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Paper 31
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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

T. ROWE PRICE INVESTMENT SERVICES, INC.,
Petitioner,
v.

SECURE AXCESS, LLC,
Patent Owner.

Case CBM2015-00027
Patent 7,631,191 B2

Before BARBARA A. BENOIT, TRENTON A. WARD, and GEORGIANNA W. BRADEN, *Administrative Patent Judges*.

BENOIT, *Administrative Patent Judge*.

FINAL WRITTEN DECISION
35 U.S.C. § 328(a) and 37 C.F.R. § 42.73

I. INTRODUCTION

This is a covered business method ("CBM") patent review, under § 18 of the Leahy-Smith America Invents Act ("AIA"), Pub. L. No. 112–29, 125 Stat. 284, 331 (2011).[1] We have jurisdiction to hear this review under 35 U.S.C. § 6(c). This Final Written Decision is issued pursuant to 35 U.S.C. § 328(a) and 37 C.F.R. § 42.73. For the reasons that follow, we determine that Petitioner has shown by a preponderance of the evidence that claims 1–5, 16, and 29–32 of U.S. Patent No. 7,631,191 B2 (Ex. 1001; "the '191 patent") are unpatentable.

A. Procedural History

T. Rowe Price Investment Services, Inc. ("T. Rowe Price" or "Petitioner") filed a Petition (Paper 1, "Pet.") requesting a covered business method patent review of claims 1–5, 16, and 29–32 (the "challenged claims") of the '191 patent. Patent Owner, Secure Axcess, LLC, filed a Preliminary Response opposing institution of a review. Paper 8. On June 22, 2015, pursuant to 35 U.S.C. § 324(a), we instituted a covered business method patent review for claims 1–5, 16, and 29–32 of the '191 patent. Paper 9 ("Inst. Dec."), 44. We instituted trial on the grounds that claims 1, 3, 5, 16, and 29–32 are unpatentable under 35 U.S.C. § 102(b)

[1] *See GTNX, Inc. v. INTTRA, Inc.*, 789 F.3d 1309, 1310 (Fed. Cir. 2015) (describing transitional program for review of covered business method patent under 35 U.S.C. §§ 321–29, pursuant to the AIA).

as anticipated by Houser[2] and that claims 2 and 4 are unpatentable under 35 U.S.C. § 103(a) over Houser and Yoshiura.[3,4] *Id.*

Subsequent to institution, Patent Owner filed a Patent Owner Response (Paper 17; "PO Resp."), to which Petitioner filed a Reply (Paper 20; "Reply"). Patent Owner filed observations on the cross-examination of Petitioner's expert witness, Mr. Kendyl A. Román (Paper 24), to which Petitioner filed a response (Paper 27). Petitioner also filed a Motion to Exclude certain evidence. Paper 22 ("Mot."). Patent Owner filed an Opposition (Paper 28; "PO Opp."), to which Petitioner filed a Reply (Paper 29; "Mot. Reply"). An oral hearing was held on March 15, 2016, and a transcript of the hearing was entered into the record. Paper 30 ("Tr.").

B. Related Matters

Petitioner represents that the '191 patent has been asserted against it in *Secure Axcess, LLC v. T. Rowe Price Investment Services, Inc.*, Case No. 6:13-cv-00787 (E.D. Tex). Pet. 78; *see also* Paper 6 (Patent Owner's Notice of Related Matters). Petitioner also identifies seventeen other court

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[2] U.S. Patent No. 5,606,609, issued Feb. 25, 1997 (Ex. 1004, "Houser").
[3] European Patent Application Publication Number EP 0 883 284 A2, published Dec. 9, 1998 (Ex. 1005, "Yoshiura").
[4] Section 3(c) of the Leahy-Smith America Invents Act ("AIA") amended 35 U.S.C. §§ 102, 103. Pub. L. No. 112-29, 125 Stat. 284, 285–288 (2011). Because the challenged patent has a filing date before March 16, 2013 (effective date of section 3), the pre-AIA versions of §§ 102, 103 apply to this proceeding. *See id.* § 3(n)(1), 125 Stat. at 293.

proceedings in which Patent Owner has asserted the ’191 patent. *See* Pet. 78; *see* Paper 6 (Patent Owner’s Mandatory Notice).

In addition, the ’191 patent has been the subject of another covered business method patent review for which an appeal to the United States Court of Appeals for the Federal Circuit is pending. *PNC Bank, N.A. v. Secure Axcess, LLC*, Case CBM2014-00100, (PTAB Sept. 8, 2015) (Paper 43) (finding claims 1–32 unpatentable). The Board also instituted an additional covered business method patent review of the ’191 patent. *Bank of the West v. Secure Axcess, LLC*, Case CBM2015-00009 (PTAB April 13, 2015) (Paper 21). The *Bank of the West* review was consolidated with the *PNC Bank* review currently on appeal. *Bank of the West*, Case CBM2015-00009 (PTAB May 12, 2015) (Paper 27) (granting unopposed motion for consolidation). On July 10, 2015, the Board denied institution of a second petition by PNC Bank, N.A. seeking another covered business method patent review of the ’191 patent. *See PNC Bank, N.A. v. Secure Axcess, LLC*, Case CBM2015-00039 (PTAB July 10, 2015; Paper 9). The ’191 patent also has been the subject of an *inter partes* review for which an appeal to the United States Court of Appeals for the Federal Circuit is pending. *EMC Corp. v. Secure Axcess, LLC*, Case IPR2014–00475 (PTAB Sept. 8, 2015) (Paper 30) (finding claims 1–23 and 25–32 unpatentable).

