
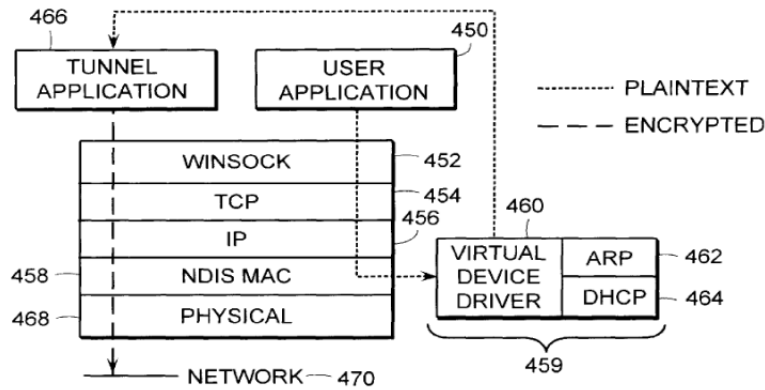
FIG. 21

Alden's Figure 21 shows a pseudo adapter (459) that captures plaintext packets from the NDIS Mac layer (458) of a TCP/IP protocol stack (452–458) and forwards the captured plaintext packets to tunnel application (466) for encryption and encapsulation to create tunnel packets, which are, in turn, transmitted back through the protocol stack to network (470). *See id.* at 18:14–49.

2. Takahashi (Ex. 1007)

Takahashi discloses an "add-in" program that intercepts WinSock commands to compress and encrypt data of the intercepted commands. Ex. 1007, 1. The compression and encryption is achieved "without changing the TCP/IP and application software by intercepting WinSock commands from WinSock API temporarily and adding individual processing." *Id.* at 2. Figure 2 of Takahashi depicts exemplary data flow for Takahashi's solution.
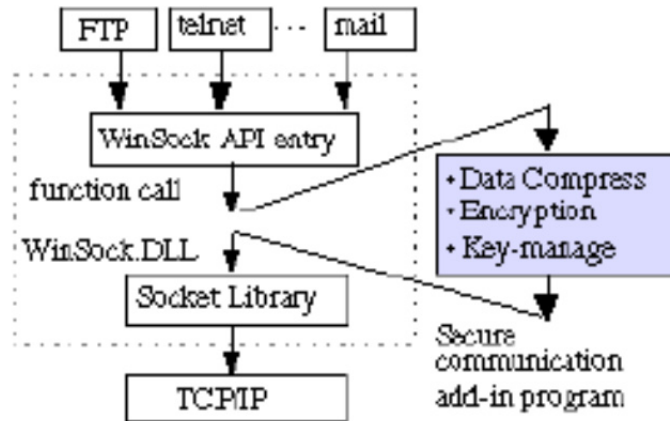
Takahashi Figure 2 shows a secure communication add-in program that performs data compression, encryption, and key management by: intercepting function calls of the WinSock API (invoked by an application such as FTP, telnet, or mail); processing the data of the intercepted command (i.e., to encrypt or compress); and forwarding the WinSock function call to the WinSock DLL with the associated data encrypted and/or compressed.

3. Quinn (Ex. 1008)

Quinn is an excerpt from a reference book describing exemplary functions of the WinSock DLL library. *See* Ex. 1008, 4.

4. Schneier (Ex. 1009)

Schneier is an excerpt from a reference book describing techniques for encryption key management. *See* Ex. 1009, 4–7.

Independent Claim 1

The preamble of independent apparatus claim 1 defines context in which the claimed apparatus is intended to operate. Specifically, the preamble recites that the claimed apparatus performs communication on a virtual private network that includes multiple client computers and a server. Further according to the preamble of claim 1, the server and each client includes the means for transmitting data to and receiving data from an open network (as discussed *supra*), which, in turn, includes a lower set of communications drivers that receive function calls and requests from an applications program. The claimed apparatus then comprises two elements — the above-identified means for intercepting and means for causing.

Regarding independent claim 1, Petitioner contends the combination of Alden and Quinn discloses all contextual features recited in the preamble. Pet. 19–34. Specifically, Petitioner argues the combination of Quinn with Alden discloses the preamble recitation "said lower set of communications drivers being arranged to receive function calls and requests for service from an applications program in order to transmit and receive said data." *Id.* at 32–34. According to Petitioner, Alden discloses use of the WinSock API (*id.* at 32–33) but does not describe details of the

WinSock functions for receiving and transmitting data (*id.* at 33). Thus, Petitioner relies on Quinn for disclosing details of WinSock function calls to send and receive data and provides a reason to combine the references. *Id.* at 33–34; *see also id.* at 16–18.

Petitioner maps the recited means for intercepting to the teachings of Takahashi in combination with Alden (and Quinn). *Id.* at 34–40. Specifically, Petitioner argues Takahashi's add-in program (i.e., a shim) for compression and encryption discloses the recited means for intercepting (*id.* at 35–36) and Alden's pseudo network adapter discloses a similar structure but requires modification of the TCP/IP protocol stack (*id.* at 36–37). Thus, Petitioner contends it would be obvious to combine Takahashi with Alden (and Quinn) to avoid the undesirable requirement of Alden to modify the protocol stack. *Id.* at 37–38; *see also id.* at 12–16.

Petitioner provides an annotated version of Alden's Figure 2 excerpted from Dr. Caloyannides' expert testimony (Ex. 1004, 71) modified to reflect the proposed combination with Takahashi disclosing the means for intercepting as a *shim*. Pet. 38.
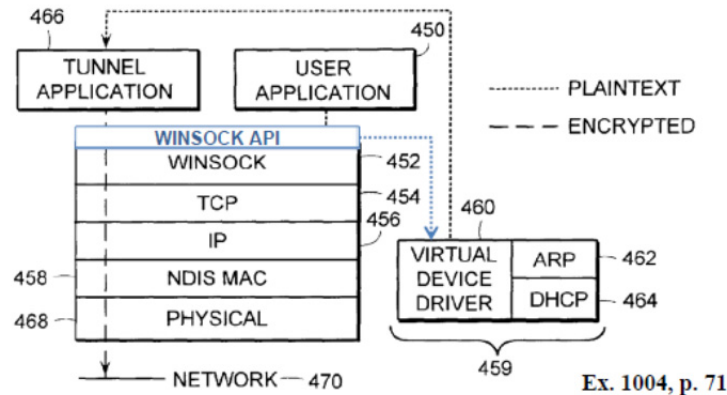
The above diagram excerpted from Petitioner's expert testimony shows Alden's pseudo adapter (459) modified to serve as a *shim* inserted between the user application (450) and the Winsock layer (452) as taught by Takahashi — i.e., modified to be software that is added between two existing layers, which utilizes the same function calls of the existing layers. *See* Ex. 1004, 70–72.

Petitioner argues the WinSock functions (as documented by Quinn) do not address encryption and, thus, the proposed combination of Alden, Takahashi, and Quinn meets the claim limitation that said intercepted function calls and requests for service are limited to communication functions with no reference to encryption functions. Pet. 38–40.

Petitioner also contends the recited "means for causing" is disclosed by the combined teachings of Alden and Takahashi wherein the modified pseudo adapter (exemplified in the above annotated figure) discloses that the proposed combination causes the recited communication in response to the shim intercepting a function call or request. *Id.* at 40–47.

Specifically, Petitioner contends Alden's tunnel application program (466), an application level program, performs encryption responsive to intercepted commands of its pseudo adapter and contends Takahashi discloses mutual authentication as a negotiation process responsive to intercepted WinSock function calls and, thus, the combination discloses the recited applications level authentication and encryption program that communicates with server in response to intercepted function calls and requests. *Id.* at 42–43.

Petitioner combines Schneier with Alden, Takahashi, and Quinn and articulates a motivation for the combination because Alden specifically cites Schneier for details regarding generation and use of session keys in encryption. *Id.* at 18–19. Petitioner argues the combination of Alden, Takahashi, Quinn, and Schneier discloses the recited features of the communication caused by the means for causing in that the combination discloses: (1) generating a key (*id.* at 43–44); (2) using the generated key to encrypt files (*id.* at 44–46); and (3) sending intercepted function calls and requests to lower level drivers to transmit encrypted files (*id.* at 46–47).

Patent Owner argues the Petition should be denied because the Petition fails to identify which claim limitations are absent from each prior art reference. Prelim. Resp. 27–29. We disagree. For purposes of this Decision we have adopted Petitioner's proposed construction of the means for intercepting and means for causing as corresponding to the structure of a shim of the '011 Patent that performs the recited functions. Furthermore, for purposes of this Decision, we have adopted Petitioner's proposed construction of a *shim* as

software that is added between two existing layers, which utilizes the same function calls of the existing layers. The Petition indicates Alden is different from the claimed invention (which includes a shim structure) because "[a] POSITA would also have recognized that Alden undesirably requires modification of the client's network configuration." Pet. 14. Petitioner then contends "a POSITA would have found the teachings of Takahashi both relevant and instructive in addressing the deficiencies of Alden." *Id.* at 15. In other words, Petitioner asserts the benefit of a shim inserted at the WinSock level or above the TDI level (obviating the need to alter layers of the communication stack and application) is lacking in Alden but is taught or suggested in the combination of Alden with Takahashi. Thus, on this record for purposes of this Decision, we find the Petition has identified a difference between Alden and the claimed invention — namely the lack of a shim structure that eliminates the need to modify the client's network configuration.

Patent Owner further argues the Petition fails to identify a motivation for combining Alden and Takahashi (Prelim. Resp. 29–36) and, thus, improperly relies on hindsight (*id.* at 36–40). Patent Owner argues there is no motivation to combine Alden and Takahashi because the combination of Alden and Takahashi results in an inoperable device. *Id.* at 31–34. More specifically, Patent Owner argues because Alden uses TCP/IP routing tables to redirect packets to a pseudo adapter rather than a physical adapter, Alden could not function if the pseudo adapter were repositioned as taught by Takahashi to intercept function calls and requests at the WinSock layer (above the TCP/IP levels). *Id.* at

32. We disagree. Patent Owner's argument presumes Takahashi's teachings must be physically integrated with the structure of Alden. The determination of obviousness does not demand bodily incorporation of one reference into another, but, instead, the test is what would be suggested to the ordinary skilled artisan by the combined teachings. *See In re Keller*, 642 F.2d 413, 425 (CCPA 1981).

Patent Owner further argues Takahashi teaches away from the proposed combination with Alden because Alden is relied on for teaching applications level authentication and encryption and, according to Patent Owner, Takahashi disparages such encryption for performance reasons. Prelim. Resp. 35–36. We disagree. The cited portion of Takahashi suggests performance of data compression features of Takahashi can be negatively impacted if an application first encrypts the data. Ex. 1007, 2 ("High-performance compression is not anticipated using method 1, because data randomizing by the first encryption process removes regularity, thereby preventing efficient compression in the compression sequence after the encryption sequence."). The '011 Patent does not suggest any need for data compression, thus, any concerns regarding performance of data compression expressed in Takahashi would not discredit or discourage the proposed combination of Alden and Takahashi because the proposed combination does not require data compression after encryption. Therefore, on this record and for purposes of this Decision, we find that Takahashi does not teach away from the proposed combination.

On this record, we find Petitioner has articulated reasons based on rational underpinnings (Pet. 12–

19) for the proposed combination of Alden, Takahashi, Quinn, and Schneier.

On the record before us and for purposes of this Decision, we are persuaded Petitioner has established a reasonable likelihood of prevailing in showing independent claim 1 is unpatentable over Alden, Takahashi, Quinn, and Schneier.

Independent Claim 7

Independent claim 7 is a method claim counterpart of claim 1 essentially expressing the functions of the means of claim 1 as method steps. Petitioner maps recited steps of claim 7 to the proposed combination in essentially the same manner as claim 1. *Id.* at 59–60. On this record and for purposes of this Decision, we are persuaded Petitioner has established a reasonable likelihood of prevailing in showing claim 7 to be unpatentable over the proposed combination of references.

Independent Claim 2 and Dependent Claim 3

Independent claim 2 is a system claim reciting a virtual private network comprising a server and a plurality of clients, each of which includes a means for transmitting data to and receiving data from an open network. As discussed *supra*, we construe this means as structure that includes, at least, a lower set of communications drivers. Claim 2 recites that this means in the server and each client additionally includes applications level encryption and authentication software and a shim. As discussed *supra*, we construe the recited shim to be software that is added between two existing layers, which

utilizes the same function calls of the existing layers. Claim 2 recites the functions performed by the shim to be essentially the same functions of the means for intercepting and means for causing of claim 1.

Claim 3 depends from claim 2 and further recites specific layers of the lower level drivers as well as a specific location of the shim between the applications program and the socket that provides an interface to the shim from the applications program.

Petitioner maps the features of claims 2 and 3 to teachings of the proposed combination. *Id.* at 47–53. On the record before us and for purposes of this Decision, we are persuaded Petitioner has established a reasonable likelihood of prevailing in showing claims 2 and 3 to be unpatentable over the proposed combination.

Independent Claim 4 and Dependent Claims 5 and 6

Independent claim 4 recites features similar to those of claim 2 but expressed in the style of a "computer software" claim. Dependent claims 5 and 6 depend from claim 4. Like claim 3, claim 5 recites specific layers of the lower level drivers in each system and recites the shim is located between the applications program and the socket interface to the lower level drivers. Claim 6 is similar to claim 5 but recites the location of the shim as between applications program and the transport driver level of the lower level drivers (i.e., layers devoid of a socket interface).

Petitioner maps the features of claims 4–6 to teachings of the proposed combination in a manner similar to the mapping of claims 2 and 3. *Id.* at 53–59. On the record before us and for purposes of this

Decision, we are persuaded Petitioner has established a reasonable likelihood of prevailing in showing claims 4–6 to be unpatentable over the proposed combination.

D. Conclusion

On this record, we are persuaded that there is a reasonable likelihood that Petitioner would prevail in showing that claims 1–7 of the '011 Patent are unpatentable. The Board has not made a final determination concerning patentability of any of the challenged claims.

III. ORDERS

After due consideration of the record before us, and for the foregoing reasons, it is:

ORDERED that pursuant to 35 U.S.C. § 314, an *inter partes* review is hereby instituted as to claims 1–7 of the '011 Patent under 35 U.S.C. § 103(a) as obvious over the combination of Alden, Takahashi, Quinn, and Schneier.

FURTHER ORDERED that the trial is limited to the ground of unpatentability listed above, and no other grounds of unpatentability are authorized for *inter partes* review;

FURTHER ORDERED that if Patent Owner determines that due to a terminal disclaimer, the '011 Patent will expire less than one year after the date of this Decision, the Patent Owner must arrange a conference call with the Board no later than one month after the date of this Decision; and

FURTHER ORDERED that pursuant to 35 U.S.C. § 314(a), *inter partes* review of the '011 Patent is hereby instituted commencing on the entry date of this Order, and pursuant to 35 U.S.C. § 314(c) and 37 C.F.R. § 42.4, notice is hereby given of the institution of a trial.

PETITIONER:

David L. McCombs
david.mccombs.ipr@haynesboone.com

Theodore M. Foster
ipr.theo.foster@haynesboone.com

Pranay K. Pattani
pranay.pattani.ipr@haynesboone.com

PATENT OWNER:

Richard Z. Zhang
David M. Saunders
ipr@fischllp.com

UNITED STATES PATENT AND TRADEMARK
OFFICE

_____

BEFORE THE PATENT TRIAL AND APPEAL
BOARD

_____

CISCO SYSTEMS, INC.,
Petitioner,
v.
SSL SERVICES LLC,
Patent Owner.

_____

Case IPR2015-01754
Patent 6,158,011

_____

Before KEN B. BARRETT, MICHAEL W. KIM, and
DANIEL N. FISHMAN, *Administrative Patent
Judges.*

FISHMAN, *Administrative Patent Judge.*

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

I. INTRODUCTION

A. Background

Cisco Systems, Inc. ("Petitioner") filed a Petition (Paper 2, "Pet.") for *inter partes* review of claims 1–7 of U.S. Patent No. 6,158,011 (Ex. 1001) ("the '011 patent") pursuant to 35 U.S.C. §§ 311–319. SSL Services LLC ("Patent Owner") filed a Patent Owner's Preliminary Response (Paper 8, "Prelim. Resp."). On February 23, 2016, based on the record before us at the time, we instituted an *inter partes* review of all claims (1–7) (Paper 9, "Decision to Institute" or "Dec."). We instituted the review on the following challenges to the claims:

References	Basis	Claims challenged
Alden[1], Takahashi[2], Quinn[3], and Schneier[4]	§ 103(a)	1–7

Dec. 25.

---

[1] Alden et al., U.S. Patent No. 6,101,543 (filed Oct. 25, 1996) (Ex. 1006) ("Alden").

[2] Yasuhiro Takahashi et al., *Communication Method with Data Compression and Encryption for Mobile Computing Environment*, INET96 Proc. (June 24–28, 1996), http://www.isoc.org /inet96/proceedings/a6/a6_2.htm (Ex. 1007) ("Takahashi").

[3] Bob Quinn & Dave Shute, *Windows™ Sockets Network Programming* (Alan R. Feuer, ed., 4th prtg. 1997) (Ex. 1008) ("Quinn").

[4] Bruce Schneier, *Applied Cryptography* (Paul Farrell, ed., 1994) (Ex. 1009) ("Schneier").

After we instituted this review, Patent Owner filed a Patent Owner Response (Paper 28, "PO Resp.")[5] and Petitioner filed a Corrected Reply (Paper 50, "Pet. Reply").[6] Petitioner relies on the Declaration of Dr. Michael Caloyannides (Ex. 1004). Patent Owner relies on the Declaration of Dr. John A. Hamilton (Ex. 2011).[7]

Petitioner filed a Motion to Exclude (Paper 47), to which Patent Owner filed an Opposition (Paper 52). Petitioner then filed a Reply to Patent Owner's Opposition (Paper 54). Patent Owner filed a Motion to Exclude (Paper 48), to which Petitioner filed an Opposition (Paper 51). Patent Owner then filed a Reply to Petitioner's Opposition (Paper 53). Oral hearing was conducted on November 15, 2016. The record contains a transcript of the hearing (Paper 57, "Tr.")

We have jurisdiction under 35 U.S.C. § 6(c). The evidentiary standard is a preponderance of the evidence. *See* 35 U.S.C. § 316(e); *see also* 37 C.F.R. § 42.1(d). This Final Written Decision is issued pursuant to 35 U.S.C. § 318(a) and 37 C.F.R. § 42.73.

For the reasons expressed below, we conclude that Petitioner has demonstrated by a preponderance of evidence that claims 1–7 are unpatentable.

---

[5] Paper 28 is filed under seal. A redacted version of PO Resp. is filed as Paper 29.

[6] Paper 50 is filed under seal. A redacted version of Petitioner's Corrected Reply is filed as Paper 49.

[7] Exhibit 2011 is filed under seal. A redacted version of the Exhibit is filed as Exhibit 2012.

B. The '011 patent

The '011 patent relates to "a system and method for allowing private communications over an open network, and in particular to a virtual private network which provides data encryption and mutual authentication services for both client/server and peer-to-peer applications at the applications, transport driver, and network driver levels." Ex. 1001, 1:10–16. The '011 patent acknowledges two known approaches for providing encryption for such secured communications — first, a dedicated server that provides encryption and authentication services for clients using a network (i.e., a client/server architecture), and second, private, secured communications between any two cooperating computers on a network (i.e., a peer-to-peer architecture). *Id.* at 1:31–40. According to the '011 patent, previously known approaches for encrypted peer-to-peer communications over a virtual private network ("VPN") required modifications to various layers of the communications software, as compared to client/server applications, using a VPN rendering the two architectures mutually exclusive. *Id.* at 1:58–66.

To remedy such problems, the '011 patent discloses maintaining the general architecture of the known client/server architecture for encrypted communication, and adding one or more "shims" to lower level communications software "in order to accommodate a variety of peer-to-peer communications while utilizing the applications level infrastructure for authentication and session key generation purposes." *Id.* at 2:13–20. Specifically, the '011 patent discloses:

The changes made by the present invention to the conventional client server virtual private network may be thought of as, essentially, the addition of means, most conveniently implemented as shims, which add a secured mutual authentication and session key generation channel between the server and all parties to a communication, at all levels at which a communication can be carried out.

Id. at 2:41–48.

Figure 5 of the '011 patent, reproduced below, shows various embodiments of shims (50, 53, and 55):
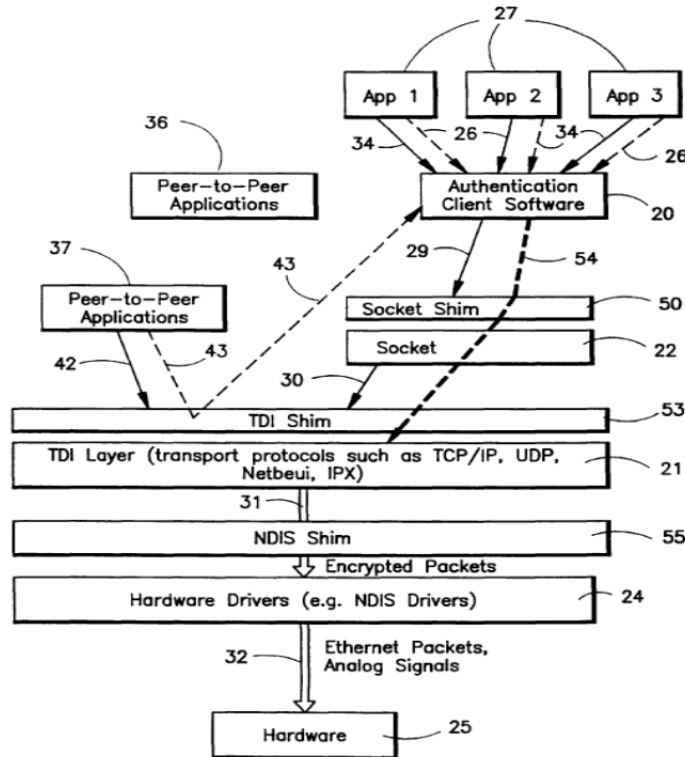
FIG. 5

Figure 5 of the '011 patent, reproduced above, discloses exemplary shims (50, 53, and 55) inserted between layers of the communication software modules to enable support for peer-to-peer secured communications (36, 37) utilizing applications level authentication and encryption (20) with minimal modifications to the various software elements of the system.

