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Paper 8
Entered: November 1, 2022

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

DOCUSIGN, INC.,
Petitioner,

v.

PAUL C. CLARK,
Patent Owner.

IPR2022-00923
Patent 8,695,066 B2

Before NABEEL U. KHAN, JASON W. MELVIN, and MICHAEL T. CYGAN, *Administrative Patent Judges*.

CYGAN, Administrative Patent Judge.

DECISION
Granting Institution of *Inter Partes* Review
35 U.S.C. § 314

I. BACKGROUND

A. Background and Summary

Docusign, Inc. ("Petitioner") filed a Petition for *inter partes* review ("IPR") of claim 1 of U.S. Patent No. 8,695,066 B2 (Ex. 1001, "the '066 patent"). Paper 1 ("Pet."). Paul C. Clark ("Patent Owner"), filed a Preliminary Response. Paper 5 ("Prelim. Resp."). Institution of an *inter partes* review is authorized by statute when "the information presented in the petition . . . and any response . . . shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition." 35 U.S.C. § 314(a) (2018).

Having considered the Petition and the Preliminary Response, we conclude that the information presented in the Petition establishes that there is a reasonable likelihood that Petitioner would prevail in challenging claim 1 of the '066 patent as unpatentable under 35 U.S.C. § 103(a). Pursuant to § 314, we institute an *inter partes* review as to claim 1 of the '066 patent on all grounds raised in the Petition.

B. Real Party in Interest

Petitioner identifies Docusign, Inc. as the sole real party in interest to this IPR petition. Pet. 1. Patent Owner identifies Paul C. Clark as a real party in interest. Paper 4, 1.

C. Related Matters

The parties indicate that the '066 patent is involved in *Paul C. Clark v. DocuSign, Inc,* No. 21-cv-01007 (D.D.C), and *DocuSign v. Paul C. Clark,* No. 21-CV-04785 (N.D. Cal.). Paper 4, 1. In addition, there are two inter partes review proceedings filed by Petitioner, IPR 2022-00924 relating to

U.S. Patent No. 9,391,957, and IPR 2022-00925 relating to U.S. Patent No. 10,129,214. *Id.*

D. The '066 Patent

The '066 patent (Ex. 1001) generally relates to providing "high assurance security services to network applications" through services "placed in front of existing applications without modification to the original interface or back-end data processing." Ex. 1001, 1:62–66. The claimed invention provides secure communication between first and second domains through a logical system having first and second logical units. *Id.* at 2:26–28. The first logical unit receives data from the node of the first domain and translates the data to a target protocol. *Id.* at 2:26–30. An example of a logical unit that translates client/server transactions to or from target or source protocols is a protocol gateway, which may be connected to an X.25 network. *Id.* at 4:60–63. The protocol gateway may calculate and insert timestamps, "used to prevent replay and repudiation," and hashes. *Id.* at 10:45–47. The second logical unit receives and filters the translated data. *Id.* at 2:30–34. For example, a second logical unit such as a firewall may receive enhanced data from the protocol gateway, filter the enhanced data, and pass it to a cryptographic gateway. *Id.* at 4:45–46, 5:65–6:2. A third logical unit transmits the filtered data to a node of the second domain. *Id.* at 2:34–36.

A security client, which may be deployed as hardware, software, or firmware, provides a combination of authentication, integrity, confidentiality, and non-repudiation services. *Id.* at 4:21–28. The services are provided in an "algorithm and mechanism independent fashion." *Id.* at 4:31–33. The security client "is preferably designed to interact with

existing user interface applications and apply enhancement services in a manner known to those of skill in the art." *Id.* at 4:43–45.

E. Challenged Claim

Petitioner challenges claim 1 of the '066 patent, reproduced below (with bracketed identifying labels added):

> 1. [1.0] A method for secure communication between first and second domains comprising:
>
> [1.1] In a first logical unit:
>
> [1.2] periodically calculating timestamps and hashes;
>
> [1.3] transmitting a web form to a node of a first domain responsive to a request where the web form is displayed to a user;
>
> [1.4] receiving data input to said web form by the user;
>
> [1.5] enhancing the data by adding one or more security services;
>
> [1.6] translating the received data from a first network application level protocol to a target network application level protocol while preserving said data security enhancements;
>
> [1.7] transmitting the translated data across a public network;
>
> [1.8] in a second logical unit:
>
> [1.9] de-enhancing the translated data;
>
> [1.10] filtering the translated data to block unauthorized transmissions;
>
> [1.11] authorizing the filtered data and transmitting the filtered data to a node of the second domain for use in an application;
>
> [1.12] whereby the one or more security services are added without apparent modification of the application.

Ex. 1001, 14:6–29.

F. Prior Art Relied Upon

1. *Overview*

Petitioner relies upon the prior art references listed below. Pet. 3.

U.S. Patent No. 6,163,844 to Duncan *et al.* ("Duncan"), filed March 6, 1998, and issued on December 19, 2000 (Ex. 1004);

German Patent No. DE 19645006 A1 to Grosser ("Grosser"), filed October 31, 1996, and published on May 7, 1998 (Ex. 1005).

Transmission Control Protocol, DARPA Internet Program Protocol Specification ("RFC 793"), dated September 1981 (Ex. 1006).

TCP Extensions for High Performance ("RFC 1323"), dated May 1992 (Ex. 1007).