The '011 patent discloses that various configurations of one or more of shims 50, 53, and 55 may be implemented to provide various levels of security. *See id.* at 9:46–11:19 (describing functions of shims 50, 53, and 55 in reference to Figures 3–5).

C. Related Matters

Both parties identify the following related court proceedings involving the '011 patent: *SSL Servs., LLC v. Cisco Sys., Inc.*, Case No. 2:15-cv-00433 (E.D. Tex.); *SSL Servs., LLC v. Citrix Sys., Inc.*, Case No. 13-1419 (Fed. Cir.); *Juniper Networks, Inc. v. SSL Servs., LLC*, Case No. 4:08-cv-05758 (N.D. Cal.); and *SSL Servs., LLC v. Citrix Sys., Inc*, Case No. 2:08-cv-00158 (E.D. Tex.). Pet. 1; Paper 5, 2; Paper 35, 2. Patent Owner identifies additional court proceedings involving the '011 patent: *SSL Servs., LLC v. Citrix Sys., Inc.*, Case No. 13-1420 (Fed. Cir.) and *Juniper Networks, Inc. v. SSL Servs., LLC*, Case No. 10-1107 (Fed. Cir.). Paper 5, 2; Paper 35, 2.

Both parties also identify the following related *Ex Parte* Reexamination proceedings involving the '011 patent: Control No. 90/011,242 ("the '242 reexamination"), Control No. 90/020,048 ("the '048 reexamination"), and Control No. 90/013,253 ("the '253 reexamination"). Pet. 1; Paper 5, 2; Paper 35, 2.

D. Illustrative Claims

Independent claim 1, reproduced below, is exemplary of the invention:

1. Apparatus for carrying out communications over a multi-tier virtual private network, said network including a server and a plurality of client computers, the server and client computers each including means for transmitting data to and receiving data from an open network, wherein said means for transmitting data to

and receiving data from an open network includes a lower set of communications drivers, said lower set of communications drivers being arranged to receive function calls and requests for service from an applications program in order to transmit and receive said data comprising:

means for intercepting said function calls and requests for service sent by said applications program to said lower level set of communications drivers, said intercepted function calls and requests for service being limited to communications functions with no reference to encryption functions;

means for causing an applications level authentication and encryption program in said one of said client computers to communicate with the server in response to receiving said intercepted function calls and requests for service by generating a session key, using the session key generated by the applications level authentication and encryption program to encrypt file sent by the applications program, and sending function calls and requests for service to the lower level set of communications drivers in order to transmit said encrypted files over said open network.

Ex. 1001, 12:40–67.

II. ANALYSIS

A. Claim Construction

In an *inter partes* review, a claim in an unexpired patent shall be given its broadest reasonable construction in light of the specification of the patent in which it appears. 37 C.F.R. § 42.100(b); *see also Cuozzo Speed Techs., LLC v. Lee*, 136 S. Ct. 2131, 2142 (2016) (affirming that USPTO has statutory authority to construe claims according to 37 C.F.R. § 42.100(b)). Under the broadest reasonable construction standard, claim terms are given their ordinary and customary meaning, as would be understood by one of ordinary skill in the art in the context of the entire disclosure. *In re Translogic Tech., Inc.*, 504 F.3d 1249, 1257 (Fed. Cir. 2007).

Additionally, all challenged claims include one or more "means" elements. Use of the word "means" in a claim gives rise to a rebuttable presumption that 35 U.S.C. § 112, sixth paragraph analysis applies to interpret the claim. *Personalized Media Commc'ns, LLC v. Int'l Trade Comm'n*, 161 F.3d 696, 703–04 (Fed. Cir. 1998). In deciding whether that presumption has been rebutted, "the focus remains on whether the claim as properly construed recites sufficiently definite structure to avoid the ambit of § 112, ¶ 6." *Id.* at 704.

On the record before us, we determine that most claim terms do not need express interpretation. *See Vivid Techs., Inc. v. Am. Sci. & Eng'g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999) (holding that only those terms that are in controversy need to be construed,

and only to the extent necessary to resolve the controversy).

1. Previously Construed Terms

In our Decision to Institute, we construed the claim terms "means for transmitting data to and receiving data from an open network," "means for intercepting…," "means for causing…," and "shim." Dec. 10–15. In particular, we construed the means for transmitting and receiving as reciting sufficient structure (including a "lower set of communication drivers") so as to rebut a presumption that 35 U.S.C. § 112, sixth paragraph interpretation applies. *Id.* at 12. We construed "shim" to mean "software that is added between two existing layers, which utilizes the same function calls of the existing layers." *Id.* at 15. Lastly, we construed the "means for intercepting…" and the "means for causing…" under section 112, sixth paragraph to be disclosed in the '011 patent as the structure of a "shim" and equivalent structures. *Id.* at 12–14.

Although the parties discuss and apply these claim constructions, neither party contests these claim constructions themselves. We see no reason to modify them in light of the record developed at trial. *See SAS Institute, Inc. v. Complement Soft, LLC.*, 825 F.3d 1341, 1351 (Fed. Cir. 2016) (holding that the Board may not change a claim interpretation from the institution decision where neither party anticipated that "already-interpreted terms were actually moving targets").

We determine no other terms require construction.

B. Obviousness over Alden, Takahashi, Quinn,
and Schneier

Petitioner contends that claims 1–7 are obvious over the combination of Alden, Takahashi, Quinn, and Schneier, and provides analysis of each claim, mapping each feature of each claim (1–7) to disclosures of the combined references. Pet. 10–60. Patent Owner disagrees, arguing, for various reasons, that Alden and Takahashi cannot be combined (PO Resp. 16–48), secondary considerations demonstrate the claims are not obvious (*id.* at 48–50), and, even if the references can be properly combined, the proposed combination fails to render the claims obvious (*id.* at 50–59). Petitioner replies countering each of Patent Owner's responses. Pet. Reply 2–29.

Obviousness is a question of law based on subsidiary findings of fact relating to "the scope and content of the prior art, differences between the prior art and the claims at issue, the level of ordinary skill in the pertinent art, and any objective indicia of nonobviousness." *Randall Mfg. v. Rea*, 733 F.3d 1355, 1362 (Fed. Cir. 2013) (citing *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007)). Furthermore, the *KSR* Court guides us that,

> "there must be some articulated reasoning
> with some rational underpinning to support
> the legal conclusion of obviousness" . . . .
> [H]owever, the analysis need not seek out
> precise teachings directed to the specific
> subject matter of the challenged claim, for a
> court can take account of the inferences and

creative steps that a person of ordinary skill in the art would employ.

550 U.S. at 418 (quoting *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006)).

With these standards in mind, we address the obviousness challenge below.

1. Level of Ordinary Skill

Dr. Caloyannides opines that a person of ordinary skill in the relevant art would possess "(i) a Bachelor's degree in Computer Science, Electrical and/or Computer Engineering, or equivalent training, and (ii) approximately two to three years of virtual private network implementation and engineering experience." Ex. 1004 ¶ 45. Dr. Caloyannides further clarifies that "[l]ack of work experience can be remedied by additional education, and vice versa." *Id.* Patent Owner's expert, Dr. Hamilton, agrees with Dr. Caloyannides' characterization of the level of ordinary skill in the art. Ex. 2011 ¶ 61. Furthermore, we find the parties' definition of the level of ordinary skill in the art is commensurate with the level of ordinary skill in the art as reflected in the prior art. *See Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001) ("[T]he absence of specific findings on the level of skill in the art does not give rise to reversible error where the prior art itself reflects an appropriate level and a need for testimony is not shown.") (internal quotations omitted); *In re GPAC Inc.*, 57 F.3d 1573, 1579 (Fed. Cir. 1995).

a. Petitioner's Motion to Exclude Expert Testimony

Relating to the level of ordinary skill, Petitioner asks us to exclude the entirety of Dr. Hamilton's Declaration (Exs. 2011 and 2012) alleging he is not qualified as an expert because he lacks "the requisite 'scientific, technical, or other specialized knowledge' to assist the Board with evaluating the obviousness of the '011 patent claims." Paper 47, 4. Petitioner argues Dr. Hamilton lacks sufficient expertise based upon his answer to certain questions in a deposition, in which Dr. Hamilton indicated he would have to do a "literature review" to answer the question. *Id.* at 3. Petitioner further argues Dr. Hamilton demonstrated lack of expertise by testifying "that a 'routing table is not part of the TCP/IP stack.'" *Id.* at 3–4. Petitioner also contends Dr. Hamilton's Declaration should be excluded because, although he essentially agreed with the description of the background of an ordinarily skilled person provided by Dr. Caloyannides, Dr. Hamilton's deposition testimony "demonstrated his confusion and lack of familiarity with what the POSITA skill level represents." *Id.* at 5. Petitioner asserts Dr. Hamilton, in his deposition testimony, "repeatedly referred to his idea of a 'POSITA' representing a variety of different individuals with differing skillsets and knowledge levels." *Id.* at 6. Petitioner argues, "[c]ontrary to Dr. Hamilton's mistaken beliefs, there is no room for numerous different 'POSITAs' in a properly structured obviousness analysis," and, therefore, "Dr. Hamilton's mistaken beliefs infect and render unreliable the entirety of his declaration." *Id.* at 7.

Patent Owner opposes Petitioner's Motion, arguing that each of Petitioner's grounds for excluding Dr. Hamilton's testimony goes to the weight to be accorded his Declaration, rather than to admissibility of his declaration. Paper 52.

We agree with Patent Owner that each of Petitioner's bases to exclude Dr. Hamilton's testimony are properly directed to the weight to be accorded his testimony rather than to admissibility. The Board is fully capable of weighing the reliability of such expert testimony. *See, e.g.*, *Yorkey v. Diab*, 601 F.3d 1279, 1284 (Fed. Cir. 2010) (holding the Board has discretion to give more weight to one item of evidence over another "unless no reasonable trier of fact could have done so"). Therefore, we will consider Dr. Hamilton's testimony in light of Petitioner's assertions, and accord it the proper weight.

We agree with Petitioner's observations in its Motion to Exclude, however, that Dr. Hamilton's testimony expresses a varying, dynamic interpretation of the skills of an ordinarily skilled artisan, depending on the particular issue. Paper 47, 5–8. Dr. Hamilton's variable standard of what an ordinarily skilled artisan would understand in the '011 patent and in the prior art references raises concerns that we address by the weight we accord his testimony in the analysis that follows.

*2. Summary of Alden, Takahashi, Quinn
and Schneier*

a. Alden (Ex.1006)

Alden discloses a pseudo network adapter for coupling to a virtual private network. Ex. 1006, 3:2–3. The pseudo adapter captures packets from the local protocol stack appearing to the protocol stack as a driver for a network adapter. *Id.* at 3:3–9. The pseudo adapter transmits captured packets to an encryption engine and encapsulates the encrypted packet into a tunnel packet. *Id.* at 3:19–25. Alden Figure 21, reproduced below, depicts an exemplary data flow in an exemplary pseudo adapter embodiment.
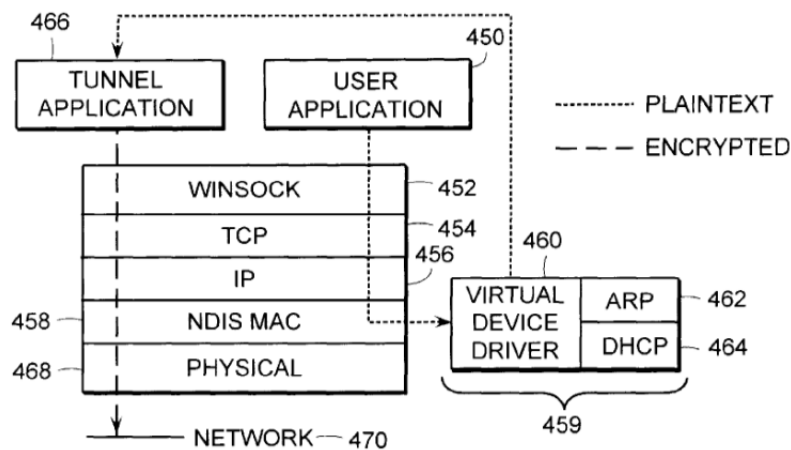

FIG. 21

Alden's Figure 21 shows pseudo adapter 459 that captures plaintext packets from NDIS MAC layer 458 of protocol stack 454–458, and forwards the captured plaintext packets to tunnel application 466

for encryption and encapsulation to create tunnel packets, which are, in turn, transmitted back through the protocol stack to network 470. *See id.* at 18:14–49.

b. Takahashi (Ex. 1007)

Takahashi discloses an "add-in" program that intercepts Winsock[8] commands to compress and encrypt data of the intercepted commands. Ex. 1007, 1. The compression and encryption is achieved "without changing the TCP/IP and application software by intercepting Winsock commands from Winsock API [(application program interface)] temporarily and adding individual processing." *Id.* at 2. Figure 2 of Takahashi (reproduced below) depicts exemplary data flow for Takahashi's solution.
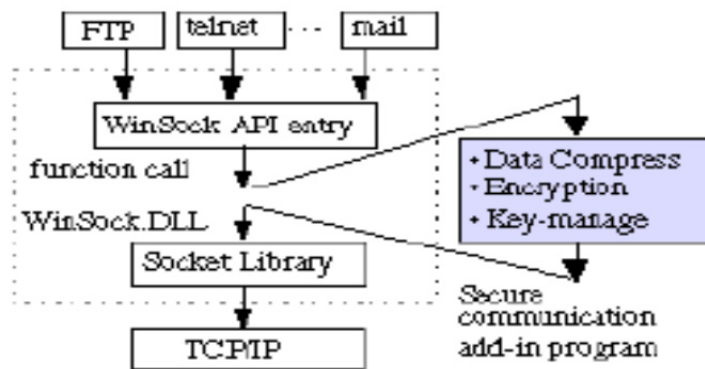
Takahashi Figure 2 shows a secure communication add-in program (highlighted in purple) that performs data compression, encryption, and key management by: intercepting function calls

---

[8] Some references identify this layer as "WinSock" and others identify it as "Winsock." For consistency in this Decision, we refer to this layer as "Winsock."

of the Winsock API (invoked by an application such as FTP, telnet, or mail); processing the data of the intercepted command (i.e., to encrypt or compress); and forwarding the Winsock function call to the Winsock DLL with the associated data encrypted and/or compressed.

c. Quinn (Ex. 1008)

Quinn is an excerpt from a reference book describing details of exemplary functions of the Winsock DLL library. *See* Ex. 1008, 4.

d. Schneier (Ex. 1009)

Schneier is an excerpt from a reference book describing exemplary techniques for encryption key generation and management. *See* Ex. 1009, 4–7.

3. Mapping the Claims to the Combined Teachings

a. Petitioner's Arguments

i. Claim 1

Regarding independent claim 1, Petitioner argues Alden discloses the various recitations of the preamble of claim 1. Pet. 19–34. In particular, Petitioner argues the recited means for transmitting and receiving that includes the "lower set of communications drivers being arranged to receive function calls and requests for service from an applications program in order to transmit and receive said data" is disclosed as the protocol stack depicted in, for example, Alden's Figure 21, as

reproduced above. *Id.* at 22–32. According to Petitioner, Alden discloses use of the Winsock API (*id.* at 32–33), but does not describe details of the Winsock functions for receiving and transmitting data (*id.* at 33). Thus, Petitioner relies on Quinn, in combination with Alden, for disclosing details of Winsock function calls to send and receive data and provides a reason to combine Alden and Quinn. *Id.* at 33–34; *see also id.* at 16–18.

As discussed *supra*, Alden does not disclose a structure that intercepts function calls, but instead discloses pseudo adapter 459 installed at the link layer (NDIS MAC) of the protocol stack, the pseudo adapter operable to receive packets routed thereto and re-direct those packets to tunnel application 466 for applications level encryption and re-transmission through the protocol stack to the destination through the network. *See, e.g.*, Ex. 1006, Fig. 21, 18:14–49. Petitioner maps the recited means for intercepting to the disclosures of Takahashi in combination with Alden and Quinn. Pet. 34–40. Specifically, Petitioner argues Takahashi's add-in program (i.e., a *shim* as we construe the term) intercepts Winsock function calls from an application program directed to the Winsock layer using the Winsock application program interface (API)—i.e., as a shim ("software that is added between two existing layers, which utilizes the same function calls of the existing layers"). *Id.* at 35–36.

Petitioner provides an annotated version of Alden's Figure 21 excerpted from Dr. Caloyannides' expert testimony (Ex. 1004 ¶ 141), modified to reflect the proposed combination with Takahashi's Winsock

interceptor disclosing the means for intercepting as a *shim*. Pet. 38. The annotated Figure 21 is reproduced below:
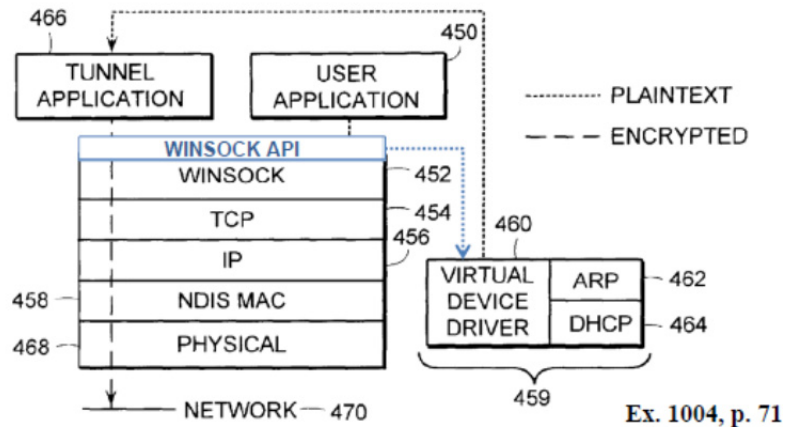
The above diagram (excerpted from Petitioner's expert testimony with Dr. Caloyannides' annotations) shows Alden's pseudo adapter 459 modified to serve as a *shim* inserted between user application 450 and the Winsock layer 452, as taught by Takahashi's add-in program—i.e., modified to be software that is added between two existing layers, which utilizes the same function calls of the existing layers. Pet. 35–36, 38; *see also* Ex. 1004 ¶ 140–143; Ex. 1007, 2, Fig. 2.

Petitioner argues the functions of Winsock (as detailed in Quinn) do not address encryption and, thus, the proposed combination of Alden, Takahashi, and Quinn meets the claim limitation that "said intercepted function calls and requests for service are limited to communication functions with no reference to encryption functions." Pet. 38–40.

Petitioner also contends the recited "means for causing" is disclosed by the combined teachings of Alden and Takahashi, where the proposed modified pseudo adapter 459 (exemplified in the above-reproduced, annotated Figure 21) causes the recited communication in response to the shim intercepting a function call or request. Pet. 40–43. Specifically, in accord with our interpretation of "means for causing" and "shim," Petitioner contends the proposed modified pseudo adapter intercepts Winsock functions and utilizes Alden's tunnel application 466 to perform encryption and authentication at the applications level in conjunction with a server. *Id.* at 40–41. Petitioner asserts,

> Takahashi's negotiation process is a mutual authentication process, similar to the one disclosed in Alden. Ex. 1007, p. 3; Ex. 1004, [p.] 111. During the negotiation process, the client sends the connection requirement associated with the intercepted connect () function to the server. Ex. 1007, pp. 3 & 6. As such, *Alden and Takahashi together teach* that Alden's tunnel application is caused to communicate with the server for initiating the negotiating sequence *in response to receiving the intercepted* connect () *function* and requests for connection from the modified pseudo network adapter. Ex. 1004, pp. 113-114.

Id. at 41–42 (emphasis added). Petitioner further asserts Alden, in the proposed combination, discloses the recited authentication and encryption functions

in the functioning of tunnel application 466. *Id.* at 42.

Petitioner cites Schneier, in combination with Alden, Takahashi, and Quinn, for disclosing details regarding generation and management of session keys in encryption. Pet. 18–19. Specifically, Petitioner argues the combination of Alden, Takahashi, Quinn, and Schneier discloses well-known functions for authentication/encryption server communications, including generating a key (*id.* at 43–44) and using the generated key to encrypt files (*id.* at 44–46).

Lastly, regarding claim 1, Petitioner asserts the proposed combination discloses sending intercepted function calls and requests to lower level drivers to transmit encrypted files as recited by using Alden's protocol stack (454, 456, 458) to send and receive encrypted files via network 470 (i.e., using tunnel application 466 for application level encryption/ decryption). Pet. 46–47.

ii. Claims 2–7

Independent claim 2 claims a virtual private network comprising a server and a plurality of clients where each of these elements includes a "means for transmitting data to and receiving data from an open network." The claim further defines the means for transmitting and receiving as generally including applications level encryption software, lower level set of communication drivers, and a shim arranged to intercept function calls from an applications program to cause the applications level encryption program to send encrypted files over the network. Thus, as discussed *supra*, this "means"

element recites sufficient structure so as to rebut the presumption that 35 U.S.C. § 112, sixth paragraph analysis applies. Similar to analogous elements of claim 1, Petitioner identifies each of these elements in the proposed combination of references. Pet. 47–50.

Claim 3 depends from claim 2 and recites that the applications program generates packets to be supplied to a network driver layer via a socket interface and where the shim is a "socket shim" that intercepts the requests from the applications program to the socket interface in order to cause the applications level encryption program to encrypt the packets before transmission to the network. Petitioner identifies the elements of claim 3 in the combined references. Pet. 50–53. Takahashi's Winsock interceptor is a shim specifically to intercept function calls from a socket interface—i.e., a Winsock API socket interface. Thus, Petitioner asserts the combined prior art references disclose the recited "socket shim" of claim 3. *Id.* at 52.

Independent claim 4 claims software that includes applications level encryption and a shim similar to the features recited in claims 1 and 2. Petitioner identifies these features in the combined references similar to analogous features identified for claims 1 and 2. Pet. 53–57.

Claims 5 and 6 depend from claim 4—claim 5 reciting the shim is a socket shim positioned between an applications program and an application socket, and claim 6 reciting that the shim is positioned between the applications program and the driver level. Petitioner identifies these features in the combined references. Pet. 57–59.

Independent claim 7 is a method claim reciting as method steps the functions of the means for intercepting and the means for causing recited in claim 1. Petitioner identifies these method steps in the combined references using the same disclosures as identified in claim 1. Pet. 59–60

b. Patent Owner's Response

Patent Owner argues, even if the references are properly combined, for the reasons discussed below, the combined teachings fail to teach or suggest every element of the claims.

i. Takahashi Is Deficient

Patent Owner contends the combination fails to teach all elements because Takahashi would not have sufficiently informed an ordinarily skilled artisan as to how to create a Winsock interceptor as relied upon by Petitioner. PO Resp. 51. In particular, Patent Owner argues Takahashi discloses its Winsock interceptor alters the "linkage between the application program and the Winsock DLL" (*id.* (citing Ex. 1007, 2)), but asserts Takahashi "does not explain how to change this linkage to perform the interception, and a POSITA would not have known how to create Takahashi's interceptor" (*id.* (citing Ex. 2011 ¶ 78[9])).

---

[9] We believe Patent Owner intended to cite paragraph 77 of Exhibit 2011, in which Dr. Hamilton opines "that Cisco's prior art does not enable one of ordinary skill in the art to implement Takahashi's Winsock interceptor."

Petitioner replies arguing the '011 patent, *per se,* admits that Winsock interceptors were well-known. Pet. Reply 19 (citing Ex. 1001, 7:1–3 ("[i]n one especially preferred embodiment of the invention, the client software includes a Winsock shim arranged to intercept function calls to the Winsock library on a client"), 10:16–17 ("while it is appreciated that the use of socket shims is well-known")); *see also* Pet. Reply 15–16. Petitioner further argues the '011 patent demonstrates Winsock shim technologies were well-known because it refers to a publication by Stardust Technologies that discloses Winsock shim technology (*id.* at 16 (citing Ex. 1001, 5:63–65; Ex. 1002, 154)). Petitioner further contends other patents at the time similarly recognized the well-known use of Winsock shims by referring to products from Stardust Technologies. *Id.* (citing Ex. 1040, 7:58–66 ("to 'hook' or intercept datastreams being communicated to and from [an] application program. . . . such as a WINSOCK program")).

Based on the above, we are not persuaded Takahashi would have failed to inform the ordinarily skilled artisan how to make or use its add-in program (a Winsock shim). The '011 patent relies on well-known, commercially available, Winsock interceptor technology (i.e., Stardust Technologies) for disclosing a Winsock shim in its "especially preferred embodiment." Ex. 1001, 7:1–3. This fact alone is sufficient to show that the ordinarily skilled artisan, at the time of the '011 patent, would have known how to make and use a Winsock interceptor (shim) based on the limited disclosure of the '011 patent.

Patent Owner further alleges implementation of a Winsock shim would have been beyond the skill level of the ordinarily skilled artisan at the time of the '011 patent. PO Resp. 51; Ex. 2011 ¶¶ 69, 77. In support of this contention, Patent Owner primarily relies on Dr. Hamilton's Declaration (Ex. 2011) and Exhibits 2014, 2015, and 2016. PO Resp. 17–23, 50–53. Dr. Hamilton's testimony, in support of the assertion that hooking Winsock is difficult and error prone, similarly relies on the same Exhibits. Ex. 2011 ¶¶ 68–77.

We accord little weight to Exhibit 2015 principally because the document bears a date in 2005—eight years after the earliest priority date of the '011 patent. As noted by Petitioner, the Windows® operating system, in which Winsock operates, changed versions a number of times during those eight years, potentially requiring developers to design a similar number of versions of a Winsock interceptor to be created and maintained. Pet. Reply 2–5. Thus, the fact that eight years after the '011 patent filing, Cisco engineers determined there were technologically simpler, less error-prone, and commercially viable approaches to the desired goal does not provide sufficiently probative evidence regarding the difficulty to implement a Winsock shim at the time of the '011 patent. As noted by Petitioner, such a task could have been more or less difficult at the time of the '011 patent and could have been more or less commercially desirable at the time of the '011 patent. *See* Pet. Reply 2–3. For similar reasons, Mr. Parla's testimony (Exhibit 2016) regarding Exhibit 2015 is of little value to our decision process because the underlying Exhibit

2015 is of little probative value. Thus, we also accord little weight to Exhibit 2016.

Patent Owner further relies on an excerpt of Dr. Caloyannides' deposition testimony suggesting that, even with his extensive expertise, he did not know how to modify Alden to use a Winsock shim such as Takahashi's add-in program. PO Resp. 52 (citing Ex. 2014, 149:14–150:7). This assertion similarly fails to evidence the difficulty in implementing the Winsock shim at the time of the '011 patent filing. Specifically, when asked "what changes do you have to make to the software so that function calls go from Winsock API to box 459," Dr. Caloyannides testified. "I'm not a programmer by profession, . . . [thus] I cannot specify exactly what programming lines do what, if that's what you're asking me." Ex. 2014, 149:17–21. Whether Dr. Caloyannides could create the specific lines of code to implement a Winsock shim is not a relevant measure of the sufficiency of the disclosure of Takahashi. *See Robotic Vision Sys., Inc. v. View Eng'g, Inc.*, 112 F.3d 1163, 1166 (Fed. Cir. 1997), *citing Fonar Corp. v. Gen. Elec. Co.*, 107 F.3d 1543, 1549–50 (Fed. Cir. 1997) (stating that "when disclosure of software is required, it is generally sufficient if the functions of the software are disclosed, it usually being the case that creation of the specific source code is within the skill of the art"). Dr. Caloyannides further testified "I would imagine there are changes that a person who's a programmer at heart and by experience would know by looking at what Alden has and what Takahashi has, and then merging the two." Ex. 2014, 150:4–7. Thus, Patent Owner's reliance on Dr. Caloyannides' deposition testimony similarly fails to shed light on how difficult it would have been for an ordinarily

skilled person to implement Takahashi's Winsock interceptor and, thus, deserves little weight on this issue.

Dr. Hamilton's Declaration also is accorded little weight regarding this issue. As argued in Petitioner's Motion to Exclude discussed *supra*, Dr. Hamilton's deposition testimony on this issue suggests confusion on his part with regard to what knowledge a person of ordinary skill would possess. Paper 47, 5–8. Specifically, Dr. Hamilton testified, "even within the agreed-to definition of a person of ordinary skill in the art, you're going to have widely varying subsets of knowledge." Ex. 1034, 59:20–23. Later, Dr. Hamilton testified, "some people of ordinary skill in the art, you know, would be familiar with sockets and would be familiar with hooking function calls. And some, you know – and some wouldn't." *Id.* at 79:3–6. Still further, Dr. Hamilton testified, "depending on when the POSITA graduated and became that kind of person, they may or may not even [have] had Winsock on their Windows computer at that time." *Id.* at 92:1–3. Although we *dismiss* the motion to exclude Dr. Hamilton's testimony, on this issue regarding sufficiency of the prior art disclosure in particular, we accord little weight to his opinion.

Weighing the above considerations, we determine Takahashi sufficiently discloses to the ordinarily skilled artisan how to make and use a Winsock shim in the proposed combination.

ii. Interception "In Order to Cause…"

Independent claim 2 includes "a shim arranged to intercept … in order to cause the applications

level authentication and encryption program to communicate with the server, generate said session key, and encrypt files." Independent claims 4 and 7 each include a substantially similar recitation. Patent Owner argues the parties agree that Alden, alone, fails to teach this feature, because Alden's pseudo adapter "does not receive communications before any alleged session key is generated, and thus cannot 'intercept function calls and requests for service . . . in order to cause the applications level authentication and encryption program to . . . generate said session key.'" PO Resp. 53–54. Patent Owner acknowledges that the Petition relies on the combination of Alden with Takahashi (and Quinn and Schneier) to disclose this feature, but argues, "even if Alden and Takahashi are combined, Alden will still create the alleged 'session key' during initialization, before the modified pseudo network adapter intercepts any communications" and, thus, the combination fails to disclose this limitation. *Id.* at 54–55. Patent Owner then acknowledges that Petitioner's proposed combination modifies Alden to utilize Takahashi's "negotiation sequence." *Id.* at 55.

Patent Owner's argument improperly attacks the teachings of Alden in isolation from the proposed combination. *See In re Merck & Co.*, 800 F.2d 1091, 1097 (Fed. Cir. 1986). In Petitioner's proposed combination, Takahashi's negotiation sequence to generate an encryption key is initiated in response to interception of a "connect ( )" Winsock function call. Pet. 41–43; Pet. Reply 26. Furthermore, the test of obviousness does not require bodily incorporation of Takahashi with Alden, but rather considers what the combination would have suggested to the ordinary skilled artisan. *See In re Keller*, 642 F.2d

413, 425 (CCPA 1981). Thus, Petitioner's proposed combination teaches or suggests the recited "shim . . . in order to cause . . ." as previously discussed (section II.B.3.a.ii above).

iii. No Shim

Patent Owner argues the Petitioner fails to "explain how the Takahashi add-in program which, according to [Petitioner], operates 'at the Winsock layer,' is software that is added 'between' two existing layers." PO Resp. 58. We disagree. The Petitioner sufficiently identifies Alden's pseudo adapter, as modified by Takahashi, residing between the applications layer and the Winsock layer to intercept the Winsock function calls using the same Winsock functions, thus, concluding the modified pseudo adapter is a "shim," as we have construed the term. Pet. 41–43. Petitioner further explains this proposed structure implements a Winsock shim in the same manner as the Winsock shim discussed as the preferred embodiment of the '011 patent, and observes Dr. Hamilton's concession in this regard. Pet Reply 27 (citing Ex. 1034, 44:23–45:4). We agree with Petitioner that the Petition sufficiently explains how Takahashi's Winsock interceptor functions as a "shim" in the proposed combination with Alden.

c. Summary Regarding the Combined Teachings

We have reviewed Petitioner's identification of the features of all claims in the proposed combination of Alden, Takahashi, Quinn, and Schneier. Other than the arguments addressed above, Patent Owner does not present arguments

regarding the sufficiency of the teachings in the proposed combination with respect to individual claim limitations. We have reviewed all of Petitioner's above-referenced mappings of Alden, Takahashi, Quinn, and Schneier, and are persuaded that they are correct. Accordingly, we adopt them as our own. We are persuaded that the combination of Alden, Takahashi, Quinn, and Schneier teaches or suggests every limitation of claims 1–7.[10]

4. Motivation/Reasons to Make the Proposed Combination

a. Positions of the Parties

Petitioner argues the ordinarily skilled artisan would have combined Takahashi with Alden for three reasons: (1) to reduce the overhead burden of Alden's "pre-configuration" processing exemplified in Alden's Figure 23; (2) to avoid the need for Alden to modify the TCP/IP protocol stack in establishing a new secure connection because Takahashi specifically discloses an approach to avoid modifying the TCP/IP protocol stack; and (3) to enhance flexibility using Takahashi's approach that allows secure access to any compatible device, because Takahashi does not require initialization and configuration processing of Alden to establish a new secure connection. Pet. 12–16.

Petitioner also contends the ordinarily skilled artisan would have added Quinn to the combination

---

[10] We address separately below whether Petitioner has provided sufficient evidence and reasoning to support making the proffered modifications.

to disclose details of Winsock application program interface functions, as in Quinn (Pet. 16–18), and contends the ordinarily skilled artisan would have added Schneier to the combination to disclose details of secure key generation as in Schneier (*id.* at 18–19). In particular, Petitioner contends that the ordinarily skilled artisan would have sought Schneier as a reference for secure key management, because it is identified as such a reference by Alden. Pet. 18; Ex. 1006, 1:55-59.

Patent Owner responds to Petitioner's reasons to combine, arguing Dr. Caloyannides testified that the alleged "pre-configuration" processing burden of Alden is nothing more than modifying data in the TCP/IP routing table, and questions why it would be considered burdensome. PO Resp. 27–28 (citing Ex. 2014, 112:1–7, 112:15–21, 35:20–36:11).[11]

Petitioner replies, contending Patent Owner mischaracterizes Dr. Caloyannides' testimony by selecting only portions thereof. Petitioner argues Dr. Caloyannides testified that the "pre-configuration" processing burden encompasses ten steps of processing, as depicted in Alden's Figure 23 (culminating in potential updates to the TCP/IP routing table). Pet. Reply 6–7 (citing Ex. 2014, 23:12–25:5, 83:12–21). Petitioner further argues, Dr. Hamilton confirmed that only *after all ten steps of Figure 23 are performed*, can Alden's devices engage in secure communications. Pet. Reply 7 (citing Ex. 1034, 123:5–9).

---

[11] Patent Owner does not respond to Petitioner's arguments regarding motivation to combine Quinn and Schneier with Alden and Takahashi.

b. Analysis of Motivation to Combine

We agree with Petitioner that combining Takahashi's disclosures with that of Alden would have reduced the "pre-configuration" processing burden of Alden, and the ordinarily skilled artisan would have been motivated to seek such improvement based on Takahashi's disclosure that its method "can be used without modifying . . . communication control software, or application software." Ex. 1007, 1; *see also* Ex. 1004 ¶ 114, 140–143. More specifically, we are persuaded that modification of the TCP/IP routing table is a modification of the protocol stack, in that it is data used by the protocol stack to provide its routing capabilities, and the processing of Alden's Figure 23 to determine how the table should be modified may be considered a burden by the ordinarily skilled artisan. Alden requires a modification of the routing table. Takahashi suggests the undesirability of such modifications to the TCP/IP protocol stack (Ex. 1007, 1) and, thus, we are persuaded the proposed combination is expressly suggested by the prior art reference.

Patent Owner argues at Oral Hearing that there is no evidence in the record that Alden's pre-configuration constituted a burden or that the burden, if any, would have been recognized as a problem by the person of ordinary skill in the art. Tr. 21:22–22:5. However, "[u]nder the correct analysis, any need or problem known in the field of endeavor at the time of invention and addressed by the patent can provide a reason for combining the elements in the manner claimed." *KSR*, 550 U.S. at 420; *In re Beattie*, 974 F.2d 1309, 1312 (Fed. Cir. 1992) ("As

long as some [reason,] motivation or suggestion to combine the references is provided by the prior art taken as a whole, the law does not require that the reference be combined for the reasons contemplated by the inventor."); *In re Kemps*, 97 F.3d 1427, 1430 (Fed. Cir. 1996) ("Although the motivation to combine here differs from that of the applicant, the motivation in the prior art to combine the references does not have to be identical to that of the applicant to establish obviousness."). Here, the art "taken as a whole" clearly contemplates improved performance in addition to the goal of secure communications. In particular, Takahashi specifically observes the problems arising in secure communications as mobile computing environments have increased in performance (Ex. 1001, 1), and the problems in performance of encryption techniques associated with such secure communications (*id*. at 2). Thus, we are persuaded that the ordinarily skilled person would have recognized the problem of computational burden in any system used for secure communications in a mobile computing environment (such as that of Takahashi, Alden, and the '011 patent).

Although Petitioner does not present evidence quantifying the degree of the burden reduction, a preponderance of the evidence persuades us that the pre-configuration processing burden exemplified by Alden's Figure 23 is reduced by the approach of Takahashi. Alden's approach requires each tunnel client that desires a secure virtual private network connection, to initiate the connection by a request sent to the tunnel server. Ex. 1006, 19:16–18 ("The steps shown in [Fig.] 23 are performed for example in the tunnel client 247 as shown in [Fig.] 14."); *see*

also Pet. 42; Ex. 1004, 104–114. This client request initiates processing within the client's TCP/IP stack to request an IP address for the client's pseudo adapter, and initiates processing within the tunnel server to emulate dynamic host configuration protocol ("DHCP") processing to provide the needed IP address information. Ex. 1006 19:25–20:27. Included in this processing is modification of the routing table in the tunnel client. *Id.* at 19:60–20:4. By contrast, Takahashi's approach does not require this processing to establish a new, secure connection but, instead, merely intercepts a Winsock "connect()" function call and exchanges a secure key with the compliant end-point based on the previously configured (as system start up) route to its known IP address. Accordingly, there is no need to modify the TCP/IP routing table for each new, secure connection.

Despite Patent Owner's contentions to the contrary, Dr. Hamilton's testimony confirms that Alden requires processing, exemplified in Figure 23, before a secure connection is established, and confirms that that processing includes steps 500 through 518 prior to determine the modification to the routing table in step 520. Ex. 1034, 103–123. In particular, we note Dr. Hamilton confirms that steps 512–518 require processing to emulate a DHCP server and to respond to an address resolution protocol ("ARP") request in accordance with TCP/IP protocol—these steps are required to establish a route to the virtual address of the secure node to which a new connection is to be established. Ex. 1034, 119:13–123:9, 128:15–129:5 ("We are emulating ARP and emulating DHCP to get the correct address information, [(from the modified

routing table)] . . . your network enabled applications are going to take the path that has been defined by the setup of the virtual device driver.").

Relying on Dr. Hamilton's testimony, Patent Owner further argues Takahashi and Alden share the same burden of updating the TCP/IP routing table (PO Resp. 28 (citing Ex. 2011 ¶¶ 86–88)), and argues that Alden's modification of the TCP/IP routing table is not a modification of the TCP/IP protocol stack, but, instead, "Alden merely configures the routing table to have certain addresses, which is not a modification to the TCP/IP protocol stack" (*id.* at 34–35 (citing Ex. 2011 ¶¶ 23, 36, 37, 92)).

We disagree. Dr. Hamilton specifically testifies "most computers that communicate[] using the TCP/IP protocol update[] and populate[] [their] routing table upon system start up." Ex. 2011 ¶ 87. Dr. Hamilton's statement reveals a key distinction in that, although every computer using TCP/IP likely has a routing table, that table is populated once, upon *system start up* (as Dr. Hamilton testified), not updated at each request for a new, secure connection, as required in Alden's approach.

Dr. Hamilton further testifies that Takahashi discloses a similar burden to Alden's updating of the routing table, in that "Takahashi imposes an equivalent burden, as the ports for secure communications must be preidentified so they can be used during the negotiation sequence." *Id.* ¶ 88. We agree with Petitioner that the secure port numbers assigned in Takahashi are, like a routing table, initialized at system start up and remain constant, not updated/modified with each new,

secure connection. Pet. Reply 7–8 (citing Ex. 1034, 223:7–10, 223:23–224:6).

Still further, contrary to Dr. Hamilton's testimony that Alden does not present a burden of modifying the TCP/IP stack, because the routing table is not part of the TCP/IP, we agree with Petitioner that Alden specifically recites that the routing tables are *within* the TCP/IP stack. Pet. Reply 9–10 (citing Ex. 1006, 19:60–61).

Thus, we are persuaded that the ordinarily skilled artisan would have looked to Takahashi's approach, in combination with Alden's virtual private network architecture, to reduce the processing required by Alden to initiate a new secure connection.

Regarding Petitioner's reasons to combine Quinn and Schneier with Alden and Takahashi, we find Petitioner has articulated reasons based on rational underpinnings—namely, an ordinarily skilled artisan would have looked to the Quinn reference for background details on the Winsock functions (Pet. 16–18), and would have looked to Schneier for background details regarding encryption key generation and management (*id.* at 18–19).

c. Patent Owner's Other Arguments Regarding the Combination

In addition to Patent Owner's direct responses to Petitioner's reasons for the proposed combination, Patent Owner argues there is no motivation for the combination for additional reasons as follows.

i. Cisco's Engineers Rejected the Proposed Combination

Patent Owner argues Exhibit 2015 reveals that Cisco's engineers rejected the concept of "hooking" Winsock to create a Winsock interceptor (shim) for a virtual private network product because such a solution was "tricky, complex, and error prone." PO Resp. 19. Petitioner replies that Exhibit 2015, consisting of notes of Cisco engineers in 2005, does not "relate in any way to the obviousness of the claims in 1997." Pet. Reply 3. Petitioner further argues there are a variety of reasons the Cisco engineers may have rejected the solution of "hooking" Winsock including, for example, business reasons based on the complexity of more Windows® operating system versions to support. *Id.* at 3–5.

We agree with Petitioner and, thus, we accord little weight to Exhibit 2015 as evidence of a lack of motivation to combine references at the time of the '011 patent filing.

ii. Takahashi Alone Nullifies Reasons to Combine

Patent Owner argues Petitioner identifies three deficiencies of Alden and proposes all three are alleviated by the combination with Takahashi but asserts, "if Takahashi alone provides the benefits that a POSITA would have allegedly sought, a POSITA would have simply implemented Takahashi—not a combination of Alden and Takahashi." PO Resp. 24. Petitioner argues, and we agree, the proposed combination improves Alden by incorporating features of Takahashi, and contends

Alden provides features not present in Takahashi including applications level encryption—a benefit Dr. Hamilton conceded in testimony. Pet. Reply 14 (citing Ex. 1034, 97:2–98:7). In particular, we observe Alden discloses the underlying virtual private network architecture recited as the contextual environment for all claims of the '011 patent.

iii. The Combination Changes the Principle of Operation of Alden

Patent Owner argues the proposed combination changes the principle of operation of Alden in that Alden encrypts *packets* whereas the proposed combination performs encryption before the data is packetized, thus, not encrypting *packets* themselves. PO Resp. 41. Patent Owner characterizes Alden's principle of operation as a pseudo adapter that encrypts packets as opposed to merely the data within a packet. *Id*. Patent Owner further argues that, based on this interpretation of Alden's principle of operation, Alden achieves numerous benefits that are lost in the proposed combination. *Id*. at 43–44 (citing Ex. 2011 ¶¶ 39–44, 99, 100).