2. *Grosser*

Accompanying the Grosser translation filed with the Petition is a declaration by Fernando Castaneda ("Castaneda Declaration"). The Castenada Declaration states,

> In April 2022, I reviewed the English translation of the German language document entitled, "German Patent Application No. DE 19645006A 1," filed on October 31, 1996 and published on May 7, 1998. The German language version of the document is attached as Exhibit A. The English translation of the document, together with the Translation Certificate I provided as part of my translation, is attached as Exhibit B.

Ex. 1005, 18. No Exhibit B appears in Exhibit 1005 or in Petitioner's other submissions.

Patent Owner argues that Petitioner has not complied with 37 C.F.R. § 42.63(b). Prelim. Resp. 20. In particular, Patent Owner argues that the Castenada Declaration does not attest to the accuracy of the translation, and does not state how the translation is done, and lacks a "Translation Certificate" that was stated to be attached to the declaration. *Id.* at 22. Patent Owner argues that Petitioner has therefore not made a threshold showing required under § 42.63(b). *Id.* (citing *Ctc Global Corporation v. Ts*

Conductor Corp., PGR2022-00002, Paper 8 at 23–24 (PTAB April 4, 2022)).

Petitioner argues that it provided an affidavit by a professional translator declaring that the "English version" of Grosser was attached. Reply 7 (citing Ex. 1005). Petitioner, arguing that § 42.63(b) does not require any indication of how a translation was performed, asserts that the provided affidavit was sufficient to meet the requirements of § 42.63(b). *Id.* Petitioner further submits a new translation of Grosser, accompanied by an affidavit and Certificate of Translation attesting to the accuracy of the translation. *Id.* (citing Ex. 1019).

Patent Owner argues that the originally filed declaration's language is not equivalent to using the word "accurate," because indicating that the translation is the "English version" does not speak to its accuracy. Sur-Reply 4–5 (citing Ex. 1005). Patent Owner further argues that the newly provided Advani Declaration fails to comply with § 42.63(b). *Id.* at 4 (citing Ex. 1019). Patent Owner argues the Advani Declaration does not include a sworn attestation to the accuracy of the translation, and that the attached translation certificate, executed by Senam Bibi, does not include the attestation language required by 37 C.F.R. § 1.68. *Id.* Patent Owner argues that the Advani Declaration is therefore deficient under § 42.63(b). *Id.*

We begin with the originally filed Castenada Declaration. Patent Owner points to *Ctc Global*, which found that § 42.63 was not met because, "rather than being accompanied by an affidavit attesting to accuracy, contains a warning notice stating" that the translation "is machine-generated" and "cannot be guaranteed that it is . . . accurate."

PGR2022-00002, Paper 8 at 23–24.[1] The Castenada declaration does not provide any similar type of statement that the translation is unreliable and may be inaccurate. Thus, *Ctc Global*, directed to an insufficient statement, does not strictly control this situation in which no statement has been provided.

However, we agree with Patent Owner that the Castenada Declaration does not contain any statement relating to the accuracy of the translation. Castenada merely states that "[t]he English translation of the document" is provided. Ex. 1005, 18. Rule 42.63 requires that the affiant further state that the translation is accurate. Thus, the Castenada Declaration does not comply with our regulations.

The Advani Declaration does comply with § 42.63, because it contains a translation of the Grosser document into English (Exhibit A) and a statement that the document is "a true, full and accurate translation" (Exhibit B). Ex. 1019, 3–37. The Advani Declaration complies with the requirements of an affidavit because it is signed by Naresh Advani, declares that all statements based on personal knowledge are true, that all statements based on information and belief are believed to be true, and contains the requisite warning against willful false statements and the like. *Id.* at 1–2; 37 C.F.R. §§ 42.2, 1.68. Although Patent Owner points out that the "true, full and accurate" statement appears to be signed by someone other than declarant Advani, that statement is part of Exhibit B, which Advani has

[1] Patent Owner's other cited case also is based upon the deficiencies of machine translations.

declared to be believed to be true (if based on information and belief rather than personal knowledge). Consequently, Exhibit 1019 meets the requirements of 37 C.F.R. § 41.63(b), providing a translation where Petitioner has relied on the German-language Grosser document.

For the above described reasons, we determine that Petitioner has met its burden to show, by a reasonable likelihood, that Grosser is available as a prior art reference to the '066 patent. However, the record now has two separate Exhibits purporting to be the translation of Grosser. Exhibit 1005 is relied upon in the Petition, and all supporting cites are found there. Patent Owner has not asserted any difference between the two translations. Exhibit 1019 is accepted as a true and accurate translation, but Petitioner has not asserted that Exhibit 1019 is identical to Exhibit 1005, or explained how the citations in the Petition are mapped to Exhibit 1019. Should Petitioner seek to maintain Ground 2, based in part on Grosser, Petitioner should address this discrepancy. For example, Petitioner may consider filing a motion to submit supplemental information under 37 C.F.R. § 42.123.