Petitioner replies, *inter alia*, that Patent Owner improperly defines the principle of operation of Alden and, instead, argues Alden and Takahashi share the same basic principle of operation—namely "providing secure communications for users in a mobile environment using encryption." Pet. Reply 22 (citing Ex. 1006, 1:7–22; Ex. 1007, 1). We agree with Petitioner's broader understanding of the shared principle of operation for Alden and Takahashi and find Patent Owner's characterization unduly narrow.

Alden specifically recites its primary purpose as follows:

> Thus there is required a new pseudo network adapter providing a virtual private network having a dynamically determined end point to support a user in a mobile computing environment. The new pseudo network adapter should appear to the communications protocol stack of the node as an interface to an actual physical device. The new pseudo network adapter should support guaranteed, in-order delivery of frames over a tunnel to conveniently support cipher block chaining mode or stream cipher encryption over multiple packets.

Ex. 1006, 2:58–67. Alden recites that the requisite guaranteed in-order delivery of packets is achieved by use of the TCP/IP protocol. *Id.* at 5:38–41. Furthermore, the benefits of encrypting packets alleged by Patent Owner are based on unsupported assertions in Dr. Hamilton's testimony, and are neither disclosed nor claimed in Alden or the '011 patent.

Thus, we determine the proposed combination of Alden and Takahashi does not alter the principle of operation of Alden, because the combined references are both directed to the same principle of operation —secure mobile communications.

d. Conclusion Regarding Motivation to Combine the References

Having considered the arguments of the parties and supporting evidence, for the above reasons, we are persuaded by a preponderance of the evidence that Petitioner has articulated reasons for the proposed combination based on rational underpinnings.

5. Secondary Considerations

Patent Owner argues "commercial acquiescence via licensing" must be considered as objective evidence of non-obviousness. PO Resp. 49 (citing *Ruiz v. A.B. Chance Co.*, 234 F.3d 654, 663 (Fed. Cir. 2000)). Patent Owner asserts Citrix, a competitor of Petitioner, obtained a license to the '011 patent after unsuccessfully asserting invalidity of the '011 patent in litigation. *Id.* at 50. Patent Owner further asserts payment for the license "is tied to the merits of the '011 patent" because Citrix attempted, but failed, to invalidate the '011 patent in that litigation and was "undoubtedly aware that the Patent Office upheld the validity of the '011 patent during an *ex parte* reexamination." *Id.*

Petitioner argues "commercial acquiescence" is found in only one Federal Circuit decision, and in earlier cases is considered equivalent to "industry acceptance" and "widespread adoption." Pet. Reply 25 (citing *RCA Corp. v. Applied Digital Data Sys., Inc.*, 730 F.2d 1440 (Fed. Cir. 1984)). Petitioner contends "SSL's single patent license does not indicate 'industry acceptance' or 'widespread adoption,' but rather merely satisfaction of a judgment." *Id.*

Assuming, for the sake of argument, that there is a nexus between the Citrix license and the merits of the '011 patent, we find Patent Owner's evidence of a single license agreement insufficient to demonstrate "commercial acquiescence" supporting non-obviousness. *Cf. RCA,* 730 F.2d at 1448 ("commercial acquiescence of competitors, evidenced by RCA's *extensive licensing of the invention*") (emphasis added). We are not persuaded that a single license to Citrix under the articulated circumstances can be considered "extensive licensing."

For the above reasons, we are not persuaded that Patent Owner's asserted secondary considerations comes remotely close to outweighing the above objective factors of obviousness.

D. Other Issues

1. Motions to Exclude

For the reasons discussed *supra*, we *deny* Petitioner's Motion to Exclude Exhibits 2011 and 2012 (Dr. Hamilton's declaration un-redacted and redacted, respectively). Petitioner's arguments are properly directed to the weight of these Exhibits rather than to the admissibility thereof.

Patent Owner filed a Motion to Exclude (Paper 48). Patent Owner's motion requested us to exclude Petitioner's exhibits 1036–1039 and 1041–1064. We do not rely on any of these exhibits in our decision and, accordingly, Patent Owner's Motion to Exclude is *dismissed* as moot.

2. "New Arguments"

Pursuant to our Order following a conference call (Paper 40), Patent Owner filed a paper listing arguments in Petitioner's Reply that Patent Owner considered "new arguments" to be stricken from the record. Paper 41. In response, Petitioner filed a paper identifying where in the record all such alleged "new arguments" were presented. Paper 42. We are persuaded none of the alleged "new arguments" need be stricken from the record because Petitioner has persuasively identified where each such argument was previously presented in the record.

E. Conclusion

Petitioner has demonstrated, by a preponderance of the evidence, that claims 1–7 of the '011 patent are unpatentable.

III. ORDERS

After due consideration of the record before us, and for the foregoing reasons, it is:

ORDERED that claims 1–7 of the '011 patent are held unpatentable;

FURTHER ORDERED that Patent Owner's Motion to Exclude is *dismissed*;

FURTHER ORDERED that Petitioner's Motion to Exclude is *denied*; 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.

PETITIONER:

David L. McCombs
Theodore M. Foster
Pranay K. Pattani
Thomas King
HAYNES AND BOONE, LLP
david.mccombs.ipr@haynesboone.com
ipr.theo.foster@haynesboone.com
pranay.pattani.ipr@haynesboone.com
thomas.king@haynesboone.com

PATENT OWNER:

Richard Z. Zhang
David M. Saunders
Desmond Jui
FISCH SIGLER LLP
richard.zhang.ipr@fischllp.com
david.saunders@fischllp.com
desmond.jui@fischllp.com

NOTE: This disposition is nonprecedential

**United States Court of Appeals
for the Federal Circuit**

———————————————

SSL SERVICES, LLC,
Appellant

v.

CISCO SYSTEMS, INC.,
Appellee

———————————————

2017-1951

———————————————

Appeal from the United States Patent and
Trademark Office, Patent Trial and Appeal Board in
No. IPR2015-01754.

———————————————

JUDGMENT

———————————————

JOHN T. BATTAGLIA, Fisch Sigler, LLP,
Washington, DC, argued for appellant. Also
represented by ALAN M. FISCH, MATTHEW R.
BENNER, ROY WILLIAM SIGLER.

THEODORE M. FOSTER, Haynes & Boone,
LLP, Dallas, TX, argued for appellee. Also
represented by DAVID L. MCCOMBS, DEBRA
JANECE MCCOMAS, PRANAY K. PATTANI;

THOMAS B. KING, Costa Mesa, CA.

_____

THIS CAUSE having been heard and considered, it is ORDERED and ADJUDGED:

    PER CURIAM (MOORE, WALLACH, and CHEN, *Circuit Judges*).

AFFIRMED. *See* Fed. Cir. R. 36.

ENTERED BY ORDER OF THE COURT

May 7, 2018

/s/ Peter R. Marksteiner
Date Peter R. Marksteiner
Clerk of Court

Application/Control Number: 90/011,242
Art Unit: 3992

**NOTICE OF INTENT TO ISSUE *EX PARTE*
REEXAMINATION CERTIFICATE**

Claims 2, 4, and 7 are subject to reexamination.
Claims 2, 4, and 7 are <u>confirmed</u>.

**STATEMENT OF REASONS FOR
PATENTABILITY AND/OR CONFIRMATION**

The following is an examiner's statement of
reasons for patentability and/or confirmation of the
claims found patentable in this reexamination
proceeding:
The request cites the following prior art patents
and printed publications:
1. Takahashi et al., "Communication Method
with Data Compression and Encryption for Mobile
Computing Environment," Proceedings of Inet 96,
June 1996.
2. U.S. Pat. 6,101,543 (Alden et al.).
3. U.S. Pat. 5,854,841 (Nakata et al.).
4. J. Linn, "RFC 1508 - Generic Security Service
Application Program Interface," September 1993.
5. Freier et al., "The SSL Protocol," version 3.0,
March 4, 1996. Alden teaches an application level
authentication and encryption program, but does not
teach a shim arranged to "intercept function calls
and requests for service . . . in order to cause the
applications level authentication and encryption
program to communicate with the server," (Non-
Final Action, 4/2/2012, pp. 3-4). Specifically, in
Alden's system, the tunnel key/session key are

generated at initialization, which is before interception of any communications, *(id.* at 4 (citing Alden at col. 19, lines 15-43)).

Takahashi discloses a communication method and system with data compression and encryption for a mobile computing environment that adds a process via WinSock API without changing the existing TCP/IP-based application. Takahashi, Abstract. In Takahashi's method, the connect command from the application program is intercepted by the secure communication add-in program, a shim between the Winsock API and WinSock.DLL, and the secure communication add-in program attempts to establish a secure connection with a secure port as part of a negotiation function. *Id.* at 3. The negotiation function then selects the compression method, the encryption method, identifies encryption keys, etc., before returning the "connect complete" indication to the application program. *Id.* at 2-3. Thus, in Takahashi's system, it is the interception of a "connect" function call that causes the negotiation between the respective secure communication add-in programs of the two computers. *Id.*

In Nakata, socket interface functions are hooked and transferred to hooking functions in a compression/encryption module. Nakata at col. 6, line 45, through col. 7, line 2. The hooking functions intercept the connect and send commands of the socket function and perform compression/encryption processing. *Id.* at col. 7, lines 35-54. The compression/encryption module acts as a shim between the application and the socket program, and negotiation is performed for the compression/ encryption algorithms to be used at the time the

connection is set up. *Id.* at col. 2, line 67, through col. 3, line 2; col. 8, line 40, through col. 9, line 5.

Takahashi and Nakata each teach negotiating and initializing an encrypted connection in response to intercepting function calls. However, upon further consideration of the patent owner's arguments, *(e.g.,* PO Response, 10/17/2012, pp. 3-4, 6), the examiner finds that there is sufficient evidence to establish that Winsock is not part of the applications level, and there is insufficient evidence to conclude that the authentication/encryption in Takahashi or Nakata are performed at the applications level, as opposed to a "lower level".

RFC 1508 and the SSL 3.0 document were relied upon only for teaching mutual authentication of the server and client and generating a session key, and these references do not remedy the deficiencies discussed above.

Any comments considered necessary by PATENT OWNER regarding the above statement must be submitted promptly to avoid processing delays. Such submission by the patent owner should be labeled: "Comments on Statement of Reasons for Patentability and/or Confirmation" and will be placed in the reexamination file.

All correspondence relating to this ex parte reexamination proceeding should be directed:

By Mail to:
Mail Stop *Ex Parte* Reexam
Central Reexamination Unit
Commissioner for Patents
United States Patent & Trademark Office
P.O. Box 1450

Alexandria, VA 22313-1450
By FAX to:
(571) 273-9900
Central Reexamination Unit

By hand:
Customer Service Window
Randolph Building
401 Dulany Street
Alexandria, VA 22314

Registered users of EFS-Web may alternatively submit such correspondence via the electronic filing system EFS-Web, at https://efs.uspto.gov/efile/myportal/efs-registered
Any inquiry concerning this communication should be directed to Central Reexamination Unit at telephone number (571) 272-7705.

/Eric B. Kiss/
Primary Examiner, Art Unit 3992

Conferees:
/Mary Steelman/
Reexamination Specialist

CRU 3992
/ Alexander J Kosowski/
Supervisory Patent Examiner, Art Unit 3992

UNITED STATES PATENT AND TRADEMARK
OFFICE

Commissioner for Patents
United States Patent and Trademark Office
PO Box 1450
Alexandria, VA 22313-1450
www.uspto.gov

MAILED JUL 16 2013
Central Reexamination Unit

DICKSTEIN SHAPIRO LLP
1825 EYE STREET NW
WASHINGTON, DC 20006-5403
(For Patent Owner)

DAVIS WRIGHT TREMAINE LLP –
SAN FRANCISCO
505 MONTGOMERY STREET
SUITE 800
SAN FRANCISCO, CA 94111
(For Third Party Requester)

In re: Chen et al.
Ex Parte Reexamination Proceeding
Control No.: 90/020,048
For: U.S. Patent No.: 6,158,011

DECISION ON PETITION

This is a decision on a petition filed by the Third
Party Requester "petitioner" on April 29, 2013,
entitled "PETITION UNDER 37 C.F.R. §l.515(C)
AND 1.181 FOR REVIEW OF THE DENIAL OF

REEXAMINATION REQUEST NO. 90/020,048".
Petitioner seeks review of the Order Denying the
Request for *ex parte* Reexamination mailed March
28, 2013, which denied the request for
reexamination of claims 2, 4 and 7 of U.S. Patent
6,158,011. The petition was timely filed.

    The petition is before the Director of the Central
Reexamination Unit (CRU) for decision.

    The petition is denied for the reasons set forth
below.

REVIEW OF RELEVANT FACTS

· U.S. Patent No. 6,158,011 (hereinafter, the '011
patent) issued on December 5, 2000.

· On October 8, 2010, a first request for *ex parte*
reexamination of the '011 patent was deposited by a
Third Party Requester, and this reexamination
proceeding was assigned Control No. 90/011,242
(hereinafter the '11,242 proceeding). An Order
Granting Reexamination Request was mailed on
November 17, 2010. An *ex parte* reexamination
certificate was issued on December 12, 2012.

· On February 8, 2013, the instant request for *ex
parte* reexamination of the '011 patent was deposited
by a Third Party Requester, and this reexamination
proceeding was assigned Control No. 90/020,048
(hereinafter the '20,048 proceeding).

· An order denying the request for *ex parte*
reexamination in the '20,048 proceeding was mailed
on March 28, 2013.
· On April 29, 2013, the present petition was filed.

DISCUSSION

Petitioner in the '20,048 proceeding has petitioned seeking relief from the Examiner's March 28, 2013 Order denying *ex parte* reexamination for all requested claims.

I. **Standard of Review**

37 CFR 1.515(c) and 1.181 provide for the filing of a petition to review an examiner's determination refusing to order *ex parte* reexamination. The CRU Director's review of the reexamination request on petition is *de novo.* Therefore, this review will determine whether the examiner's refusal to order reexamination for patent claims 2, 4 and 7 was correct.

The following rules and procedures are applicable to this review:

<u>35 U.S.C. § 303(c) provides</u>:

A determination by the Director pursuant to subsection (a) of this section that no substantial new question of patentability has been raised will be final and nonappealable. Upon such a determination, the Director may refund a portion of the reexamination fee required under section 302 of this title.

<u>37 CFR § l.515(c) provides</u>:

The requester may seek review by a petition to the Director under 3 7 CFR § 1.181 within one month of the mailing date of the examiner's determination

refusing *ex parte* reexamination. Any such petition must comply with 3 7 CFR § 1.181(b). lf no petition is timely filed or if the decision on petition affirms that no substantial new question of patentability has been raised, the determination shall be final and nonappealable."

2216 provides in pertinent part:

Under 35 U.S.C. 304, the Office must determine whether "a substantial new question of patentability" affecting any claim of the patent has been raised. 37 CFR 1.510(b)(1) requires that a request for ex parte reexamination include "a statement pointing out each substantial new question of patentability based on prior patents and printed publications." If such a new question is found, an order for ex parte reexamination of the patent is issued. It is therefore important that the request clearly set forth in detail what the requester considers the "substantial new question of patentability" to be in view of prior patents and printed publications. The request *>must< point out how any questions of patentability raised are substantially different from those raised in the previous examination of the patent before the Office.**

>It is not sufficient that a request for reexamination merely proposes one or more rejections of a patent claim or claims as a basis for reexamination. It must first be demonstrated that a patent or printed publication that is relied upon in a proposed rejection presents a new, non-cumulative technological teaching that was not previously

considered and discussed on the record during the prosecution of the application that resulted in the patent for which reexamination is requested, and during the prosecution of any other prior proceeding involving the patent for which reexamination is requested.

MPEP § 2242(1) provides, in pertinent part:

Where a second or subsequent request for reexamination of a patent is made before the conclusion of an earlier filed reexamination proceeding pending (ongoing) for that patent, the second or subsequent request for reexamination may provide information raising a substantial new question of patentability with respect to any new or amended claim which has been proposed under 37 CFR 1.530(d) in the ongoing pending reexamination proceeding. However, in order for the second or subsequent request for reexamination to be granted, the seco11d or subsequent requester must independently provide a substantial new question of patentability which is different from that raised in the pending reexamination for the claims in effect at the time of the determination. The decision on the second or subsequent request is thus based on the claims in effect at the time of the determination (37 CFR 1.515(a)). If a "different" substantial new question of patentability is not provided by the second or subsequent request for the claims in effect at the time of the determination, the second or subsequent request for reexamination must be denied since the Office is only authorized by statute to grant a reexamination proceeding based on a substantial new question of patentability "affecting

any claim of the patent." See 35 U.S.C. 303. Accordingly, there must be at least one substantial new question of patentability established for the existing claims in the patent in order to grant reexamination.

Once the second or subsequent request has provided a "different" substantial new question of patentability based on the claims in effect at the time of the determination, the second or subsequent request for reexamination may also provide information directed to any proposed new or amended claim in the pending reexamination, to permit examination of the entire patent package. The information directed to a proposed new or amended claim in the pending reexamination is addressed during the later filed reexamination (where a substantial new question is raised in the later reexamination for the existing claims in the patent), in order to permit examination of the entire patent package. When a proper basis for the subsequent reexamination is established, it would be a waste of resources to prevent addressing the proposed new or amended claims, by requiring parties to wait until the certificate issues for the proposed new or amended claims, and only then to file a new reexamination request challenging the claims as revised via the certificate. This also prevents a patent owner from simply amending all the claims in some nominal fashion to preclude a subsequent reexamination request during the pendency of the reexamination proceeding.

MPEP § 2242(II)(A) provides, in pertinent part:

In a decision to order reexamination made on or after November 2, 2002, reliance on old art does not necessarily preclude the existence of a substantial new question of patentability that is based exclusively on that old art. See Public Law 107-273, 116 Stat. 1758, 1899-1906 (2002), which expanded the scope of what qualifies for a substantial new question of patentability upon which a reexamination may be based. Determinations on whether a substantial new question of patentability exists in such an instance shall be based upon a fact-specific inquiry done on a case-by-case basis. For example, a substantial new question of patentability may be based solely on old art where the old art is being presented/viewed in a new light, or in a different way, as compared with its use in the earlier examination(s), in view of a material new argument or interpretation presented in the request.

MPEP § 2248 provides, in pertinent part:

If a petition seeking review of the examiner's determination refusing reexamination is filed, it is forwarded (together with the reexamination file) to the Office of the CRU Director for decision. Where a petition is filed, the CRU Director will review the examiner's determination that a substantial new question of patentability has not been raised. The CRU Director's review will be de novo. Each decision by the CRU Director will conclude with the paragraph:

This decision is final and nonappealable. See 35 U.S.C. 303(c) and 37 CFR 1.515(c). No further communication on this matter will be acknowledged or considered.

If the petition is granted, the decision of the CRU Director should include a sentence setting a 2-month period for filing a statement under 37 CPR 1.530, the reexamination file will then be returned to the CRU Supervisory Patent Examiner (SPE) of the art unit that will handle the reexamination for consideration of reassignment to another examiner.

II. Summary of Patent Prosecution History and Reexamination History of the '011 Patent

Patent Prosecution History (09/258.398)

The '011 patent issued on December 5, 2000 to Chen et al. The relevant prosecution of the '011 patent proceeded is as follows.

In response to a non-final office action which rejected claims l, 5, 6, 18, 19, 23 and 31 over *Elgamal et al.* (U.S. Patent No. 5,657,390) in view of AAPA, the applicant amended claims 1, 18 and 31. In addition, the applicant stated:

> The claimed invention can be used in connection with any set of already installed communications drivers, and with any applications program capable of using the communications drivers, by simply installing a shim that intercepts calls to the communications drivers, without the need to

> modify the applications program to issue a modified set of function calls in order to invoke the encryption and authentication functions. By intercepting ordinary function calls, without reference to encryption functions, the claimed invention can be used with any application and any set of communications drivers. In contrast, an application program that uses the secure sockets layer for encryption is required to use a special, modified set of function calls in order to request encryption, thus limiting the encryption function to applications written specifically for the secure sockets layer.

In response to the applicant's response, the examiner issued a notice of allowance without specifying any specific reasons for allowance.

Pertinent Prosecution History of '11.242 proceeding

On October 8, 2010, a corrected *ex parte* request for reexamination was deposited by a Third Party Requester requesting reexamination of claims 2, 4 and 7 of the '011 patent.

On November 17, 2010, *ex parte* reexamination of claims 2, 4 and 7 was ordered because, *inter alia* the teachings of Takahasi et al., Alden et al. and Nakata et al., was determined to present a Substantial New Question of Patentability ("SNQ").

On February 14, 2013 a Non-Final Office Action was mailed which rejected claims 2, 4, and 7 over Alden et al.

The Patent Owner, in response, argued various points including a specific argument that Alden does not teach an applications level authentication and encryption program or "a shim arranged to intercept said function calls and request for service sent by an application program to the lower level set of communications drivers".

On December 16, 2011, the examiner subsequently issued a Final Rejection which maintained the position with respect to the teachings of Alden.

The Patent Owner, in response, submitted an after final response and continued to maintain that Alden does not teach an application level authentication and encryption program as well as teachings directed to a "shim" and a shim arranged to "intercept function calls and requests for service ... in order to cause the applications level authentication and encryption program to communicate with the server".

On April 2, 2012, the examiner issued a Non-Final Office action which maintained certain teachings of Alden regarding "application level authentication and encryption program" and "shim". The examiner agreed with the patent owner's argument with respect to a shim "arranged to intercept function calls and requests for service . . . in order to cause the applications level authentication and encryption program to communicate with the server." The examiner entered a new rejection which relied upon the teachings of Takahasi in view of RFC 1508 and Nakata in view of the SSL 3.0 document.

The patent owner, in response to the examiner's office action, maintained that Takahasi and RFC 1508 do not teach or suggest "application level authentication and encryption software", "shim arranged to intercept function calls and requests for service" and "applications level authentication and encryption software communicates with a server to generate a session key." The patent owner also maintained that Takahashi was not prior art. With respect to Nakata and SSL 3.0, the patent owner similar argued that the combination does not teach or suggest "application level authentication and encryption software" and "shim arranged to intercept function calls and requests for service".

On July 17, 2012, the examiner issued a Final Rejection and maintained the previous position with respect to the prior art.

On September 17, 2012 the patent owner provided an after final response, which maintained their previous arguments against the prior art.

On October 12, 2012, the examiner issued an Advisory Action based on a lack of service on the third party requester.

On October 17, 2012, the patent owner submitted a second after final response along with a certificate of service.

On November 7, 2012 a personal interview was held.

On November 29, 2012 the examiner issued a Notice of Intent to Issue *Ex Parte* Reexamination Certificate.

The Examiner noted the following:

> Alden teaches an application level authentication and encryption program, but does not teach a shim arranged to "intercept function calls and requests for service . . . in order to cause the applications level authentication and encryption program to communicate with the server," (Non-Final Action, 4/2/2012, pp. 3-4). Specifically, in Alden's system, the tunnel key/session key is generated at initialization, which is before interception of any communications, (id. at 4 (citing Alden at col. 19, lines 15-43)).

> Takahashi discloses a communication method and system with data compression and encryption for a mobile computing environment that adds a process via WinSock API without changing the existing TCP/IP-based application. Takahashi, Abstract. In Takahashi's method, the connect command from the application program is intercepted by the secure communication add-in program, a shim between the Winsock API and WinSock.DLL, and the secure communication add-in program attempts to establish a secure connection with a secure port as part of a negotiation function. Id. at 3. The negotiation function then selects

the compression method, the encryption method, identifies encryption keys, etc., before returning the "connect complete" indication to the application program. Id. at 2-3. Thus, in Takahashi's system, it is the interception of a "connect" function call that causes the negotiation between the respective secure communication add-in programs of the two computers. Id.

In Nakata, socket interface functions are hooked and transferred to hooking functions in a compression/encryption module. Nakata at col. 6, line 45, through col. 7, line 2. The hooking functions intercept the connect and send commands of the socket function and perform compression/encryption processing. Id. at col. 7, lines 35-54. The compression/ encryption module acts as a shim between the application and the socket program, and negotiation is performed for the compression/ encryption algorithms to be used at the time the connection is set up. Id. at col. 2, line 67, through col. 3, line 2; col. 8, line 40, through col. 9, line 5.

Takahashi and Nakata each teach negotiating and initializing an encrypted connection in response to intercepting function calls. However, upon further consideration of the patent owner's arguments, (e.g., PO Response, 10/17/2012, pp. 3-4, 6), the examiner finds that there is sufficient evidence to establish that Winsock is not part of the applications level, and

there is insufficient evidence to conclude that the authentication/encryption in Takahashi or Nakata are performed at the applications level, as opposed to a "lower level". RFC 1508 and the SSL 3.0 document were relied upon only for teaching mutual authentication of the server and client and generating a session key, and these references do not remedy the deficiencies discussed above.

I. *De Novo* Review of the Request for Reexamination - Findings and Analysis

In accordance with the requirements of the reexamination statue and rules, a review of the record as it appeared before the Examiner at the time of the order has been undertaken prior to the preparation of this decision. A *de novo* determination has been made as to whether the February 8, 2013 request for *ex parte* reexamination raises at least one SNQ. This review will focus on the correctness of the ultimate decision to grant or deny reexamination and will not review specific findings in the order denying reexamination.

Takahashi and Nakata in view of various Secondary References

As set forth in the '20,048 proceeding, the Request maintains that during the first reexamination (i.e. the 11,242 reexamination), the combination of Takahashi and Alden; the combination of Takahashi, Alden and RFC 1508 or the combination of Nakata, the SSL 3.0 document and Alden was not considered. See pages 26-27 of the Request.

The Request also contends that the combination of Takahashi or Takahashi/RFC 1508 and the teaching in Tanenbaum of **application layer authentication and encryption programs;** or (2) the combination of Nakata/SSL 3/0 and Tanenbaum **was not considered.** In addition, the Request contends that the combination of the prior art SmartGATE **applications level authentication/ encryption program** and Infoworld I and Infoworld II which disclose SmartGATE **were not considered.** *Id* at 27.

The Request acknowledges that the **first reexamination** found that **Alden discloses an "applications level authentication and encryption program".** In addition, the first reexamination found that Takahashi and Nakata disclose a shim's interception of function calls and requests for service causes the authentication/ encryption program to communicate with a server and generate a session key." The Request takes the position that a substantial new question is raised by the combination of Alden and Takahashi, Takahashi/ RFC 1508 or Nakata/SSL 3.0 document. The Request relies upon Alden, Tanenbaum and Infoworld I and II for support in showing an authentication and encryption program is installed at the application level. *Id* at 28.

It is determined that in the '11,242 reexamination proceeding, technological teachings directed to authentication and encryption program installed at the application level was considered and relied upon by way of teachings directed to at least Alden.

In accordance with MPEP 2216, it is determined that it is not sufficient that a request for reexamination merely propose one or more rejections of a patent claim or claims as a basis for reexamination. It must first be demonstrated that a patent or printed publication that is relied upon in a proposed rejection **presents a new, <u>non-cumulative technological teaching</u> that was not previously considered and discussed on the record during the prosecution of the application that resulted in the patent for which reexamination is requested, and during the prosecution of any other prior proceeding involving the patent for which reexamination is requested.**

In this case, the Request relies upon the same technological teachings with each of its proposed SNQs, i.e. teachings directed to showing authentication and encryption program being installed at the application level.

It is also acknowledged that a substantial new question of patentability may be based on art previously considered by the **Office if the reference is presented in' a new light or a different way that escaped review during earlier examination.** The clarification of the legal standard for determining obviousness under 35 U.S.C. 103 in *KSR International Co. v. Teleflex Inc.* (KSR), 550 U.S. ____, 82 USPQ2d 1385 (2007) does not alter the legal standard for determining whether a substantial new question of patentability exists. The requirement for a substantial new question of patentability remains in place even if it is clear from

the record of a patent for which reexamination is requested that the patent was granted because the Office did not show "motivation" to combine, or otherwise satisfy the teaching, suggestion, or motivation (TSM) test. Thus, a reexamination request relying on previously applied prior art that asks the Office to look at the art again based solely on the Supreme Court's clarification of the legal standard for determining obviousness under 35 U.S.C. 103 in *KSR,* without presenting the art in new light or different way, will not raise a substantial new question of patentability as to the patent claims, and reexamination will not be ordered.

With respect to Alden, the Request noted that it was previously maintained that Alden discloses of an application layer authentication and encryption program. *Id 28-30*

With respect Takahashi and Nakata, the Request noted that these references were relied upon to disclose limitations directed to a shim arranged to intercept functions calls and requests for service. *Id* at 31-34.

While the Request relies upon other features of the prior art, the core elements that are relied upon has not been shown to be presented "in a new light or a different way" that was not previously considered in the establishment of the SNQ. It is noted that a prior art patent or printed publication raises a substantial question of patentability where there is a substantial likelihood that a reasonable examiner would consider the prior art patent or printed publication

important in deciding whether or not the claim is patentable. If the prior art patents and/or publications would be considered important, then the examiner should find "a substantial new question of patentability" unless the same question of patentability has already been decided as to the claim in a final holding of invalidity by the Federal court system or by the Office in a previous examination.

The instant Request relies upon the same technological teachings with respect to a showing of an application layer authentication and encryption program. Although the Request present new combination of references, it is not sufficient to merely propose one or more rejections of a patent claim or claims as a basis for reexamination without demonstrating a patent or printed publication that is relied upon in a proposed rejection **presents a new, non-cumulative technological teaching that was not previously considered and discussed. As noted above, it has not been shown how the current use of Alden or any teaching directed to the application layer issue as presented by the other secondary references is now a new SNQ as compared to the previous use of Alden and teachings directed to the application layer programs.**

The petitioner asserts that part of the "material new analysis" includes among others (1) "combing prior art elements according to known methods to yield predictable results," and (2) "simple substitution of one known element for another to obtain predictable results."

It is noted that in accordance with MPEP 2616, "a reexamination request relying on previously applied prior art that asks the Office to look at the art again based solely on the Supreme Court's clarification of the legal standard for determining obviousness under 35 U.S.C. 103 in KSR, without presenting the art in new light or different way, <u>will not raise a substantial new question of patentability as to the patent claims</u>, and reexamination will not be ordered." Thus, a showing that "material new analysis" includes "combing prior art elements according to known methods to yield predictable results," and (2) "simple substitution of one known element for another to obtain predictable results" is insufficient to establish a SNQ.

The petitioner asserts that the "Second Reexamination Request in which Petitioner proposed new rejections based on Takahashi/RFC 1508 or Nakata/SSL3/0 in combination with Alden and other art showing an application level authentication and encryption programs." See page 3 of the Petition.

It is determined that the petitioner plainly admits that during the first reexamination the examiner considered teachings directed to Alden and "application level authentication/encryption program". Therefore, the teachings relied upon in the instant Request relies upon the <u>same</u> technological teachings in the establishment of an SNQ over teachings directed to application level authentication/encryption programs.

In addition, the petitioner asserts that Takahashi and Nakata's provide support for

authentication/encryption program is installed at the application level. It is noted that whether or not Takahashi and Nakata shows support for "authentication/encryption program installed at the application level does not explain how this teaching is different or new as compared to previous teachings. The petitioner acknowledged that Alden (which was previously relied upon in the first reexamination) discloses authentication/encryption programs at the application level.

The petitioner asserts that the examiner did not consider whether Alden, alone or in combination with other art, renders claims 2, 4 and 7 obvious under 35 U.S.C. 103. See page 9 of the petition.

The petitioner acknowledged that although the examiner in the first reexamination found that there was "insufficient evidence to conclude that the authentication/encryption in Takahasi or Nakata are performed at the application level" the examiner did not considered whether the combination of Takahashi/RFC 1508 or Nakata/SSL 3.0 with reference discloses a VPN in which authentication and encryption is at the "application level" renders the claimed invention obvious.

As discussed above, it is not merely enough to propose new prior art combination that have not been previously considered. It must be demonstrated that the prior art presents a new non-cumulative technological teaching that was not previously considered. It is determined that the teachings directed to "authentication/encryption program at the application level was already previously

considered. Indeed, the petitioner acknowledged this aspect and therefore, it is determined that there is no new non-cumulative technological teaching. The petitioner states that the also relied upon the application level teachings as set forth in lnfoworld I and II; however, the first examination already considered prior art directed to this teaching.

The petitioner's position is that their proposed combination of references meets multiple *KSR* rationales and that these constitute material new argument that was not previously considered by the Office. The petitioner also states on page 17 of their response that the first reexamination only consider whether Alden anticipates claims 2, 4 and 7 but did not consider whether Alden, alone or in combination with other references renders claims 2, 4 and 7 obvious. In addition, with respect to Takahashi/RFC 1508 or Nakata/SSL3/0, the petitioners states that the these references in combination with art teaching client/server VPEN with its authentication/encryption program installed at the application level was not previously considered and that this is a different question from the one considered by the Examiner.

The petitioner showed that the Smith Declaration explains how Takahashi support an application level authentication. It is considered that even if the teachings associated with Takahashi were accepted, as set forth above, it must be shown how this teaching presents a new technological teaching. Although the Request did not specifically rely upon Takahashi for this teaching, instead, opting to rely upon other prior art references, even assuming

arguendo that Takahashi was to be accepting as to having this teaching, it is determined that this teaching was already presented in the record by way of the teachings associated with the Alden prior art reference.

Review of 35 USC § 302 and 3 7 CFR 1.510 shows that *ex parte* reexamination of a United States Patent is **only** authorized when a consideration of prior art consisting of patents or printed publications establishes that a substantial new question of patentability exists with respect to one or more claims of that patent. In particular, 35 USC § 302 requires that a request for *ex parte* reexamination be based upon prior art as set forth in 35 USC § 301, that is, prior art consisting of patents or printed publications. 37 CFR 1.510(b)(1) requires that a request for *ex parte* reexamination include "a statement pointing out each substantial new question of patentability based on the cited patents and printed publications:" A substantial question of patentability is raised by a cited patent or printed publication when there is a substantial likelihood that a reasonable examiner would consider the prior art patent or printed publication important in deciding whether or not the claim is patentable. If the prior art patents and printed publications relied upon in the request raise a substantial question of patentability, then a "substantial new question of patentability" is present. For "a substantial new question of patentability" to be present, it is only necessary that: (A) the prior art patents and/or printed publications raise a substantial question of patentability regarding at least one claim, i.e., the teaching of the (prior art) patents and printed

publications is such that a reasonable examiner would consider the teaching to be important in deciding whether or not the claim is patentable; and (B) the same question of patentability as to the claim has not been decided by the Office in a previous examination or pending reexamination of the patent or in a final holding of invalidity by the Federal Courts in a decision on the merits involving the claim. If a substantial new question of patentability is found, an order for *ex parte* reexamination of the patent is issued.

Consequently, based on a *de novo* review of the record including the comments set forth by the petitioner, it is determined that the '20,048 Request failed to establish a substantial new question of patentability.

CONCLUSION

1. Based on a *de novo* review of the record as a whole, the petition is <u>DENIED</u>.

2. The decision is final and nonappealable. See 35 USC 303(c) and 37 CFR l.515(c). No further communication on this matter will be acknowledged or considered.

3. Telephone inquiries related to this decision should be directed to Daniel Ryman, Supervisory Patent Examiner in AU 3992, at (571)272-3152 or to the undersigned at (571) 272-0700.

_____/s/_____

Irem Yucel, Director
Central Reexamination Unit

UNITED STATES PATENT AND TRADEMARK
OFFICE

Commissioner for Patents
United States Patent and Trademark Office
PO Box 1450
Alexandria, VA 22313-1450
www.uspto.gov

MAILED SEP 09 2014
Central Reexamination Unit

DICKSTEIN SHAPIRO LLP
1825 EYE STREET NW
WASHINGTON, DC 20006-5403
(For Patent Owner)

DAVIS WRIGHT TREMAINE LLP/SFO
IP DOCKETING DEPT.
DAVIS WRIGHT TREMAINE LLP
1201 THIRD AVENUE, SUITE 2200
SEATTLE, WA 98101
(For Third Party Requester)

In re: Chen et al.
Ex Parte Reexamination Proceeding
Control No.: 90/013,253
For: U.S. Patent No.: 6,158,011

DECISION ON PETITION

This is a decision on a petition filed by the Third
Party Requester "petitioner" on July 18, 2014,
entitled "PETITION UNDER 37 C.F.R. §§ 1.515(C)
AND 1.181 FOR REVIEW OF THE DENIAL OF

REEXAMINATION REQUEST NO. 90/013,253".
Petitioner seeks review of the Order Denying the
Request for *ex parte* Reexamination mailed June 18,
2014, which denied the request for reexamination of
claims 2, 4 and 7 of U.S. Patent 6,158,011. The
petition was timely filed. No fee is required.

The petition is before the Director of the Central
Reexamination Unit (CRU) for decision.

The petition is <u>denied</u> for the reasons set forth below.

REVIEW OF RELEVANT FACTS

o   U.S. Patent No. 6,158,011 (hereinafter, the '011
    patent) issued on December 5, 2000.
o   On May 22, 2014, a request for *ex parte*
    reexamination of the '011 patent was deposited
    by a Third Party Requester, and this
    reexamination proceeding was assigned Control
    No. 90/013,253 (hereinafter the '13,253
    proceeding). An Order Denying Reexamination
    Request was mailed on June 18, 2014.
o   On July 18, 2014, the present petition was filed.

DISCUSSION

Petitioner in the '13,253 proceeding has petitioned
seeking relief from the Examiner's June 18, 2014
Order denying *ex parte* reexamination for original
claims 2, 4 and 7.

I. **Standard of Review**

37 CFR 1.515(c) and 1.181 provide for the filing of a petition to review an examiner's determination refusing to order *ex parte* reexamination. The CRU Director's review of the reexamination request on petition is *de novo.* Therefore, this review will determine whether the examiner's refusal to order reexamination for original patent claims 2, 4 and 7 was correct.

The following rules and procedures are applicable to this review:

35 U.S.C. § 303(c) provides:

A determination by the Director pursuant to subsection (a) of this section that no substantial new question of patentability has been raised will be final and nonappealable. Upon such a determination, the Director may refund a portion of the reexamination fee required under section 302 of this title.

37 CFR § 1.515(c) provides:

The requester may seek review by a petition to the Director under 3 7 CFR § 1.181 within one month of the mailing date of the examiner's determination refusing *ex parte* reexamination. Any such petition must comply with 3 7 CFR § 1.181(b). If no petition is timely filed or if the decision on petition affirms that no substantial new question of patentability has been raised, the determination shall be final and nonappealable."

<u>2216 provides in pertinent part</u>:

Under 35 U.S.C. 304, the Office must determine whether "a substantial new question of patentability" affecting any claim of the patent has been raised. 37 CFR 1.510(b)(1) requires that a request for ex parte reexamination include "a statement pointing out each substantial new question of patentability based on prior patents and printed publications." If such a new question is found, an order for ex parte reexamination of the patent is issued. It is therefore important that the request clearly set forth in detail what the requester considers the "substantial new question of patentability" to be in view of prior patents and printed publications. The request *>must< point out how any questions of patentability raised are substantially different from those raised in the previous examination of the patent before the Office. * *

>It is not sufficient that a request for reexamination merely proposes one or more rejections of a patent claim or claims as a basis for reexamination. It must first be demonstrated that a patent or printed publication that is relied upon in a proposed rejection presents a new, non-cumulative technological teaching that was not previously considered and discussed on the record during the prosecution of the application that resulted in the patent for which reexamination is requested, and during the prosecution of any other prior proceeding involving the patent for which reexamination is requested.

MPEP § 2242(I) provides, in pertinent part:

Where a second or subsequent request for reexamination of a patent is made before the conclusion of an earlier filed reexamination proceeding pending (ongoing) for that patent, the second or subsequent request for reexamination may provide information raising a substantial new question of patentability with respect to any new or amended claim which has been proposed under 37 CFR l.530(d) in the ongoing pending reexamination proceeding. However, in order for the second or subsequent request for reexamination to be granted, the second or subsequent requester must independently provide a substantial new question of patentability which is different from that raised in the pending reexamination for the claims in effect at the time of the determination. The decision on the second or subsequent request is thus based on the claims in effect at the time of the determination (37 CFR l.515(a)). If a "different" substantial new question of patentability is not provided by the second or subsequent request for the claims in effect at the time of the determination, the second or subsequent request for reexamination must be denied since the Office is only authorized by statute to grant a reexamination proceeding based on a substantial new question of patentability "affecting any claim of the patent." See 35 U.S.C. 303. Accordingly, there must be at least one substantial new question of patentability established for the existing claims in the patent in order to grant reexamination.

Once the second or subsequent request has provided a "different" substantial new question of patentability based on the claims in effect at the time of the determination, the second or subsequent request for reexamination may also provide information directed to any proposed new or amended claim in the pending reexamination, to permit examination of the entire patent package. The information directed to a proposed new or amended claim in the pending reexamination is addressed during the later filed reexamination (where a substantial new question is raised in the later reexamination for the existing claims in the patent), in order to permit examination of the entire patent package. When a proper basis for the subsequent reexamination is established, it would be a waste of resources to prevent addressing the proposed new or amended claims, by requiring parties to wait until the certificate issues for the proposed new or amended claims, and only then to file a new reexamination request challenging the claims as revised via the certificate. This also prevents a patent owner from simply amending all the claims in some nominal fashion to preclude a subsequent reexamination request during the pendency of the reexamination proceeding.

MPEP § 2242(II)(A) provides, in pertinent part:

In a decision to order reexamination made on or after November 2, 2002, reliance on old art does not necessarily preclude the existence of a substantial new question of patentability that is based exclusively on that old art. See Public Law 107-273, 116 Stat. 1758, 1899-1906 (2002), which expanded

the scope of what qualifies for a substantial new question of patentability upon which a reexamination may be based. Determinations on whether a substantial new question of patentability exists in such an instance shall be based upon a fact-specific inquiry done on a case-by-case basis. For example, a substantial new question of patentability may be based solely on old art where the old art is being presented/viewed in a new light, or in a different way, as compared with its use in the earlier examination(s), in view of a material new argument or interpretation presented in the request.

MPEP § 2248 provides, in pertinent part:

If a petition seeking review of the examiner's determination refusing reexamination is filed, it is forwarded (together with the reexamination file) to the Office of the CRU Director for decision. Where a petition is filed, the CRU Director will review the examiner's determination that a substantial new question of patentability has not been raised. The CRU Director's review will be de novo. Each decision by the CRU Director will conclude with the paragraph:

> This decision is final and nonappealable. See 35 U.S.C. 303(c) and 37 CFR 1.515(c). No further communication on this matter will be acknowledged or considered.

If the petition is granted, the decision of the CRU Director should include a sentence setting a 2-month period for filing a statement under 37 CFR 1.530, the

reexamination file will then be returned to the CRU Supervisory Patent Examiner (SPE) of the art unit that will handle the reexamination for consideration of reassignment to another examiner.

II. Summary of Patent Prosecution History and Reexamination History of the '011 Patent

Patent Prosecution History (09/258,398)

The '011 patent issued on December 5, 2000 to Chen et al. The relevant prosecution of the '011 patent proceeded as follows.

In response to a non-final office action which rejected claims 1, 5, 6, 18, 19, 23 and 31 over Elgamal et al. (U.S. Patent No. 5,657,390) in view of AAPA, the applicant amended claims 1, 18 and 31. In addition, the applicant stated:

> The claimed invention can be used in connection with any set of already installed communications drivers, and with any applications program capable of using the communications drivers, by simply installing a shim that intercepts calls to the communications drivers, without the need to modify the applications program to issue a modified set of function calls in order to invoke the encryption and authentication functions. By intercepting ordinary function calls, without reference to encryption functions, the claimed invention can be used with any application and any set of communications drivers. In contrast, an

application program that uses the secure
sockets layer for encryption is required to
use a special, modified set of function calls in
order to request encryption, thus limiting the
encryption function to applications written
specifically for the secure sockets layer.