3. *RFC 793 and RFC 1323*

Patent Owner argues that these documents have not been shown by Petitioner to constitute prior art. Sur-Reply 5. Petitioner points to the date on the front page of each document, the well-known nature of the standards documents, the statement of Dr. Black that he personally accessed the documents before the critical date and that each was published on the listed date, and the statements of Ms. Ginoza averring that both RFC documents were "indexed and placed in a public repository," that RFC 793 was reasonably accessible to the public no later than October 1992, and that RFC 1323 was reasonably accessible to the public no later than May 1992. Reply

6–7, Ex. 1020 ¶¶ 4–7; Ex. 1018 ¶¶ 6–12. Patent Owner argues that such evidence is merely conclusory, and does not establish whether and when the RFC documents were published or made publicly available, including whether they were available by password only, or were indexed to allow a skilled artisan to locate them using search functionality. Sur-Reply 6–7.

We determine that the totality of the evidence indicates that Petitioner has shown, by a reasonable likelihood, that the reference was available to, and able to be located by, persons interested and ordinarily skilled in the subject art on or before the critical date. Accordingly, Petitioner has met its burden to show both documents are prior art for purposes of institution.

4. *Conclusion*

Based on the current record, we determine Petitioner has made a threshold showing that these references are prior art patents or printed publications under 35 U.S.C. § 102. *See* Pet. 3, 16; Ex. 1004, codes (22), (43); Ex. 1006, codes (22), (43).

Petitioner also relies on the Declaration of Dr. John Black. Ex. 1003 ("Black Decl."). Petitioner further relies on a supplemental declaration by Dr. Black. Ex. 1020 ("Supp. Black Decl."). Patent Owner, Dr. Paul Clark, relies upon a Declaration by himself. Ex. 2002 ("Clark Decl.").

G. Asserted Grounds of Unpatentability

Petitioner challenges the patentability of claim 1 of the '066 patent on the following grounds (Pet. ii–iii, 19, 33):

Claim Challenged	35 U.S.C. §[2]	Reference(s)
1	103	Duncan, RFC 793, RFC 1323
1	103	Grosser, RFC 793, RFC 1323, Duncan

Petitioner also states that claim 1 is rendered obvious "by Duncan" or "by Grosser and Duncan." Pet. 3. RFC 793 and RFC 1323 are applied to show particular features of the TCP protocol practiced by Duncan, or features of Grosser, to the extent the Duncan or Grosser do not explicitly disclose those features. *See* Pet. 22–23. As discussed, *infra*, we understand Ground 1 to be based upon Duncan, with reference to teachings of RFC 793 and RFC 1323 applied to show inherent properties of those particular features of Duncan. *See* Pet. 22 ("Duncan teaches periodically calculating timestamps and hashes because Duncan practices the TCP protocol," explaining that "RFC 793 and RFC 1323 . . . specify the underlying workings of the TCP protocol [and] explicitly describe periodically calculating timestamps and hashes). We understand Ground 2 to be framed in the same manner.

II. DISCUSSION

A. Discretionary Denial Under 35 U.S.C. § 325(d)

The parties present arguments concerning the Board's potential

[2] The Leahy-Smith America Invents Act ("AIA"), Pub. L. No. 112-29, 125 Stat. 284, 287–88 (2011), revised 35 U.S.C. §§ 102 and 103, effective March 16, 2013. Because the application from which the '066 patent issued claims the benefit of an application that was filed before this date, the pre-AIA versions of §§ 102 and 103 apply.

exercise of discretion under 35 U.S.C. § 325(d). Pet. 45–46; Prelim. Resp. 10–18; Reply 1–6; Sur-reply 1–4. For the reasons discussed below, we decline to exercise our discretion to deny institution of inter partes review under 35 U.S.C. § 325(d).

1. *Legal Framework of 35 U.S.C. § 325(d)*

The Director has discretion to institute an inter partes review, and has delegated that discretion to the Board. *See* 35 U.S.C. § 314(a); *see also* 37 C.F.R. § 42.4(a). Under § 325(d), in determining whether to institute an inter partes review, we "may take into account whether, and reject the petition . . . because, the same or substantially the same prior art or arguments previously were presented to the Office." 35 U.S.C. § 325(d).

"Whether to deny institution of trial on the basis of 35 U.S.C. § 325(d) is a fact-dependent decision, in which the Board balances the petitioner's desire to be heard against the interest of the patent owner in avoiding duplicative challenges to its patent," and "takes into account the 'efficient administration of the Office.'" Consolidated Trial Practice Guide (November 2019) ("CTPG"), 62. When evaluating arguments under § 325(d), we use a two-part framework, namely,

(1) whether the same or substantially the same art previously was presented to the Office or whether the same or substantially the same arguments previously were presented to the Office; and

(2) if either condition of first part of the framework is satisfied, whether the petitioner has demonstrated that the Office erred in a manner material to the patentability of challenged claims.

Advanced Bionics, LLC v. MED-EL Elektromedizinische Geräte GmbH, IPR2019-01469, Paper 6 at 8 (PTAB Feb. 13, 2020) (precedential)

(addressing in a two-part framework the factors presented in *Becton, Dickinson & Co. v. B. Braun Melsungen AG*, IPR2017-01586, Paper 8 at 17–18 (PTAB Dec. 15, 2017) (precedential as to Section III(C)(5), first paragraph)).

2. *Similarity to Prior Art and Arguments During Prosecution*

The first part of the framework deals with interrelated factors (a), (b), and (d) of *Becton, Dickinson*. Factor (a) compares the similarities and material differences between the prior art during examination and the art asserted in the Petition. *Becton, Dickinson* at 17. Factor (b) assesses the cumulative nature of the prior art during examination and the art asserted in the Petition. *Id.* Factor (d) assesses the extent of the overlap between the arguments made during examination and the manner in which Petitioner relies on the prior art or how the Patent Owner distinguishes the prior art. *Id.* at 17–18.

The Petition compares the prior art and argument previously submitted to the Office during prosecution of the application that would become the '066 Patent to the prior art and argument in the Petition at hand. Pet. 9. Application No. 09/568,215 ("the '215 application") is the application from which the '066 Patent claims priority. *Id.* Prior to allowance, the Examiner's rejection in that application relied on a combination of four patents: Schneider (U.S. Patent No. 6,105,027), Zarom (U.S. Patent No. 6,356,529), Emerson (U.S. Patent No. 6,664,969), and Waugh (U.S. Patent No. 6,678,821). *Id.* at 12. Petitioner points to a statement by the Examiner that, "[i]t would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to modify the teachings of Schneider by translating the data from a first

network application protocol to a second network application protocol." Pet. 12 (quoting Ex. 1002, 50).

Appellant replied to that rejection, arguing that "his invention involves the addition of security services at the application protocol level with or without security services at other levels. Turning to the claim, as explained, none of the cited references teach or suggest translation of data (addition and/or removal of security services at the application protocol level) as recited in claim 1." *Id.* (quoting Ex. 1002, 40). Appellant further stated that "Dr. Clark explained that Zarom . . . discusses operations at the VPN level, not the application level and as such is not applicable to the claim" and that "Sch[n]eider, Emerson and Waugh teach nothing regarding data translation." Ex. 1002, 40. Subsequent to that argument, the application was allowed. *Id.*

Patent Owner does not dispute Petitioner's characterization of the events of the prosecution history. Prelim. Resp. 13. Further, it is undisputed that the prior art submitted in the Petition (Duncan, Grosser) differs from that relied upon by the Examiner during prosecution (Schneider, Zarom, Emerson, Waugh). *See, e.g.*, Prelim. Resp. 13–15. Thus, the issue presented is whether Duncan and Grosser are substantially similar to those previously evaluated in the combination of Schneider, Zarom, Emerson, and Waugh.

Patent Owner argues that the "translating data . . . to a network protocol" teachings of Duncan and Grosser do not materially differ from the teaching of Zarom, which "discloses translating a WAP protocol instructions to HTTP (Hypertext Transfer Protocol) and TCP/IP /IP (Transmission Control Protocol/Internet Protocol) instructions." Prelim. Resp. 13 (citing Ex. 2001, 2:6–9).

a) *Duncan*

With respect to Duncan, Patent Owner argues that Petitioner relies upon the same teachings as previously argued during prosecution for Zarom; specifically, "translating data from the browser, which uses HTTP, an application level protocol, to a network protocol." Prelim. Resp. 14.

Petitioner argues that Zarom teaches translating "WAP protocol instruction **to HTTP**," in contrast to Duncan, which teaches translating "**from HTTP** to a network protocol." Reply 2 (citing Ex. 1004, 11:41–46; Ex. 2001, 2:6–9). Petitioner argues that the distinction between the claim and Zarom was found to be the claim's use of the application protocol level, which is taught by Duncan. *Id.* at 3 (citing Ex. 2003, 93; Ex. 1004, 11:41–46). Petitioner states, "Duncan teaches security enhancements being added to HTTP data (which PO conceded is a network application level protocol) before the HTTP data is translated to another protocol." *Id.*

Patent Owner argues with respect to factor (b) that Duncan is merely cumulative because "it teaches no more than what a reasonable examiner would consider to be taught by the prior art already before the PTO." Sur-Reply 1 (citing *Regents of the Univ. of Calif. v. Eli Lilly & Co*., 119 F.3d 1559, 1575 (Fed. Cir. 1997)). Patent Owner argues that Petitioner's assertion that Duncan teaches translating HTTP to a network protocol is unsupported by its cited section. *Id.* Even if such is taught, Patent Owner argues that Duncan is not more material than Zarom because "[t]he claim requires translation from a first ***network application level protocol*** to a ***second network application level protocol***," which Duncan would teach only if "Petitioner's incorrect claim construction were to be adopted." *Id.* at 1–2. Further, Patent Owner argues that Duncan's addition of security

enhancements to HTTP data (newly argued in the Reply) is cumulative to Schneider. *Id.* at 2 (citing Ex. 1009, 371–372).

We agree that the record supports Petitioner's interpretation that Duncan teaches translating from HTTP to a network protocol. Petitioner's cited section of Duncan states, "[a] protocol converter 71 is arranged between the network 25 and the security control unit 75, the browser functionality thereof converting the information according to the network protocol employed and according to the form of the presentation of the information employed in the browser 30." Ex. 1004, 9:41–46. Dr. Black interprets this description, stating, "when data is sent out by the standard browser 38 and proxy browser 35 to the server, the protocol converter 71 converts the data from an application protocol of the browser (in this case HTTP) to a network protocol of Duncan's network." Ex. 1003 ¶ 147. Further, Figure 7 of Duncan illustrates transfer protocol 71 communicating, via a double-headed arrow, to network 25. Ex. 1004, Fig. 7, 10:41–46.