In response to the applicant's response, the examiner
issued a notice of allowance without specifying any
specific reasons for allowance.

*Pertinent Prosecution History of 90/011,242
Reexamination proceeding*

On October 8, 2010, a corrected ex parte request for
reexamination was deposited by a Third Party
Requester requesting reexamination of claims 2, 4
and 7 of the '011 patent.

On November 17, 2010, *ex parte* reexamination of
claims 2, 4 and 7 was ordered because, *inter alia* the
teachings of Takahasi et al., Alden et al. and Nakata
et al., was determined to present a Substantial New
Question of Patentability ("SNQ").
On February 14, 2013 a Non-Final Office Action was
mailed which rejected claims 2, 4, and 7 over Alden
et al.

The Patent Owner, in response, argued various
points including a specific argument that Alden does
not teach an applications level authentication and
encryption program or "a shim arranged to intercept
said function calls and request for service sent by an
application program to the lower level set of
communications drivers".

On December 16, 2011, the examiner subsequently issued a Final Rejection which maintained the position with respect to the teachings of Alden.

The Patent Owner, in response, submitted an after final response and continued to maintain that Alden does not teach an application level authentication and encryption program as well as teachings directed to a "shim" and a shim arranged to "intercept function calls and requests for service .. .in order to cause the applications level authentication and encryption program to communicate with the server".

On April 2, 2012, the examiner issued a Non-Final Office action which maintained certain teachings of Alden regarding "application level authentication and encryption program "and "shim". The examiner agreed with the patent owner's argument with respect to a shim "arranged to intercept function calls and requests for service . . . in order to cause the applications level authentication and encryption program to communicate with the server." The examiner entered a new rejection which relied upon the teachings of Takahasi in view of RFC 1508 and Nakata in view of the SSL 3.0 document. The patent owner, in response to the examiner's office action, maintained that Takahasi and RFC 1508 do not teach or suggest "application level authentication and encryption software", "shim arranged to intercept function calls and requests for service" and "applications level authentication and encryption software communicates with a server to generate a session key. 11 The patent owner also maintained that Takahashi was not prior art. With respect to

Nakata and SSL 3.0, the patent owner similar argued that the combination does not teach or suggest "application level authentication and encryption software" and "shim arranged to intercept function calls and requests for service".

On July 17, 2012, the examiner issued a Final Rejection and maintained the previous position with respect to the prior art.

On September 17, 2012 the patent owner provided an after final response, which maintained their previous arguments against the prior art.

On October 12, 2012, the examiner issued an Advisory Action based on a lack of service on the third party requester.

On October 17, 2012, the patent owner submitted a second after final response along with a certificate of service.

On November 7, 2012 a personal interview was held.

On November 29, 2012 the examiner issued a Notice of Intent to Issue Ex Parte Reexamination Certificate.

The Examiner noted the following:

> Alden teaches an application level authentication and encryption program, but does not teach a shim arranged to "intercept function calls and requests for service . . . in order to cause the applications level

authentication and encryption program to communicate with the server," (Non-Final Action, 4/2/2012, pp. 3-4). Specifically, in Alden's system, the tunnel key/session key is generated at initialization, which is before interception of any communications, (id. at 4 (citing Alden at col. 19, lines 15-43)).

Takahashi discloses a communication method and system with data compression and encryption for a mobile computing environment that adds a process via WinSock API without changing the existing TCP/IP-based application. Takahashi, Abstract. In Takahashi's method, the connect command from the application program is intercepted by the secure communication add-in program, a shim between the Winsock API and WinSock.DLL, and the secure communication add-in program attempts to establish a secure connection with a secure port as part of a negotiation function. Id. at 3. The negotiation function then selects the compression method, the encryption method, identifies encryption keys, etc., before returning the "connect complete" indication to the application program. Id. at 2-3. Thus, in Takahashi's system, it is the interception of a "connect" function call that causes the negotiation between the respective secure communication add-in programs of the two computers. *Id.*

In Nakata, socket interface functions are hooked and transferred to hooking functions

in a compression/encryption module. Nakata at col. 6, line 45, through col. 7, line 2. The hooking functions intercept the connect and send commands of the socket function and perform compression/encryption processing. Id. at col. 7, lines 35-54. The compression/ encryption module acts as a shim between the application and the socket program, and negotiation is performed for the compression/encryption algorithms to be used at the time the connection is set up. Id. at col. 2, line 67, through col. 3, line 2; col. 8, line 40, through col. 9, line 5.

Takahashi and Nakata each teach negotiating and initializing an encrypted connection in response to intercepting function calls. However, upon further consideration of the patent owner's arguments, (e.g., PO Response, 10/17/2012, pp. 3-4, 6), the examiner finds that there is sufficient evidence to establish that Winsock is not part of the applications level, and there is insufficient evidence to conclude that the authentication/encryption in Takahashi or Nakata are performed at the applications level, as opposed to a "lower level".

RFC 1508 and the SSL 3.0 document were relied upon only for teaching mutual authentication of the server and client and generating a session key, and these references do not remedy the deficiencies discussed above.

*Pertinent Prosecution History of 901020, 048
Reexamination proceeding*

On February 8, 2013 a second request for *ex parte*
reexamination was filed.

On March 28, 2013, an order denying request for ex
parte reexamination was mailed. It was determined
that Takahashi, Alden and Nakata did not present
any new technological teaching and the combination
were merely cumulative to the way the prior art was
considered by the Office in a previous examination.

I. *De Novo* Review of the Request for Reexamination
- Findings and Analysis

In accordance with the requirements of the
reexamination statue and rules, a review of the
record as it appeared before the Examiner at the
time of the order has been undertaken prior to the
preparation of this decision. A *de novo* determination
has been made as to whether the May 22, 2014
request for *ex parte* reexamination raises a SNQ
with respect to claims 2, 4 and 7. This review will
focus on the correctness of the ultimate decision to
grant or deny reexamination as to those claims and
will not review specific findings in the order denying
reexamination.

PES ARTICLE

As forth in the Request, it was asserted that "[t]he
PES article explains that for communications over
the Internet using the TCP/IP protocol "application
programs must handle all data encryption." (PES

article, p. 34). In addition, the PES system is repeatedly described as a "user level approach," (and thus operates above the TDI layer), and the PES article teaches that the PES authentication and encryption program (PES library) is loaded by a client application before the sockets library, and thus is installed above sockets.

The Request concludes that the PES article makes it clear that its authentication and encryption program is installed **above** the TDI layer, and **between** client application and the sockets library – e.g., Winsock.

It is determined that the issue of "above the TDI layer" was argued during a prior examination. As set forth during the '11,242 reexamination, the patent owner in their October 17, 2012 response, noted that with respect to Winsock, it was maintained that Winsock is *between* the applications and TDI layers, and therefore is below the application layer. Comments were further made with respect to the "lower level set of communication drivers which include Winsock. See pages 3-4 of the October 17, 2012 response of the '11,242 reexamination.

It was previously determined that if the entity is *between* the application layer and the TDI layer then it is below the application layer. Likewise, as noted in the Request, the PES library is *between* the applications programs and the socket library. Therefore, the PES library is <u>below</u> the applications level.

In addition, the file history, discussed above, shows that application level authentication and encryption

programs were already previously considered. Thus, teachings directed to application level authentication and encryption programs are not a new non-cumulative teaching that would result in a substantial new question of patentability.

It must be demonstrated that a patent or printed publication that is relied upon in a proposed rejection presents a *new, non-cumulative technological teaching* that was not previously considered and discussed on the record during the prosecution of the application that resulted in the patent for which reexamination is requested, and during the prosecution of any other prior proceeding involving the patent for which reexamination is requested.

A review of the Request shows that the following position was maintained:

> The PES article explains that for communications over the Internet using the TCP/IP protocol "application programs must handle all data encryption." (PES article, p. 34). In addition, the PES system is repeatedly described as a "user level approach," (and thus operates above the TDI layer), and the PES article teaches that the PES authentication and encryption program (PES library) is loaded by a client application **before** the sockets library, and thus is installed above sockets".

It is determined that "user level approach", "operating above the TDI layer" and being "loaded ...

before the sockets library" do not sufficiently show that the authentication and encryption occurs at the application level. Indeed, at best, all that this shows is that the authentication occurs above the TDI layer. This teaching was already previously found in the prior art during at least the prosecution of the '11,242 reexamination.

It is determined that the Request has not reasonably established a *substantial new question of patentability*. As discussed above, various teachings which were relied upon in the Request are cumulative to teachings which were already discussed during a previous examination of the '011 patent.

The Petitioner explains that the programs that call a socket library in order to access the network stack are at the application level. It is acknowledged that the '011 patent discloses "[s]ockets serve as an interface between the TCP set of functions, or stack, and various applications, by providing libraries of routines which facility TCP function calls". '011 Patent, 3:42-54. Further examples are provided via teachings directed to "SmartGATE™". The '011 patent describes this as being placed between the Winsock layer and the applications.

It is determined that the Petitioner provided a detailed analysis of the original prosecution of the '011 patent as well as the first and second reexamination which reviewed several prior art references including the Takahashi prior art. The Petitioner recognized that the examiner during prosecution found that "there is ***insufficient***

evidence to conclude that the authentication/ encryption in Takahashi or Nakata are performed *at the application level,* as opposed to a 'lower level."

It is determined that a review of the prior reexamination show that at least the teachings of Takahashi provided teachings directed to having sockets *between* the application programs and the TDI level. The prosecution history shows that teachings directed to location of authentication/ encryption (i.e. *above the TDI)* were found to be insufficient to shown that the authentication/ encryption was at the application level. As noted above, the citations to the '011 patent, while showing the authentication/encryption to be above the TDI, does not automatically entail a specific level absent any specific teaching regarding its level. Nonetheless, the issue is whether PES Article presents any new noncumulative technological teaching that was not previously considered before on the record. It is determined that the Request did not specifically show any new teaching that would warrant a substantial new question of patentability.

The Petitioner, on page 9 of their petition, asserts the PES article clearly teaches that the PES library is installed at the applications level. The petitioner states that PES system is repeatedly described as a "user level approach" and that the PES authentication and encryption program (PES library) is loaded by a client application before the sockets library, and thus is installed above sockets. The petitioner further maintains that as shown in Figure 3b, an application program's calls to the socket library are intercepted by the PES library

which processes these calls and subsequently passes them off to the socket library in order to access the network.

The petitioner, on page 11, asserts that a prior Examiner found that applications that "access transport services of the TCP layer through standard sockets" are "application layer processes." With reference to the '011 patent, the petition states that the patent discloses "Sockets serve as an interface between the TCP set of functions, or stack, and various applications, by providing libraries of routines which facilitate TCP function calls, so that the application simply has to refer to the socket library in order to carry out the appropriate function calls.".

The petitioner further states the Examiner also recognized that "the PES article discloses the interception [by the PES library] of application calls ... to dynamic libraries such as WlNSOCK.DLL]standard sockets]," and reproduced Figure 3b which shows that the PES library uses standard sockets (labeled Dynamic Libraries) to access the services of the lower levels of the stack. 6/18/14 Decision at 19. Since the PES library accesses the transport services of the TCP layer through standard sockets, the Examiner should have recognized that the PES library is necessarily at the applications level.

In addition, the Petitioner states Examiner should have recognized that the PES library is positioned identically to the authentication client software 20 of Figure 2, and the patent teaches that this positioning is at the applications level.

It is determined that with respect to the placement of the PES library being position "identically to the authentication client software 20 of Figure 2" of the '011 patent, this argument is insufficient. A review of page 30 of the Request shows similarities between PES article figure 3(b) and Figure 2 of the '011 patent. It is determined that during prosecution of the '11,242 reexamination, the same similarities were shown with respect to the Takahashi prior art reference with respect to Figure 2. Ultimately it was determined that Takahashi did not specifically disclose application level encryption and authentication software. Therefore, having "identical" placement is insufficient to show that the encryption and authentication software is at the application level.

In addition, it is determined that PES article does not establish a substantial new question of patentability over at least the Takahashi prior art reference. The petitioner provides a brief comment that Takahashi's authentication/encryption program is at the application level. It is determined that during the '11,242 Request, it was maintained that the WinSock API was between the application software and TCP/IP software and therefore was at the applications level (see page 13 of the '11.242 Request). As noted above, the instant' 13,253 likewise presents comments that the PES library is 'between' the application and another entity (i.e. Dynamic libraries) ("the PES library is *between* the applications programs and the socket library"). As discussed *supra* during the prosecution of the previous reexamination, anything below the application layer or *between* the applications and

another entity does not sufficiently show that it is specifically in the application level.

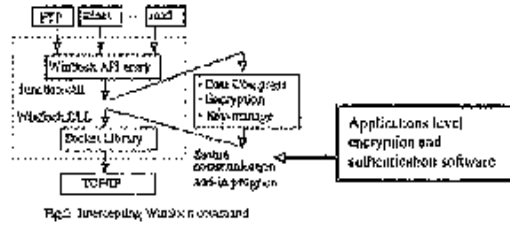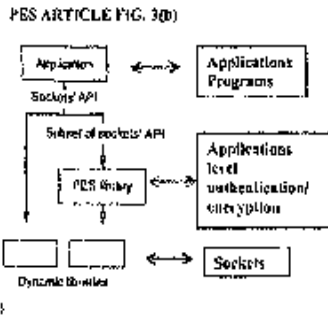The following in an excerpt from the 90/11,242 Reexamination (page 13)

Fig.2 Intercepting Winsock command

PES ARTICLE FIG. 3(b)

As shown from the above two figures, the Request does not sufficiently explain the differences with respect to showing how having 'the PES library being situation above the socket library is any different than the software from Takahashi Figure 2 or that from the prior art discussed in the '011 patent specification.

The Request has not shown how the current teachings of application level authentication/ encryption provide a substantial new question of the previous relied upon prior art references.

The Petitioner emphasizes the PES article repeatedly refers to PES as a *"user-level"* process, and teaches that in TCP/IP connections "application programs must handle all data encryption." The petitioner concludes that since "application programs must handle all data encryption," the PES article teaches installing a "user-level" process (i.e., the PES library) between the applications program and standard sockets in order to secure communications between client and server.

It is determined that as set forth above, "installing" the PES library between the application program and standard sockets is insufficient to raise a substantial new question for an application level authentication. With respect to "user level" and "application programs must handle all data encryption", it is determined, that the request has not sufficiently shown how these teachings provide a substantial new question of patentability over previous relied upon teachings as set forth during the previous examination/reexamination of the '011 patent.

It must be demonstrated that a patent or printed publication that is relied upon in a proposed rejection presents a new, non-cumulative technological teaching that was not previously considered and discussed on the record during the prosecution of the application that resulted in the patent for which reexamination is requested, and during the prosecution of any other prior proceeding involving the patent for which reexamination is requested.

For the reasons discussed *supra* it is determined that the Request has failed to show how PES Article provides a substantial new question over the previously cited prior art references. It is noted that the Petitioner, on page 14, maintained that Takahashi's authentication/encryption program is at the application level. Therefore, the teachings of PES Article do not provide any new teaching for at least this additional reason. It is determined that even if PES Article is not cumulative to the teachings of the previously discussed prior art references, the Request has not shown how the teachings establish a substantial new question of patentability that was not previously present as set forth in the above discussion.

It is determined that in view of the above comments the Request does not establish a SNQ over claims 2, 4 and 7.

Consequently, based on a *de novo* review of the record including the comments set forth by the petitioner, it is determined that the '13,253 Request failed to establish a substantial new question of patentability for this additional reason.

CONCLUSION

l. Based on a *de novo* review of the record as a whole, the petition is <u>DENIED</u>.

2. The decision is final and nonappealable. See 35 USC 303(c) and 37 CFR 1.515(c). No further communication on this matter will be acknowledged or considered.

3. Telephone inquiries related to this decision should be directed to Alex Kosowski, Supervisory Patent Examiner in AU 3992, at (571)272-3744 or to the undersigned at (571) 272-0700.

_____/s/_____

Irem Yucel, Director
Central Reexamination Unit

CONSTITUTION OF THE UNITED STATES

Art. 1, s. 8, cl. 8:

[8]To promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries;

U.S.C. TITLE 35 - PATENTS

CHAPTER 31 – INTER PARTES REVIEW

§311. Inter partes review

(a) In General.—Subject to the provisions of this chapter, a person who is not the owner of a patent may file with the Office a petition to institute an inter partes review of the patent. The Director shall establish, by regulation, fees to be paid by the person requesting the review, in such amounts as the Director determines to be reasonable, considering the aggregate costs of the review.

(b) Scope.—A petitioner in an inter partes review may request to cancel as unpatentable 1 or more claims of a patent only on a ground that could be raised under section 102 or 103 and only on the basis of prior art consisting of patents or printed publications.

(c) Filing Deadline.—A petition for inter partes review shall be filed after the later of either—

(1) the date that is 9 months after the grant of a patent; or

(2) if a post-grant review is instituted under chapter 32, the date of the termination of such post-grant review.

(Added Pub. L. 106–113, div. B, §1000(a)(9) [title IV, §4604(a)], Nov. 29, 1999, 113 Stat. 1536, 1501A–567; amended Pub. L. 107–273, div. C, title III, §13202(a)(1), (c)(1), Nov. 2, 2002, 116 Stat. 1901, 1902; Pub. L. 112–29, §6(a), Sept. 16, 2011, 125 Stat. 299; Pub. L. 112–274, §1(d)(2), Jan. 14, 2013, 126 Stat. 2456.)

Amendments

2013—Subsec. (c)(1). Pub. L. 112–274 struck out "or issuance of a reissue of a patent" after "grant of a patent".

2011—Pub. L. 112–29 amended section generally. Prior to amendment, section related to request for inter partes reexamination.

2002—Pub. L. 107–273, §13202(c)(1), made technical correction to directory language of Pub. L. 106–113, which enacted this section.

Subsec. (a). Pub. L. 107–273, §13202(a)(1)(A), substituted "third-party requester" for "person".

Subsec. (c). Pub. L. 107–273, §13202(a)(1)(B), substituted "The" for "Unless the requesting person is the owner of the patent, the".

Effective Date of 2013 Amendment

Amendment by Pub. L. 112–274 effective Jan. 14, 2013, and applicable to proceedings commenced on or after such date, see section 1(n) of Pub. L. 112–274, set out as a note under section 5 of this title.

Effective Date of 2011 Amendment

Pub. L. 112–29, §6(c)(2), Sept. 16, 2011, 125 Stat. 304, provided that:

"(A) In general.—The amendments made by subsection (a) [enacting section 319 of this title and amending this section and sections 312 to 318 of this title] shall take effect upon the expiration of the 1-year period beginning on the date of the enactment of this Act [Sept. 16, 2011] and shall apply to any patent issued before, on, or after that effective date.

"(B) Graduated implementation.—The Director [Under Secretary of Commerce for Intellectual Property and Director of the United States Patent

and Trademark Office] may impose a limit on the number of inter partes reviews that may be instituted under chapter 31 of title 35, United States Code, during each of the first 4 1-year periods in which the amendments made by subsection (a) are in effect, if such number in each year equals or exceeds the number of inter partes reexaminations that are ordered under chapter 31 of title 35, United States Code, in the last fiscal year ending before the effective date of the amendments made by subsection (a)."

Effective Date

Chapter effective Nov. 29, 1999, and applicable to any patent issuing from an original application filed in the United States on or after that date, see section 1000(a)(9) [title IV, §4608(a)] of Pub. L. 106–113, set out as an Effective Date of 1999 Amendment note under section 41 of this title.

Regulations

Pub. L. 112–29, §6(c)(1), Sept. 16, 2011, 125 Stat. 304, provided that: "The Director [Under Secretary of Commerce for Intellectual Property and Director of the United States Patent and Trademark Office] shall, not later than the date that is 1 year after the date of the enactment of this Act [Sept. 16, 2011], issue regulations to carry out chapter 31 of title 35, United States Code, as amended by subsection (a) of this section."

Applicability of Filing Deadline

Pub. L. 112–274, §1(d)(1), Jan. 14, 2013, 126 Stat. 2456, provided that: "Section 311(c) of title 35, United States Code, shall not apply to a petition to

institute an inter partes review of a patent that is not a patent described in section 3(n)(1) of the Leahy-Smith America Invents Act [Pub. L. 112–29] (35 U.S.C. 100 note)."

Report to Congress

Pub. L. 106–113, div. B, §1000(a)(9) [title IV, subtitle F, §4606], Nov. 29, 1999, 113 Stat. 1536, 1501A–571, required the Under Secretary of Commerce for Intellectual Property and Director of the United States Patent and Trademark Office to submit to Congress a report on possible inequities of certain inter partes reexamination proceedings no later than 5 years after Nov. 29, 1999.

§312. Petitions

(a) Requirements of Petition.—A petition filed under section 311 may be considered only if—

(1) the petition is accompanied by payment of the fee established by the Director under section 311;

(2) the petition identifies all real parties in interest;

(3) 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, including—

(A) copies of patents and printed publications that the petitioner relies upon in support of the petition; and

(B) affidavits or declarations of supporting evidence and opinions, if the petitioner relies on expert opinions;

(4) the petition provides such other information as the Director may require by regulation; and

(5) the petitioner provides copies of any of the documents required under paragraphs (2), (3), and (4) to the patent owner or, if applicable, the designated representative of the patent owner.

(b) Public Availability.—As soon as practicable after the receipt of a petition under section 311, the Director shall make the petition available to the public.

(Added Pub. L. 106–113, div. B, §1000(a)(9) [title IV, §4604(a)], Nov. 29, 1999, 113 Stat. 1536, 1501A–568; amended Pub. L. 107–273, div. C, title III, §§13105(a), 13202(a)(2), (c)(1), Nov. 2, 2002, 116 Stat. 1900–1902; Pub. L. 112–29, §6(a), (c)(3)(A)(i), Sept. 16, 2011, 125 Stat. 300, 305.)

Amendments

2011—Pub. L. 112–29, §6(a), amended section generally. Prior to amendment, section related to determination of issue by Director.

Subsec. (a). Pub. L. 112–29, §6(c)(3)(A)(i)(I), substituted "the information presented in the request shows that there is a reasonable likelihood that the requester would prevail with respect to at least 1 of the claims challenged in the request," for "a substantial new question of patentability affecting any claim of the patent concerned is raised by the request," and "A showing that there is a reasonable likelihood that the requester would prevail with respect to at least 1 of the claims challenged in the request" for "The existence of a substantial new question of patentability".

Subsec. (c). Pub. L. 112–29, §6(c)(3)(A)(i)(II), substituted "the showing required by subsection (a)

has not been made," for "no substantial new question of patentability has been raised,".

2002—Pub. L. 107–273, §13202(c)(1), made technical correction to directory language of Pub. L. 106–113, which enacted this section.

Subsec. (a). Pub. L. 107–273, §13202(a)(2)(A), struck out second sentence which read as follows: "On the Director's initiative, and at any time, the Director may determine whether a substantial new question of patentability is raised by patents and publications."

Pub. L. 107–273, §13105(a), inserted at end "The existence of a substantial new question of patentability is not precluded by the fact that a patent or printed publication was previously cited by or to the Office or considered by the Office."

Subsec. (b). Pub. L. 107–273, §13202(a)(2)(B), struck out ", if any" after "third-party requester".

Effective Date of 2011 Amendment

Amendment by section 6(a) of Pub. L. 112–29 effective upon the expiration of the 1-year period beginning on Sept. 16, 2011, and applicable to any patent issued before, on, or after that effective date, with provisions for graduated implementation, see section 6(c)(2) of Pub. L. 112–29, set out as a note under section 311 of this title.

Pub. L. 112–29, §6(c)(3)(B), (C), Sept. 16, 2011, 125 Stat. 305, provided that:

"(B) Application.—The amendments made by this paragraph [amending this section and section 313 of this title]—

"(i) shall take effect on the date of the enactment of this Act [Sept. 16, 2011]; and

"(ii) shall apply to requests for inter partes reexamination that are filed on or after such date of enactment, but before the effective date set forth in paragraph (2)(A) of this subsection [set out as a note under section 311 of this title].

"(C) Continued applicability of prior provisions.—The provisions of chapter 31 of title 35, United States Code, as amended by this paragraph [amending this section and section 313 of this title], shall continue to apply to requests for inter partes reexamination that are filed before the effective date set forth in paragraph (2)(A) as if subsection (a) [enacting section 319 of this title and amending this section and sections 312 to 318 of this title] had not been enacted."

Effective Date of 2002 Amendment

Amendment by section 13105(a) of Pub. L. 107–273 applicable with respect to any determination of the Director of the United States Patent and Trademark Office that is made on or after Nov. 2, 2002, see section 13105(b) of Pub. L. 107–273, set out as a note under section 303 of this title.

§313. Preliminary response to petition

If an inter partes review petition is filed under section 311, the patent owner shall have the right to file a preliminary response to the petition, within a time period set by the Director, that sets forth reasons why no inter partes review should be instituted based upon the failure of the petition to meet any requirement of this chapter.

(Added Pub. L. 106–113, div. B, §1000(a)(9) [title IV, §4604(a)], Nov. 29, 1999, 113 Stat. 1536, 1501A–

568; amended Pub. L. 107–273, div. C, title III, §13202(c)(1), Nov. 2, 2002, 116 Stat. 1902; Pub. L. 112–29, §6(a), (c)(3)(A)(ii), Sept. 16, 2011, 125 Stat. 300, 305.)

Amendments

2011—Pub. L. 112–29, §6(c)(3)(A)(ii), which directed substitution of "it has been shown that there is a reasonable likelihood that the requester would prevail with respect to at least 1 of the claims challenged in the request" for "a substantial new question of patentability affecting a claim of the patent is raised", was executed by making the substitution for "a substantial new question of patentability affecting a claim of a patent is raised", to reflect the probable intent of Congress.

Pub. L. 112–29, §6(a), amended section generally. Prior to amendment, text read as follows: "If, in a determination made under section 312(a), the Director finds that it has been shown that there is a reasonable likelihood that the requester would prevail with respect to at least 1 of the claims challenged in the request, the determination shall include an order for inter partes reexamination of the patent for resolution of the question. The order may be accompanied by the initial action of the Patent and Trademark Office on the merits of the inter partes reexamination conducted in accordance with section 314."

2002—Pub. L. 107–273 made technical correction to directory language of Pub. L. 106–113, which enacted this section.

Effective Date of 2011 Amendment

Amendment by section 6(a) of Pub. L. 112–29 effective upon the expiration of the 1-year period beginning on Sept. 16, 2011, and applicable to any patent issued before, on, or after that effective date, with provisions for graduated implementation, see section 6(c)(2) of Pub. L. 112–29, set out as a note under section 311 of this title.

Amendment by section 6(c)(3)(A)(ii) of Pub. L. 112–29 effective Sept. 16, 2011, and applicable to requests for inter partes reexamination filed on or after Sept. 16, 2011, but before the effective date set forth in section 6(c)(2)(A) of Pub. L. 112–29, with continued applicability of prior provisions, see section 6(c)(3)(B), (C) of Pub. L. 112–29, set out as a note under section 312 of this title.

§314. Institution of inter partes review

(a) Threshold.—The Director may not authorize an inter partes review to be instituted unless the Director determines that the information presented in the petition filed under section 311 and any response filed under section 313 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.

(b) Timing.—The Director shall determine whether to institute an inter partes review under this chapter pursuant to a petition filed under section 311 within 3 months after—

(1) receiving a preliminary response to the petition under section 313; or

(2) if no such preliminary response is filed, the last date on which such response may be filed.

(c) Notice.—The Director shall notify the petitioner and patent owner, in writing, of the Director's determination under subsection (a), and shall make such notice available to the public as soon as is practicable. Such notice shall include the date on which the review shall commence.

(d) No Appeal.—The determination by the Director whether to institute an inter partes review under this section shall be final and nonappealable. (Added Pub. L. 106–113, div. B, §1000(a)(9) [title IV, §4604(a)], Nov. 29, 1999, 113 Stat. 1536, 1501A–568; amended Pub. L. 107–273, div. C, title III, §13202(a)(3), (c)(1), Nov. 2, 2002, 116 Stat. 1901, 1902; Pub. L. 112–29, §6(a), Sept. 16, 2011, 125 Stat. 300.)

Amendments

2011—Pub. L. 112–29 amended section generally. Prior to amendment, section related to conduct of inter partes reexamination proceedings.

2002—Pub. L. 107–273, §13202(c)(1), made technical correction to directory language of Pub. L. 106–113, which enacted this section.

Subsec. (b). Pub. L. 107–273, §13202(a)(3), redesignated par. (2) as (1), substituted "the Office shall send to the third-party requester a copy" for "the third-party requester shall receive a copy", redesignated par. (3) as (2), and struck out former par. (1) which read as follows: "This subsection shall apply to any inter partes reexamination proceeding in which the order for inter partes reexamination is based upon a request by a third-party requester."

Effective Date of 2011 Amendment

Amendment by Pub. L. 112–29 effective upon the expiration of the 1-year period beginning on Sept. 16, 2011, and applicable to any patent issued before, on, or after that effective date, with provisions for graduated implementation, see section 6(c)(2) of Pub. L. 112–29, set out as a note under section 311 of this title.

§315. Relation to other proceedings or actions

(a) Infringer's Civil Action.—

(1) Inter partes review barred by civil action.— An inter partes review may not be instituted if, before the date on which the petition for such a review is filed, the petitioner or real party in interest filed a civil action challenging the validity of a claim of the patent.

(2) Stay of civil action.—If the petitioner or real party in interest files a civil action challenging the validity of a claim of the patent on or after the date on which the petitioner files a petition for inter partes review of the patent, that civil action shall be automatically stayed until either—

(A) the patent owner moves the court to lift the stay;

(B) the patent owner files a civil action or counterclaim alleging that the petitioner or real party in interest has infringed the patent; or

(C) the petitioner or real party in interest moves the court to dismiss the civil action.

(3) Treatment of counterclaim.—A counterclaim challenging the validity of a claim of a patent does not constitute a civil action challenging the validity of a claim of a patent for purposes of this subsection.

(b) Patent Owner's Action.—An inter partes review may not be instituted if the petition requesting the proceeding is filed more than 1 year after the date on which the petitioner, real party in interest, or privy of the petitioner is served with a complaint alleging infringement of the patent. The time limitation set forth in the preceding sentence shall not apply to a request for joinder under subsection (c).

(c) Joinder.—If the Director institutes an inter partes review, the Director, in his or her discretion, may join as a party to that inter partes review any person who properly files a petition under section 311 that the Director, after receiving a preliminary response under section 313 or the expiration of the time for filing such a response, determines warrants the institution of an inter partes review under section 314.

(d) Multiple Proceedings.—Notwithstanding sections 135(a), 251, and 252, and chapter 30, during the pendency of an inter partes review, if another proceeding or matter involving the patent is before the Office, the Director may determine the manner in which the inter partes review or other proceeding or matter may proceed, including providing for stay, transfer, consolidation, or termination of any such matter or proceeding.

(e) Estoppel.—

(1) Proceedings before the office.—The petitioner in an inter partes review of a claim in a patent under this chapter that results in a final written decision under section 318(a), or the real party in interest or privy of the petitioner, may not request or maintain a proceeding before the Office with respect to that claim on any ground that the petitioner raised or

reasonably could have raised during that inter partes review.

(2) Civil actions and other proceedings.—The petitioner in an inter partes review of a claim in a patent under this chapter that results in a final written decision under section 318(a), or the real party in interest or privy of the petitioner, may not assert either in a civil action arising in whole or in part under section 1338 of title 28 or in a proceeding before the International Trade Commission under section 337 of the Tariff Act of 1930 that the claim is invalid on any ground that the petitioner raised or reasonably could have raised during that inter partes review.

(Added Pub. L. 106–113, div. B, §1000(a)(9) [title IV, §4604(a)], Nov. 29, 1999, 113 Stat. 1536, 1501A–569; amended Pub. L. 107–273, div. C, title III, §§13106(a), 13202(a)(4), (c)(1), Nov. 2, 2002, 116 Stat. 1900–1902; Pub. L. 112–29, §6(a), Sept. 16, 2011, 125 Stat. 300.)

References in Text

Section 337 of the Tariff Act of 1930, referred to in subsec. (e)(2), is classified to section 1337 of Title 19, Customs Duties.

Amendments

2011—Pub. L. 112–29 amended section generally. Prior to amendment, section related to appeals.

2002—Pub. L. 107–273, §13202(c)(1), made technical correction to directory language of Pub. L. 106–113, which enacted this section.

Subsec. (b). Pub. L. 107–273, §13106(a), reenacted heading without change and amended text generally. Prior to amendment, text read as follows: "A third-party requester may—

"(1) appeal under the provisions of section 134 with respect to any final decision favorable to the patentability of any original or proposed amended or new claim of the patent; or

"(2) be a party to any appeal taken by the patent owner under the provisions of section 134, subject to subsection (c)."

Subsec. (c). Pub. L. 107–273, §13202(a)(4), struck out "United States Code," after "title 28,".

Effective Date of 2011 Amendment

Amendment by Pub. L. 112–29 effective upon the expiration of the 1-year period beginning on Sept. 16, 2011, and applicable to any patent issued before, on, or after that effective date, with provisions for graduated implementation, see section 6(c)(2) of Pub. L. 112–29, set out as a note under section 311 of this title.

Effective Date of 2002 Amendment

Amendment by section 13106(a) of Pub. L. 107–273 applicable with respect to any reexamination proceeding commenced on or after Nov. 2, 2002, see section 13106(d) of Pub. L. 107–273, set out as a note under section 134 of this title.

Estoppel Effect of Reexamination

Pub. L. 106–113, div. B, §1000(a)(9) [title IV, subtitle F, §4607], Nov. 29, 1999, 113 Stat. 1536, 1501A–571, provided for estoppel from challenging certain facts determined during inter partes

reexamination under former section 311 of this title and contained a severability provision.

§316. Conduct of inter partes review

(a) Regulations.—The Director shall prescribe regulations—

(1) providing that the file of any proceeding under this chapter shall be made available to the public, except that any petition or document filed with the intent that it be sealed shall, if accompanied by a motion to seal, be treated as sealed pending the outcome of the ruling on the motion;

(2) setting forth the standards for the showing of sufficient grounds to institute a review under section 314(a);

(3) establishing procedures for the submission of supplemental information after the petition is filed;

(4) establishing and governing inter partes review under this chapter and the relationship of such review to other proceedings under this title;

(5) setting forth standards and procedures for discovery of relevant evidence, including that such discovery shall be limited to—

(A) the deposition of witnesses submitting affidavits or declarations; and

(B) what is otherwise necessary in the interest of justice;

(6) prescribing sanctions for abuse of discovery, abuse of process, or any other improper use of the proceeding, such as to harass or to cause unnecessary delay or an unnecessary increase in the cost of the proceeding;

(7) providing for protective orders governing the exchange and submission of confidential information;

(8) providing for the filing by the patent owner of a response to the petition under section 313 after an inter partes review has been instituted, and requiring that the patent owner file with such response, through affidavits or declarations, any additional factual evidence and expert opinions on which the patent owner relies in support of the response;

(9) setting forth standards and procedures for allowing the patent owner to move to amend the patent under subsection (d) to cancel a challenged claim or propose a reasonable number of substitute claims, and ensuring that any information submitted by the patent owner in support of any amendment entered under subsection (d) is made available to the public as part of the prosecution history of the patent;

(10) providing either party with the right to an oral hearing as part of the proceeding;

(11) requiring that the final determination in an inter partes review be issued not later than 1 year after the date on which the Director notices the institution of a review under this chapter, except that the Director may, for good cause shown, extend the 1-year period by not more than 6 months, and may adjust the time periods in this paragraph in the case of joinder under section 315(c);

(12) setting a time period for requesting joinder under section 315(c); and

(13) providing the petitioner with at least 1 opportunity to file written comments within a time period established by the Director.

(b) Considerations.—In prescribing regulations under this section, the Director shall consider the effect of any such regulation on the economy, the integrity of the patent system, the efficient administration of the Office, and the ability of the Office to timely complete proceedings instituted under this chapter.

(c) Patent Trial and Appeal Board.—The Patent Trial and Appeal Board shall, in accordance with section 6, conduct each inter partes review instituted under this chapter.

(d) Amendment of the Patent.—

(1) In general.—During an inter partes review instituted under this chapter, the patent owner may file 1 motion to amend the patent in 1 or more of the following ways:

(A) Cancel any challenged patent claim.

(B) For each challenged claim, propose a reasonable number of substitute claims.

(2) Additional motions.—Additional motions to amend may be permitted upon the joint request of the petitioner and the patent owner to materially advance the settlement of a proceeding under section 317, or as permitted by regulations prescribed by the Director.

(3) Scope of claims.—An amendment under this subsection may not enlarge the scope of the claims of the patent or introduce new matter.

(e) Evidentiary Standards.—In an inter partes review instituted under this chapter, the petitioner shall have the burden of proving a proposition of unpatentability by a preponderance of the evidence.

(Added Pub. L. 106–113, div. B, §1000(a)(9) [title IV, §4604(a)], Nov. 29, 1999, 113 Stat. 1536, 1501A– 569; amended Pub. L. 107–273, div. C, title III,

§13202(c)(1), Nov. 2, 2002, 116 Stat. 1902; Pub. L. 112–29, §6(a), Sept. 16, 2011, 125 Stat. 302.)

Amendments

2011—Pub. L. 112–29 amended section generally. Prior to amendment, section related to certificate of patentability, unpatentability, and claim cancellation.

2002—Pub. L. 107–273 made technical correction to directory language of Pub. L. 106–113, which enacted this section.

Effective Date of 2011 Amendment

Amendment by Pub. L. 112–29 effective upon the expiration of the 1-year period beginning on Sept. 16, 2011, and applicable to any patent issued before, on, or after that effective date, with provisions for graduated implementation, see section 6(c)(2) of Pub. L. 112–29, set out as a note under section 311 of this title

§317. Settlement

(a) In General.—An inter partes review instituted under this chapter shall be terminated with respect to any petitioner upon the joint request of the petitioner and the patent owner, unless the Office has decided the merits of the proceeding before the request for termination is filed. If the inter partes review is terminated with respect to a petitioner under this section, no estoppel under section 315(e) shall attach to the petitioner, or to the real party in interest or privy of the petitioner, on the basis of that petitioner's institution of that inter partes review. If no petitioner remains in the inter

partes review, the Office may terminate the review or proceed to a final written decision under section 318(a).

(b) Agreements in Writing.—Any agreement or understanding between the patent owner and a petitioner, including any collateral agreements referred to in such agreement or understanding, made in connection with, or in contemplation of, the termination of an inter partes review under this section shall be in writing and a true copy of such agreement or understanding shall be filed in the Office before the termination of the inter partes review as between the parties. At the request of a party to the proceeding, the agreement or understanding shall be treated as business confidential information, shall be kept separate from the file of the involved patents, and shall be made available only to Federal Government agencies on written request, or to any person on a showing of good cause.

(Added Pub. L. 106–113, div. B, §1000(a)(9) [title IV, §4604(a)], Nov. 29, 1999, 113 Stat. 1536, 1501A–570; amended Pub. L. 107–273, div. C, title III, §13202(a)(5), (c)(1), Nov. 2, 2002, 116 Stat. 1901, 1902; Pub. L. 112–29, §6(a), Sept. 16, 2011, 125 Stat. 303.)

Amendments

2011—Pub. L. 112–29 amended section generally. Prior to amendment, section related to restriction on subsequent request for inter partes reexamination.

2002—Pub. L. 107–273, §13202(c)(1), made technical correction to directory language of Pub. L. 106–113, which enacted this section.

Subsec. (a). Pub. L. 107–273, §13202(a)(5)(A), substituted "third-party requester nor its privies" for "patent owner nor the third-party requester, if any, nor privies of either".

Subsec. (b). Pub. L. 107–273, §13202(a)(5)(B), struck out "United States Code," after "title 28,".

Effective Date of 2011 Amendment

Amendment by Pub. L. 112–29 effective upon the expiration of the 1-year period beginning on Sept. 16, 2011, and applicable to any patent issued before, on, or after that effective date, with provisions for graduated implementation, see section 6(c)(2) of Pub. L. 112–29, set out as a note under section 311 of this title.

§318. Decision of the Board

(a) Final Written Decision.—If an inter partes review is instituted and not dismissed under this chapter, the Patent Trial and Appeal Board shall issue a final written decision with respect to the patentability of any patent claim challenged by the petitioner and any new claim added under section 316(d).

(b) Certificate.—If the Patent Trial and Appeal Board issues a final written decision under subsection (a) and the time for appeal has expired or any appeal has terminated, the Director shall issue and publish a certificate canceling any claim of the patent finally determined to be unpatentable, confirming any claim of the patent determined to be patentable, and incorporating in the patent by operation of the certificate any new or amended claim determined to be patentable.

(c) Intervening Rights.—Any proposed amended or new claim determined to be patentable and incorporated into a patent following an inter partes review under this chapter shall have the same effect as that specified in section 252 for reissued patents on the right of any person who made, purchased, or used within the United States, or imported into the United States, anything patented by such proposed amended or new claim, or who made substantial preparation therefor, before the issuance of a certificate under subsection (b).

(d) Data on Length of Review.—The Office shall make available to the public data describing the length of time between the institution of, and the issuance of a final written decision under subsection

(a) for, each inter partes review.

(Added Pub. L. 106–113, div. B, §1000(a)(9) [title IV, §4604(a)], Nov. 29, 1999, 113 Stat. 1536, 1501A– 570; amended Pub. L. 107–273, div. C, title III, §13202(c)(1), Nov. 2, 2002, 116 Stat. 1902; Pub. L. 112–29, §6(a), Sept. 16, 2011, 125 Stat. 303.)

Amendments

2011—Pub. L. 112–29 amended section generally. Prior to amendment, text read as follows: "Once an order for inter partes reexamination of a patent has been issued under section 313, the patent owner may obtain a stay of any pending litigation which involves an issue of patentability of any claims of the patent which are the subject of the inter partes reexamination order, unless the court before which such litigation is pending determines that a stay would not serve the interests of justice."

2002—Pub. L. 107–273 made technical correction to directory language of Pub. L. 106–113, which enacted this section.

Effective Date of 2011 Amendment

Amendment by Pub. L. 112–29 effective upon the expiration of the 1-year period beginning on Sept. 16, 2011, and applicable to any patent issued before, on, or after that effective date, with provisions for graduated implementation, see section 6(c)(2) of Pub. L. 112–29, set out as a note under section 311 of this title.

§319. Appeal

A party dissatisfied with the final written decision of the Patent Trial and Appeal Board under section 318(a) may appeal the decision pursuant to sections 141 through 144. Any party to the inter partes review shall have the right to be a party to the appeal.

(Added Pub. L. 112–29, §6(a), Sept. 16, 2011, 125 Stat. 304.)

Effective Date

Section effective upon the expiration of the 1-year period beginning on Sept. 16, 2011, and applicable to any patent issued before, on, or after that effective date, with provisions for graduated implementation, see section 6(c)(2) of Pub. L. 112–29, set out as an Effective Date of 2011 Amendment note under section 311 of this title.

CHAPTER 32 – POST GRANT REVIEW

§321. Post-grant review

(a) In General.—Subject to the provisions of this chapter, a person who is not the owner of a patent may file with the Office a petition to institute a post-grant review of the patent. The Director shall establish, by regulation, fees to be paid by the person requesting the review, in such amounts as the Director determines to be reasonable, considering the aggregate costs of the post-grant review.

(b) Scope.—A petitioner in a post-grant review may request to cancel as unpatentable 1 or more claims of a patent on any ground that could be raised under paragraph (2) or (3) of section 282(b) (relating to invalidity of the patent or any claim).

(c) Filing Deadline.—A petition for a post-grant review may only be filed not later than the date that is 9 months after the date of the grant of the patent or of the issuance of a reissue patent (as the case may be).