Patent Owner argues that a reference is cumulative if "it teaches no more than what a reasonable examiner would consider to be taught by the prior art already before the PTO." Sur-reply 1 (quoting *Regents of the Univ. of Calif.*, 119 F.3d at 1575). However, Patent Owner does not contend that the teaching asserted by Petitioner and supported by Dr. Black, of translating from HTTP to a network protocol, was before the Examiner. Nor does the record provide any indication that the type of transfer protocol described by Duncan would have been considered to be taught by that Zarom's teaching of translating protocol instruction to HTTP. To the contrary, Dr. Clark states that Zarom "discussed operations at the VPN [Virtual Private Network] level not the application level." Ex. 2002 ¶ 15. Consequently, the record does not

support a determination that Duncan is cumulative to Zarom under the test proffered by Patent Owner.

Under *Advanced Bionics*, "we review whether Petitioner relies upon [a prior art reference in the *inter partes* review] in substantially the same manner as the Examiner cited [a different prior art reference] during prosecution such that the former discloses substantially the same information as the latter in relevant part." *Advanced Bionics*, Paper 6, 15. Here, the record supports Petitioner's contention that Duncan operates, in relevant part, in a *different manner* than Zarom because Duncan, which teaches translating from HTTP to a network protocol, whereas Zarom teaches translating protocol instruction to HTTP. Under *Advanced Bionics*, Duncan's operation in a different manner than Zarom indicates that Duncan is not substantially the same prior art as Zarom.

Further, Duncan is applied to all limitations of claim 1, not just those to which Zarom (or Schneider) were applied, further illustrating that Duncan is not merely applied in a manner that is cumulative to the teachings of either Zarom or Schneider. The *Advanced Bionics* framework "reflects a commitment to defer to previous Office evaluations of the evidence of record." *Advanced Bionics*, Paper 6, 9. In *Advanced Bionics*, the Board addressed a combination of a prior-applied reference with a cumulative reference to find the entirety of the teachings to be previously evaluated. *Id.* at 16–17. Here, there is no indication that the full extent of the teachings being asserted against claim 1 are merely cumulative to the full extent of those previously evaluated; e.g., including those for which Emerson and Waugh were applied during prosecution. That is, even if Duncan was cumulative to Zarom and Schneider, Duncan has not been shown to be

cumulative to Emerson and Waugh, and therefore, the assertion based upon Duncan does not solely rely on substantially the same prior art as applied to claim 1 during prosecution.

b) *Grosser*

With respect to Grosser, Patent Owner argues that "Grosser discloses not more, but less than Zarom with respect to the translating limitation as it merely mentions that a protocol or language adaptation may be made. . . . It discloses nothing regarding network application level protocols." Prelim. Resp. 13 (citing Ex. 1005, 7:51–54). This statement indicates acknowledgement that Grosser and Zarom operate in a different manner. Consequently, Grosser is not substantially the same prior art as Zarom. Further, as discussed *supra*, there is no indication that the teachings of Grosser are cumulative to Schneider, Emerson and Waugh, and therefore, the assertion based upon Grosser does not solely rely on substantially the same prior art as applied to claim 1 during prosecution.

c) *Conclusion*

Because both the same or substantially the same prior art and the same or substantially the same arguments were not previously submitted to the Office, we need not consider if Petitioner demonstrated that the Office erred in a manner material to the patentability of the challenged claims. We decline to exercise discretion to deny institution under 35 U.S.C. § 325(d).

B. Legal Standard

A claim is unpatentable under § 103 if the differences between the claimed subject matter and the prior art are such that the subject matter, as a whole, would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.

KSR Int'l Co. v. Teleflex Inc., 550 U.S. 398, 406 (2007). The question of obviousness is resolved on the basis of underlying factual determinations, including (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; (3) the level of skill in the art and (4) when in evidence, objective indicia of non-obviousness (i.e., secondary considerations).[3] *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966). We analyze the asserted grounds based on obviousness with these principles in mind.

C. Level of Skill in the Art

Petitioner offers an assessment as to the level of skill in the art as of the time the '066 patent was filed. Pet. 13. Relying upon the Black Declaration, Petitioner asserts a person of ordinary skill in the art would have had

> a bachelor's degree in computer science, or a related field, with at least two years of professional experience working in network engineering. With more education, such as additional graduate degrees or study, less professional experience is needed to attain the ordinary level of skill. Similarly, with more experiential knowledge of computer networks, such as experience developed while developing client-server networks, less professional experience is needed to attain the ordinary level of skill.

Id. (citing Ex. 1003 ¶ 26). At this juncture, Patent Owner does not contest Petitioner's assessment of the level of ordinary skill in the art. Prelim. Resp. 8. To the extent necessary, and for purposes of this Decision, we accept the assessment offered by Petitioner and uncontested by Patent

[3] Patent Owner does not identify any secondary considerations to be considered. Accordingly, we do not consider this aspect of the obviousness analysis at this stage of the proceeding.

Owner as it is supported by the Black Declaration and is consistent with the '066 patent and the asserted prior art.

D. Claim Construction

We apply the same standard that is used to construe a patent claim in a civil action under 35 U.S.C. § 282(b), and except for the explicit construction provided for the term "network application level protocol" set forth *infra*, construe each claim in accordance with the ordinary and customary meaning of such claim, as understood by one of ordinary skill in the art in the context of the patent, and the prosecution history pertaining to the patent, as articulated in *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005) (en banc). 37 C.F.R. § 42.100(b) (2019). "[W]e need only construe terms 'that are in controversy, and only to the extent necessary to resolve the controversy.'" *Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co. Matal*, 868 F.3d 1013, 1017 (Fed. Cir. 2017) (quoting *Vivid Techs., Inc. v. Am. Sci. & Eng'g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999)).