(Added Pub. L. 112–29, §6(d), Sept. 16, 2011, 125 Stat. 306.)

Effective Date

Pub. L. 112–29, §6(f)(2), (3), Sept. 16, 2011, 125 Stat. 311, provided that:

"(2) Applicability.—

"(A) In general.—The amendments made by subsection (d) [enacting this chapter] shall take effect upon the expiration of the 1-year period beginning on the date of the enactment of this Act [Sept. 16, 2011] and, except as provided in section 18 [set out as a note below] and in paragraph (3), shall apply only to patents described in section 3(n)(1) [set

out as an Effective Date of 2011 Amendment; Savings Provisions note under section 100 of this title].

"(B) Limitation.—The Director [Under Secretary of Commerce for Intellectual Property and Director of the United States Patent and Trademark Office] may impose a limit on the number of post-grant reviews that may be instituted under chapter 32 of title 35, United States Code, during each of the first 4 1-year periods in which the amendments made by subsection (d) are in effect.

"(3) Pending interferences.—

"(A) Procedures in general.—The Director shall determine, and include in the regulations issued under paragraph (1) [set out as a note below], the procedures under which an interference commenced before the effective date set forth in paragraph (2)(A) is to proceed, including whether such interference—

"(i) is to be dismissed without prejudice to the filing of a petition for a post-grant review under chapter 32 of title 35, United States Code; or

"(ii) is to proceed as if this Act [see Short Title of 2011 Amendment note set out under section 1 of this title] had not been enacted.

"(B) Proceedings by patent trial and appeal board.—For purposes of an interference that is commenced before the effective date set forth in paragraph (2)(A), the Director may deem the Patent Trial and Appeal Board to be the Board of Patent Appeals and Interferences, and may allow the Patent Trial and Appeal Board to conduct any further proceedings in that interference.

"(C) Appeals.—The authorization to appeal or have remedy from derivation proceedings in sections 141(d) and 146 of title 35, United States Code, as

amended by this Act, and the jurisdiction to entertain appeals from derivation proceedings in section 1295(a)(4)(A) of title 28, United States Code, as amended by this Act, shall be deemed to extend to any final decision in an interference that is commenced before the effective date set forth in paragraph (2)(A) of this subsection and that is not dismissed pursuant to this paragraph."

Regulations

Pub. L. 112–29, §6(f)(1), Sept. 16, 2011, 125 Stat. 311, provided that: "The Director [Under Secretary of Commerce for Intellectual Property and Director of the United States Patent and Trademark Office] shall, not later than the date that is 1 year after the date of the enactment of this Act [Sept. 16, 2011], issue regulations to carry out chapter 32 of title 35, United States Code, as added by subsection (d) of this section."

Transitional Program for Covered Business Method Patents

Pub. L. 112–29, §18, Sept. 16, 2011, 125 Stat. 329, as amended by Pub. L. 112–274, §1(b), Jan. 14, 2013, 126 Stat. 2456, provided that:

"(a) Transitional Program.—

"(1) Establishment.—Not later than the date that is 1 year after the date of the enactment of this Act [Sept. 16, 2011], the Director [Under Secretary of Commerce for Intellectual Property and Director of the United States Patent and Trademark Office] shall issue regulations establishing and implementing a transitional post-grant review proceeding for review of the validity of covered business method patents. The transitional

proceeding implemented pursuant to this subsection shall be regarded as, and shall employ the standards and procedures of, a post-grant review under chapter 32 of title 35, United States Code, subject to the following:

"(A) Section 321(c) of title 35, United States Code, and subsections (b), (e)(2), and (f) of section 325 of such title shall not apply to a transitional proceeding.

"(B) A person may not file a petition for a transitional proceeding with respect to a covered business method patent unless the person or the person's real party in interest or privy has been sued for infringement of the patent or has been charged with infringement under that patent.

"(C) A petitioner in a transitional proceeding who challenges the validity of 1 or more claims in a covered business method patent on a ground raised under section 102 or 103 of title 35, United States Code, as in effect on the day before the effective date set forth in section 3(n)(1) [set out as an Effective Date of 2011 Amendment; Savings Provisions note under section 100 of this title], may support such ground only on the basis of—

"(i) prior art that is described by section 102(a) of such title (as in effect on the day before such effective date); or

"(ii) prior art that—

"(I) discloses the invention more than 1 year before the date of the application for patent in the United States; and

"(II) would be described by section 102(a) of such title (as in effect on the day before the effective date set forth in section 3(n)(1)) if the disclosure had been

made by another before the invention thereof by the applicant for patent.

"(D) The petitioner in a transitional proceeding that results in a final written decision under section 328(a) of title 35, United States Code, with respect to a claim in a covered business method patent, or the petitioner's real party in interest, may not assert, either in a civil action arising in whole or in part under section 1338 of title 28, United States Code, or in a proceeding before the International Trade Commission under section 337 of the Tariff Act of 1930 (19 U.S.C. 1337), that the claim is invalid on any ground that the petitioner raised during that transitional proceeding.

"(E) The Director may institute a transitional proceeding only for a patent that is a covered business method patent.

"(2) Effective date.—The regulations issued under paragraph (1) shall take effect upon the expiration of the 1-year period beginning on the date of the enactment of this Act [Sept. 16, 2011] and shall apply to any covered business method patent issued before, on, or after that effective date, except that the regulations shall not apply to a patent described in section 6(f)(2)(A) of this Act [set out as a note above] during the period in which a petition for post-grant review of that patent would satisfy the requirements of section 321(c) of title 35, United States Code.

"(3) Sunset.—

"(A) In general.—This subsection, and the regulations issued under this subsection, are repealed effective upon the expiration of the 8-year period beginning on the date that the regulations issued under to [sic] paragraph (1) take effect

[Regulations effective Sept. 16, 2012, see 77 F.R. 48680.].

"(B) Applicability.—Notwithstanding subparagraph (A), this subsection and the regulations issued under this subsection shall continue to apply, after the date of the repeal under subparagraph (A), to any petition for a transitional proceeding that is filed before the date of such repeal.

"(b) Request for Stay.—

"(1) In general.—If a party seeks a stay of a civil action alleging infringement of a patent under section 281 of title 35, United States Code, relating to a transitional proceeding for that patent, the court shall decide whether to enter a stay based on—

"(A) whether a stay, or the denial thereof, will simplify the issues in question and streamline the trial;

"(B) whether discovery is complete and whether a trial date has been set;

"(C) whether a stay, or the denial thereof, would unduly prejudice the nonmoving party or present a clear tactical advantage for the moving party; and

"(D) whether a stay, or the denial thereof, will reduce the burden of litigation on the parties and on the court.

"(2) Review.—A party may take an immediate interlocutory appeal from a district court's decision under paragraph (1). The United States Court of Appeals for the Federal Circuit shall review the district court's decision to ensure consistent application of established precedent, and such review may be de novo.

"(c) ATM Exemption for Venue Purposes.—In an action for infringement under section 281 of title 35,

United States Code, of a covered business method patent, an automated teller machine shall not be deemed to be a regular and established place of business for purposes of section 1400(b) of title 28, United States Code.

"(d) Definition.—

"(1) In general.—For purposes of this section, the term 'covered business method patent' means a patent that claims a method or corresponding apparatus for performing data processing or other operations used in the practice, administration, or management of a financial product or service, except that the term does not include patents for technological inventions.

"(2) Regulations.—To assist in implementing the transitional proceeding authorized by this section, the Director shall issue regulations for determining whether a patent is for a technological invention.

"(e) Rule of Construction.—Nothing in this section shall be construed as amending or interpreting categories of patent-eligible subject matter set forth under section 101 of title 35, United States Code."

§322. Petitions

(a) Requirements of Petition.—A petition filed under section 321 may be considered only if—

(1) the petition is accompanied by payment of the fee established by the Director under section 321;

(2) the petition identifies all real parties in interest;

(3) 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, including—

(A) copies of patents and printed publications that the petitioner relies upon in support of the petition; and

(B) affidavits or declarations of supporting evidence and opinions, if the petitioner relies on other factual evidence or on expert opinions;

(4) the petition provides such other information as the Director may require by regulation; and

(5) the petitioner provides copies of any of the documents required under paragraphs (2), (3), and (4) to the patent owner or, if applicable, the designated representative of the patent owner.

(b) Public Availability.—As soon as practicable after the receipt of a petition under section 321, the Director shall make the petition available to the public.

(Added Pub. L. 112–29, §6(d), Sept. 16, 2011, 125 Stat. 306.)

Effective Date

Section effective upon the expiration of the 1-year period beginning Sept. 16, 2011, and applicable only to patents described in section 3(n)(1) of Pub. L. 112–29 (35 U.S.C. 100 note), with certain exceptions and limitations, see section 6(f)(2), (3) of Pub. L. 112–29, set out as a note under section 321 of this title

§323. Preliminary response to petition

If a post-grant review petition is filed under section 321, the patent owner shall have the right to file a preliminary response to the petition, within a

time period set by the Director, that sets forth reasons why no post-grant review should be instituted based upon the failure of the petition to meet any requirement of this chapter.

(Added Pub. L. 112–29, §6(d), Sept. 16, 2011, 125 Stat. 306.)

Effective Date

Section effective upon the expiration of the 1-year period beginning Sept. 16, 2011, and applicable only to patents described in section 3(n)(1) of Pub. L. 112–29 (35 U.S.C. 100 note), with certain exceptions and limitations, see section 6(f)(2), (3) of Pub. L. 112–29, set out as a note under section 321 of this title.

§324. Institution of post-grant review

(a) Threshold.—The Director may not authorize a post-grant review to be instituted unless the Director determines that the information presented in the petition filed under section 321, if such information is not rebutted, would demonstrate that it is more likely than not that at least 1 of the claims challenged in the petition is unpatentable.

(b) Additional Grounds.—The determination required under subsection (a) may also be satisfied by a showing that the petition raises a novel or unsettled legal question that is important to other patents or patent applications.

(c) Timing.—The Director shall determine whether to institute a post-grant review under this chapter pursuant to a petition filed under section 321 within 3 months after—

(1) receiving a preliminary response to the petition under section 323; or

(2) if no such preliminary response is filed, the last date on which such response may be filed.

(d) Notice.—The Director shall notify the petitioner and patent owner, in writing, of the Director's determination under subsection (a) or (b), and shall make such notice available to the public as soon as is practicable. Such notice shall include the date on which the review shall commence.

(e) No Appeal.—The determination by the Director whether to institute a post-grant review under this section shall be final and nonappealable.

(Added Pub. L. 112–29, §6(d), Sept. 16, 2011, 125 Stat. 306.)

Effective Date

Section effective upon the expiration of the 1-year period beginning Sept. 16, 2011, and applicable only to patents described in section 3(n)(1) of Pub. L. 112–29 (35 U.S.C. 100 note), with certain exceptions and limitations, see section 6(f)(2), (3) of Pub. L. 112–29, set out as a note under section 321 of this title.

§325. Relation to other proceedings or actions

(a) Infringer's Civil Action.—

(1) Post-grant review barred by civil action.—A post-grant review may not be instituted under this chapter if, before the date on which the petition for such a review is filed, the petitioner or real party in interest filed a civil action challenging the validity of a claim of the patent.

(2) Stay of civil action.—If the petitioner or real party in interest files a civil action challenging the validity of a claim of the patent on or after the date on which the petitioner files a petition for post-grant review of the patent, that civil action shall be automatically stayed until either—

(A) the patent owner moves the court to lift the stay;

(B) the patent owner files a civil action or counterclaim alleging that the petitioner or real party in interest has infringed the patent; or

(C) the petitioner or real party in interest moves the court to dismiss the civil action.

(3) Treatment of counterclaim.—A counterclaim challenging the validity of a claim of a patent does not constitute a civil action challenging the validity of a claim of a patent for purposes of this subsection.

(b) Preliminary Injunctions.—If a civil action alleging infringement of a patent is filed within 3 months after the date on which the patent is granted, the court may not stay its consideration of the patent owner's motion for a preliminary injunction against infringement of the patent on the basis that a petition for post-grant review has been filed under this chapter or that such a post-grant review has been instituted under this chapter.

(c) Joinder.—If more than 1 petition for a post-grant review under this chapter is properly filed against the same patent and the Director determines that more than 1 of these petitions warrants the institution of a post-grant review under section 324, the Director may consolidate such reviews into a single post-grant review.

(d) Multiple Proceedings.—Notwithstanding sections 135(a), 251, and 252, and chapter 30, during

the pendency of any post-grant review under this chapter, if another proceeding or matter involving the patent is before the Office, the Director may determine the manner in which the post-grant review or other proceeding or matter may proceed, including providing for the stay, transfer, consolidation, or termination of any such matter or proceeding. In determining whether to institute or order a proceeding under this chapter, chapter 30, or chapter 31, the Director may take into account whether, and reject the petition or request because, the same or substantially the same prior art or arguments previously were presented to the Office.

(e) Estoppel.—

(1) Proceedings before the office.—The petitioner in a post-grant review of a claim in a patent under this chapter that results in a final written decision under section 328(a), or the real party in interest or privy of the petitioner, may not request or maintain a proceeding before the Office with respect to that claim on any ground that the petitioner raised or reasonably could have raised during that post-grant review.

(2) Civil actions and other proceedings.—The petitioner in a post-grant review of a claim in a patent under this chapter that results in a final written decision under section 328(a), or the real party in interest or privy of the petitioner, may not assert either in a civil action arising in whole or in part under section 1338 of title 28 or in a proceeding before the International Trade Commission under section 337 of the Tariff Act of 1930 that the claim is invalid on any ground that the petitioner raised or reasonably could have raised during that post-grant review.

(f) Reissue Patents.—A post-grant review may not be instituted under this chapter if the petition requests cancellation of a claim in a reissue patent that is identical to or narrower than a claim in the original patent from which the reissue patent was issued, and the time limitations in section 321(c) would bar filing a petition for a post-grant review for such original patent.

(Added Pub. L. 112–29, §6(d), Sept. 16, 2011, 125 Stat. 307.)

References in Text

Section 337 of the Tariff Act of 1930, referred to in subsec. (e)(2), is classified to section 1337 of Title 19, Customs Duties.

Effective Date

Section effective upon the expiration of the 1-year period beginning Sept. 16, 2011, and applicable only to patents described in section 3(n)(1) of Pub. L. 112–29 (35 U.S.C. 100 note), with certain exceptions and limitations, see section 6(f)(2), (3) of Pub. L. 112–29, set out as a note under section 321 of this title.

§326. Conduct of post-grant review

(a) Regulations.—The Director shall prescribe regulations—

(1) providing that the file of any proceeding under this chapter shall be made available to the public, except that any petition or document filed with the intent that it be sealed shall, if accompanied by a motion to seal, be treated as

sealed pending the outcome of the ruling on the motion;

(2) setting forth the standards for the showing of sufficient grounds to institute a review under subsections (a) and (b) of section 324;

(3) establishing procedures for the submission of supplemental information after the petition is filed;

(4) establishing and governing a post-grant review under this chapter and the relationship of such review to other proceedings under this title;

(5) setting forth standards and procedures for discovery of relevant evidence, including that such discovery shall be limited to evidence directly related to factual assertions advanced by either party in the proceeding;

(6) prescribing sanctions for abuse of discovery, abuse of process, or any other improper use of the proceeding, such as to harass or to cause unnecessary delay or an unnecessary increase in the cost of the proceeding;

(7) providing for protective orders governing the exchange and submission of confidential information;

(8) providing for the filing by the patent owner of a response to the petition under section 323 after a post-grant review has been instituted, and requiring that the patent owner file with such response, through affidavits or declarations, any additional factual evidence and expert opinions on which the patent owner relies in support of the response;

(9) setting forth standards and procedures for allowing the patent owner to move to amend the patent under subsection (d) to cancel a challenged claim or propose a reasonable number of substitute claims, and ensuring that any information submitted

by the patent owner in support of any amendment entered under subsection (d) is made available to the public as part of the prosecution history of the patent;

(10) providing either party with the right to an oral hearing as part of the proceeding;

(11) requiring that the final determination in any post-grant review be issued not later than 1 year after the date on which the Director notices the institution of a proceeding under this chapter, except that the Director may, for good cause shown, extend the 1-year period by not more than 6 months, and may adjust the time periods in this paragraph in the case of joinder under section 325(c); and

(12) providing the petitioner with at least 1 opportunity to file written comments within a time period established by the Director.

(b) Considerations.—In prescribing regulations under this section, the Director shall consider the effect of any such regulation on the economy, the integrity of the patent system, the efficient administration of the Office, and the ability of the Office to timely complete proceedings instituted under this chapter.

(c) Patent Trial and Appeal Board.—The Patent Trial and Appeal Board shall, in accordance with section 6, conduct each post-grant review instituted under this chapter.

(d) Amendment of the Patent.—

(1) In general.—During a post-grant review instituted under this chapter, the patent owner may file 1 motion to amend the patent in 1 or more of the following ways:

(A) Cancel any challenged patent claim.

(B) For each challenged claim, propose a reasonable number of substitute claims.

(2) Additional motions.—Additional motions to amend may be permitted upon the joint request of the petitioner and the patent owner to materially advance the settlement of a proceeding under section 327, or upon the request of the patent owner for good cause shown.

(3) Scope of claims.—An amendment under this subsection may not enlarge the scope of the claims of the patent or introduce new matter.

(e) Evidentiary Standards.—In a post-grant review instituted under this chapter, the petitioner shall have the burden of proving a proposition of unpatentability by a preponderance of the evidence.

(Added Pub. L. 112–29, §6(d), Sept. 16, 2011, 125 Stat. 308.)

Effective Date

Section effective upon the expiration of the 1-year period beginning Sept. 16, 2011, and applicable only to patents described in section 3(n)(1) of Pub. L. 112–29 (35 U.S.C. 100 note), with certain exceptions and limitations, see section 6(f)(2), (3) of Pub. L. 112–29, set out as a note under section 321 of this title.

§327. Settlement

(a) In General.—A post-grant review instituted under this chapter shall be terminated with respect to any petitioner upon the joint request of the petitioner and the patent owner, unless the Office has decided the merits of the proceeding before the request for termination is filed. If the post-grant

review is terminated with respect to a petitioner under this section, no estoppel under section 325(e) shall attach to the petitioner, or to the real party in interest or privy of the petitioner, on the basis of that petitioner's institution of that post-grant review. If no petitioner remains in the post-grant review, the Office may terminate the post-grant review or proceed to a final written decision under section 328(a).

(b) Agreements in Writing.—Any agreement or understanding between the patent owner and a petitioner, including any collateral agreements referred to in such agreement or understanding, made in connection with, or in contemplation of, the termination of a post-grant review under this section shall be in writing, and a true copy of such agreement or understanding shall be filed in the Office before the termination of the post-grant review as between the parties. At the request of a party to the proceeding, the agreement or understanding shall be treated as business confidential information, shall be kept separate from the file of the involved patents, and shall be made available only to Federal Government agencies on written request, or to any person on a showing of good cause.

(Added Pub. L. 112–29, §6(d), Sept. 16, 2011, 125 Stat. 310.)

Effective Date

Section effective upon the expiration of the 1-year period beginning Sept. 16, 2011, and applicable only to patents described in section 3(n)(1) of Pub. L. 112–29 (35 U.S.C. 100 note), with certain exceptions and limitations, see section 6(f)(2), (3) of Pub. L.

112–29, set out as a note under section 321 of this title.

§328. Decision of the Board

(a) Final Written Decision.—If a post-grant review is instituted and not dismissed under this chapter, the Patent Trial and Appeal Board shall issue a final written decision with respect to the patentability of any patent claim challenged by the petitioner and any new claim added under section 326(d).

(b) Certificate.—If the Patent Trial and Appeal Board issues a final written decision under subsection (a) and the time for appeal has expired or any appeal has terminated, the Director shall issue and publish a certificate canceling any claim of the patent finally determined to be unpatentable, confirming any claim of the patent determined to be patentable, and incorporating in the patent by operation of the certificate any new or amended claim determined to be patentable.

(c) Intervening Rights.—Any proposed amended or new claim determined to be patentable and incorporated into a patent following a post-grant review under this chapter shall have the same effect as that specified in section 252 for reissued patents on the right of any person who made, purchased, or used within the United States, or imported into the United States, anything patented by such proposed amended or new claim, or who made substantial preparation therefor, before the issuance of a certificate under subsection (b).

(d) Data on Length of Review.—The Office shall make available to the public data describing the

length of time between the institution of, and the issuance of a final written decision under subsection (a) for, each post-grant review.

(Added and amended Pub. L. 112–29, §§6(d), 20(j), Sept. 16, 2011, 125 Stat. 310, 335.)

Amendments

2011—Subsec. (c). Pub. L. 112–29, §20(j), struck out "of this title" after "252".

Effective Date of 2011 Amendment

Amendment by section 20(j) of Pub. L. 112–29 effective upon the expiration of the 1-year period beginning on Sept. 16, 2011, and applicable to proceedings commenced on or after that effective date, see section 20(l) of Pub. L. 112–29, set out as a note under section 2 of this title.

Effective Date

Section effective upon the expiration of the 1-year period beginning Sept. 16, 2011, and applicable only to patents described in section 3(n)(1) of Pub. L. 112–29 (35 U.S.C. 100 note), with certain exceptions and limitations, see section 6(f)(2), (3) of Pub. L. 112–29, set out as a note under section 321 of this title.

§329. Appeal

A party dissatisfied with the final written decision of the Patent Trial and Appeal Board under section 328(a) may appeal the decision pursuant to sections 141 through 144. Any party to the post-grant review shall have the right to be a party to the appeal.

(Added Pub. L. 112–29, §6(d), Sept. 16, 2011, 125 Stat. 311.)

Effective Date

Section effective upon the expiration of the 1-year period beginning Sept. 16, 2011, and applicable only to patents described in section 3(n)(1) of Pub. L. 112–29 (35 U.S.C. 100 note), with certain exceptions and limitations, see section 6(f)(2), (3) of Pub. L. 112–29, set out as a note under section 321 of this title.