Petitioner submits that the term "network application level protocol" should be construed as "a network level protocol or an application level protocol." Pet. 14. Petitioner asserts that the '066 patent gives two examples of protocol conversion. *Id.* First, conversion to and from SMTP ("Sendmail Transfer Protocol"), which is an application level protocol. *Id.* (citing Ex. 1003 ¶ 113). Second, that the '066 patent converts "from X.25 (a network level protocol) and X.400 (an application level protocol) to SMTP," an application level protocol. *Id.* (citing Ex. 1003 ¶ 72). Dr. Black notes that the '066 patent operates "by encrypting session traffic at the network level," but not between a web server and an application server. Ex. 1003 ¶ 30 (citing Ex. 1001, 1:21–23).

In its Preliminary Response, Patent Owner asserts that the proper construction is instead, "a protocol that functions at the application level and is intended to transfer data over a network." Prelim. Resp. 5; see also Ex. 2002 ¶ 15. Patent Owner points to a statement made during the prosecution of the '215 application, the ultimate parent of the '066 patent, distinguishing "network level protocol" from "network application level protocol." *Id.* at 6. In that statement, "network level protocol" translation was characterized as pertaining to translation of network addresses, whereas "network application level protocol" translation was characterized as translating "http to https." *Id.* (citing Ex. 1009, 220).

For purpose of institution, we agree with the Patent Owner's construction of "network application level protocol" as "a protocol that functions at the application level and is intended to transfer data over a network." Petitioner's asserted construction, that it could be either a network level or an application level protocol, is inconsistent with the prosecution history. During prosecution, the Examiner pointed to Zarom's conversion of certain instructions as converting from one network application level protocol to a target application level protocol. Ex. 1002, 49. However, during an interview with Dr. Clark (the applicant), the Examiner agreed with Dr. Clark that Zarom's teaching was directed to VPN (Virtual Private Network) level protocols, which did not teach the newly amended "network application level protocol." *Id.* at 40.

We note that the above construction does not explicitly exclude either a network level protocol or an application level protocol, so long as the protocol "functions at the application level and is intended to transfer data over a network." Inventor and Declarant Dr. Clark indicated in an interview

during prosecution that network application level protocols would include "SSL, SSH, SCP, X.400, SMTP, POP, HTTP, and Telnet." Ex. 1009 (prosecution history of the '215 application), 192; Ex. 1003 ¶ 71. Dr. Black states that SSL (Secure Sockets Layer) is not an application level protocol, although the other listed protocols are application level protocols. Ex. 1003 ¶ 71. The parties should further develop this construction during trial.

E. Asserted Obviousness of Claim 1 over Duncan, RFC 793, and RFC 1323

Petitioner contends that claim 1 of the '066 patent is unpatentable as obvious under 35 U.S.C. § 103, over the combined teachings of Duncan, RFC 793, and RFC 1323. Pet. 19.

Petitioner also relies upon the Black Declaration to support its positions. Ex. 1003. At this stage of the proceeding, we are persuaded by Petitioner's explanations and supporting evidence. We begin our analysis with a brief overview of Duncan.

1. *Overview of Duncan*

Duncan relates to a method for granting access to information in a distributed computer system, such as the World Wide Web. Ex. 1004, 1:6–32. One well known protocol for communication of computer systems to another, as well as within these systems, is TCP/IP. *Id.* at 1:33–38. In such systems, servers make hypertext documents, generated with HTML, available to clients. *Id.* at 1:39–41. The HTML pages are transmitted between server and client with a specific transfer protocol, such as HTTP (Hypertext Transfer Protocol). *Id.* at 2:3–8. HTTP protocol defines a "GET" request that contains the requested URL (Universal Resource

Locator) that indicates the actual name of the document and the server system from which the document can be accessed. *Id.* at 1:65–2:3, 1:11–15.

Client computers have a corresponding application program, a browser, that reproduces the content of the hypertext document and contains fields that are to be filled in by the client. *Id.* at 2:17–25, 2:39–40. Transmission from browser 30 to host computer 21 over network line 22 occurs via a transfer protocol, such as HTTP. *Id.* at 8:37–58. Host computer 21 receives the transmitted data by a web server program 31, referred to as a server. *Id.* at 8:57–60. Server 31 contains a transfer protocol converter 61 that receives requests meeting the condition of the network protocol TCP/IP and the transfer protocol HTTP. *Id.* at 10:29–34. The requested document is "packaged according to the rules of the transfer protocol HTTP that is employed and is communicated to the browser"; the browser then displays the hypertext document. *Id.* at 9:17–39. The employed transfer protocol is indicated in the URL (Universal Resource Layer), and on the basis of that URL, the document can be requested by the browser, and can be found, packaged according to the rules of the transfer protocol, and communicated to the browser. *Id.* at 9:24–40.

Duncan provides three security classes for data packets. *Id.* at 4:39–5:35. The step of communicating an accessing party's security-related properties may use a security protocol to communicate the access rights. *Id.* at 5:40–43. Transmission to the server embeds Security Protocol Data Units that are embedded within the transfer protocol used to access the hypertext document. *Id.* at 7:10–15. The security measures may be applied through a proxy program on proxy server 36 that is inserted between network 25 and server 31. *Id.* at 11:47–51.

2. *Analysis*

Upon review of Petitioner's explanation and supporting evidence, and Patent Owner's Preliminary Response, Sur-reply, and supporting evidence, we are persuaded that Petitioner has demonstrated sufficiently, for purposes of institution, that the combined teachings of Duncan, RFC 793, and RFC 1323 make obvious the challenged claim. Petitioner provides claim mappings of each individual limitation of the challenged claim of the ground to the combined teachings. Pet. 19–33. Patent Owner does not, at this time, dispute Petitioner's contentions except as to limitation [1.6]. For the reasons stated below, we determine that the prior art teaches each limitation of claim 1.

a) *[1.0]*

The preamble of the claim [1.0] recites, "A method for secure communication between first and second domains comprising." Petitioner contends this claim language, if limiting, is met by teachings of the combination. Petitioner points to Duncan's first and second logical units, each having proxy browser, proxy server, and web server, and in communication with each other. Pet. 19–21.

b) *[1.1]*

Limitation [1.1] recites, "In a first logical unit."

Petitioner points to Duncan's teaching of first logical unit in the form of proxy browser 35. *Id.* at 21.

c) *[1.2]*

Limitation [1.2] recites, "periodically calculating timestamps and hashes."

Petitioner asserts that Duncan teaches the use of TCP protocol. *Id.* at 22 (citing Ex. 1004, 10:30–37). Petitioner, relying on Dr. Black, asserts that the TCP protocol includes periodically calculating timestamps and hashes. *Id.* (citing Ex. 1003 ¶¶ 90–105, 140).

To the extent that Duncan's described use of TCP protocol does not explicitly mention the claimed features that are part of the protocol, Petitioner asserts that these functions are part of the TCP protocol as evidenced by RFC 793 and RFC 1323. *Id.* Petitioner asserts that RFC 793 describes "attaching a checksum, which is a hash, to each data segment so it can be checked for damage." *Id.* at 22 (citing Ex. 1006, 12). Petitioner further asserts that RFC 793 describes the TCP protocol providing a timestamp in each data segment. *Id.* at 22–23 (citing Ex. 1006, 166. Petitioner additionally asserts that RFC 1323, which defines further extensions to the TCP protocol, describes the calculation and placement of a timestamp to enable accurate and current round-trip time measurement. *Id.* at 23 (citing Ex. 1007, 1, 4, 7).

We understand Petitioner to rely on RFC 793 and RFC 1323 to show inherent characteristics of Duncan; i.e., that TCP Protocol as disclosed by Duncan inherently includes periodically calculating timestamps and hashes. Thus, although Petitioner has not asserted a reason to combine RFC 793 or RFC 1323 with Duncan, no reason would be needed for such purposes. *See Realtime Data, LLC v. Iancu*, 912 F.3d 1368, 1372–73 (Fed. Cir. 2019); *Continental Can Co. USA v. Monsanto Co.,* 948 F.2d 1264, 1268 (Fed. Cir. 1991) ("when the reference is silent about the asserted inherent characteristic, such gap in the reference may be filled with recourse to extrinsic evidence. Such evidence must make clear that the missing

descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill").

d) *[1.3]*

Limitation [1.3] recites, "transmitting a web form to a node of a first domain responsive to a request where the web form is displayed to a user."

Petitioner asserts that Duncan teaches a web browser 38 that requests a hypertext document 10, which is sent from a server 31 to the web browser. *Id.* at 23. Petitioner asserts that the web browser 38 is a node of first domain 35, and that the browser displays the hypertext document on the user's screen. *Id.* at 24 (citing Ex. 1003 ¶¶ 141–143; Ex. 1004, 9:30–32).

e) *[1.4]*

Limitation [1.4] recites, "receiving data input to said web form by the user."

Petitioner asserts that Duncan teaches that the hypertext documents contain fields to be filled by the client and to supply the server with the required information. *Id.* (citing Ex. 1003 ¶ 144; Ex. 1004, 2:39–41).

f) *[1.5]*

Limitation [1.5] recites, "enhancing the data by adding one or more security services." Petitioner points to Duncan's teaching of browser 30 having security measures performed by security control unit 75 within proxy browser 35. *Id.* at 25 (citing Ex. 1004, Fig. 9, 11:21–22). Petitioner specifically points to the browser's "[GET][CREDS]" request that is enhanced with additional information; i.e., the additional credentials of the user being appended. *Id.* at 26 (citing Ex. 1004, Fig. 10, 12:47–48; Ex. 1030 ¶ 145).

g) *[1.6]*

Limitation [1.6] recites, "translating the received data from a first network application level protocol to a target network application level protocol while preserving said data security enhancements." Petitioner asserts that Duncan teaches a transfer protocol converter 71 within proxy browser 35. *Id.* at 27 (citing Ex. 1004, Fig. 9, 11:22–23). Petitioner argues that the protocol converter 71, which is arranged between network 25 and security control unit 75, converts information according to the network protocol employed and according to the form of the presentation of the information employed in the browser. *Id.* (citing Ex. 1004, 11:42–46). Petitioner asserts that converter 71 translates received data from a first network application level protocol (the application protocol of the browser) to a target network application level protocol (the network protocol of the network). *Id.* (citing Ex. 1004, 10:30–41; Ex. 1003 ¶ 147). Petitioner further asserts that data security enhancements are preserved during protocol translation, because the browser sends security enhanced get requests. *Id.* at 27–28 (citing Ex. 1004 ¶ 148).

Patent Owner argues that "the Petition does not demonstrate how Duncan . . . meet[s] the properly construed 'network application level protocol.'" Prelim. Resp. 8.

We determine that, for purposes of institution, Petitioner has sufficiently shown how Duncan teaches translating data from a first network application level protocol to a target network application level protocol. We apply Patent Owner's construction; i.e., a protocol that "functions at the application level and is intended to transfer data over a network." As characterized by Dr. Black, Duncan's protocol converter converts data from

a first application protocol (HTTP) to a second protocol according to the network protocol employed. Thus, Duncan's protocol converter functions at the application (HTTP) level to convert and transfer data over a network. Because Duncan's protocol converter operates at the application level, receives data in a protocol at the application level, and is used to transfer data over a network, we see a reasonable likelihood that Petitioner will prevail with respect to this limitation. At trial, the parties should more fully address the operation of Duncan's protocol converter. Under the current record of the proceeding, Petitioner has sufficiently shown Duncan to teach this limitation under Patent Owner's construction.

h) *[1.7]*

Limitation [1.7] recites, "transmitting the translated data across a public network." Petitioner asserts that this limitation is taught by browsers 38 and 35 transmitting the output of the protocol converter 71 via the network 25, wherein the network architecture is a public network in the form of the World Wide Web. Pet. 28 (citing Ex. 1004, Fig. 9; Ex. 1003 ¶ 150).

i) *[1.8]–[1.12]*

Limitation [1.8] recites, "in a second logical unit." Limitation [1.9] recites, "de-enhancing the translated data." Limitation [1.10] recites, "filtering the translated data to block unauthorized transmissions." Limitation [1.11] recites, "authorizing the filtered data and transmitting the filtered data to a node of the second domain for use in an application." Limitation [1.12] recites, "whereby the one or more security services are added without apparent modification of the application."

Petitioner asserts that Duncan's proxy server 36 and web server 37, considered together, form a second logical unit. *Id.* at 29; Ex. 1003 ¶¶ 135,

151. Petitioner asserts that the [GET][CREDS] request is decrypted by an access control unit in proxy server 36, which is a de-enhancement of the translated data. Pet. 30; Ex. 1003 ¶ 153. Petitioner asserts that the access control unit checks to see what access privileges must be present for accessing the hypertext document. Pet. 30 (citing Ex. 1004, 16:17–21, Fig. 9). Petitioner asserts that the security control unit 85 decides whether it should forward a request for a hypertext document to the server 31, and transmitting the data to server 37. *Id.* at 31–32 (citing Ex. 1004, 11:58–62). Petitioner asserts that Duncan describes its procedure as being performed "without having to undertake modifications at the side of existing browsers, servers, hypertext document, and corresponding programs." *Id.* at 32 (citing Ex. 1004, 7:60–64).

3. *Determination*

Accordingly, based on the current record and for purposes of institution, we are persuaded that Petitioner has shown a reasonable likelihood that it would prevail on its assertion that claim 1 would have been obvious over the combination of Duncan, RFC 793, and RFC 1323.

F. Asserted Obviousness over Grosser, Duncan, RFC 793, RFC 1323

Ground 2 is based on an assertion of obviousness of claim 1 over Grosser, Duncan, RFC 793, and RFC 1323. Patent Owner does not, at this time, dispute Petitioner's contentions except as to limitation [1.6], for the reason that Grosser does not teach the properly construed "network application level protocol." With respect to that limitation, Petitioner relies, at least in the alternative, upon the same teachings of Duncan as discussed above for Ground 1, which we have addressed in the discussion of that Ground. Pet. 39–40; *Supra* at II(E)(2)(g). Because we have determined that

at least one claim would have been obvious over Duncan, RFC 793, and RFC 1323, as asserted for Ground 1, we need not further evaluate the merits of Ground 2 at this stage.

III. CONCLUSION

Taking into account the Preliminary Response, we conclude that the information presented in the Petition demonstrates that there is a reasonable likelihood that Petitioner would prevail in challenging claim 1 of the '066 patent as unpatentable. Given this determination, we institute trial on all grounds raised in the Petition. *See SAS Inst.*, 138 S. Ct. at 1359–60; Patent Trial and Appeal Board Consolidated Trial Practice Guide 64 (Nov. 2019), *available at* https://www.uspto.gov/sites/default/files/documents/tpgnov.pdf ("The Board will not institute on fewer than all claims or all challenges in a petition."). At this stage of the proceeding, we have not made a final determination with respect to the patentability of the challenged claim.

IV. ORDER

Accordingly, it is

ORDERED that, pursuant to 35 U.S.C. § 314(a) and 37 C.F.R. § 42.4, an *inter partes* review is hereby instituted based on all claims and all grounds raised in the Petition, which follow:

Claim 1 under 35 U.S.C. § 103 over Duncan, RFC 793, and RFC 1323;

Claim 1 under 35 U.S.C. § 103 over Grosser, Duncan, RFC 793, and RFC 1323; and

FURTHER ORDERED that 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; the trial will commence on the entry date of this Decision.

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