C. The ’191 Patent

The ’191 patent relates to authenticating data, such as a web page. Ex. 1001, Abstract, 1:16–18; 12:9–18 (claim 1). The ’191 patent explains that customers can be deceived by web pages that appear to be authentic but

are not. *See id.* at 1:28–34. A web page that has been authenticated according to the techniques described by the '191 patent includes "all of the information in the same format as the non-authenticated page." *Id.* at 2:58–60. The authenticated web page, however, also includes an "authenticity stamp." *Id.* at 2:60–62.

Figures 1 and 2 are set forth below:

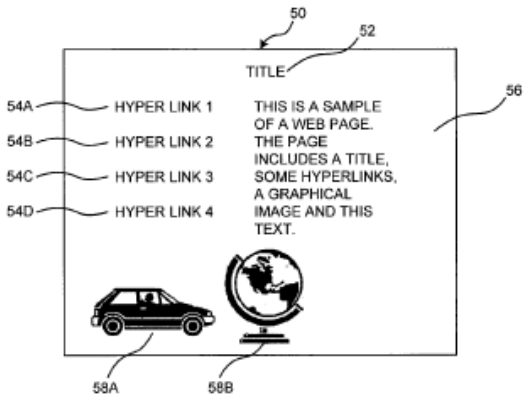


Figure 1

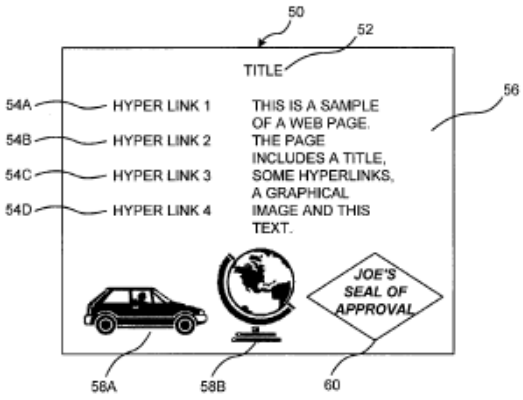


Figure 2

Figures 1 and 2 each show web page 50 having title 52, hyperlinks 54A, 54B, 54C, and 54D, textual information 56, and graphical images 58A and 58B. *Id.* at 2:54–57. Figure 1 shows web page 50 has not been authenticated, whereas Figure 2 shows web page 50 has been authenticated. *Id.* at 2:54–61. The authenticated web page shown in Figure 2, unlike the non-authenticated web page shown in Figure 1, includes authenticity stamp 60. *Id.*

The '191 patent discloses an exemplary environment using an authentication server. *Id.* at Abstract; *see id.* at 3:26–55, Fig. 4. In that embodiment, a web server at a web site receives a request for information from user's web browser and, prior to sending the requested web page to the

user's computer, the web server submits information to an authentication server. *Id.* at 3:41–51. The authentication server adds authentication information to the request for information. *Id.* at 3:50–53. "The information which includes the authentication information is returned to the web server[,] which then sends the web page including the authentication information to the user [computer]." *Id.* at 3:52–55. The '191 patent also describes combining the logic of an authentication server with the logic of a web server. *Id.* at 4:57–58.

The '191 patent further discloses that an authentication server is not always necessary. *Id.* at 8:17–18 ("In alternative embodiments, there is no authentication server."). In such an embodiment, for example, a web server receives a request for a web page. *Id.* at 4:5–14. "If the [web] page is to be authenticated, the page is dynamically signed with a private key and additional information. . . ." *Id.* at 4:14–16. The signed web page then is returned to the user's computer, and the user's computer verifies the authenticity of the web page, using a public key to verify the digital signature. *Id.* at 4:18–23. After verification of the digital signature, the user computer "can validate the authentication of the [web] page." *Id.* at 4:23–24.

D. Illustrative Claims of the '191 Patent

Of the challenged claims, claims 1, 29, 31, and 32 of the '191 patent are independent and generally relate to methods, authentication systems, and a computer-readable medium for creating formatted data (claims 1, 31, 32), and sending (or returning) formatted data having an authenticity key

(claims 1, 29, 31). Each of the challenged independent claims is reproduced below:

> 1. A method comprising:
>
> transforming, at an authentication host computer, received data by inserting an authenticity key to create formatted data; and
>
> returning, from the authentication host computer, the formatted data to enable the authenticity key to be retrieved from the formatted data and to locate a preferences file,
>
> wherein an authenticity stamp is retrieved from the preferences file.

> 29. An authentication system comprising:
>
> an authentication processor configured to send formatted data having an authenticity key to a client, wherein the authenticity key enables location of a preferences file, and wherein an authenticity stamp is retrieved from the preferences file.

> 31. A computer readable medium having stored thereon a plurality of instructions, the plurality of instructions comprising:
>
> instructions to format received data by inserting an authenticity key to create formatted data; and
>
> instructions to return the formatted data to a client, wherein the authenticity key is retrieved from the formatted data to locate a preferences file, and wherein an authenticity stamp is retrieved from the preferences file.

> 32. A method comprising:
>
> receiving, at a client computer, formatted data from an authentication host computer wherein the authentication host computer receives the data to create received data, and transforms the received data by inserting an authenticity key to create the formatted data;
>
> retrieving, by the client computer, the authenticity key from the formatted data to locate a preferences file; and,
>
> retrieving an authenticity stamp from the preferences file.

Ex. 1001, 12:9–18, 14:1–4, 14:14–31.

II. DISCUSSION

A. Covered Business Method Patent

AIA section 18 establishes a post-grant review proceeding "for review of the validity of covered business method patents." § 18(a)(a). The statute defines a "covered business method patent" as "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 . . . ." AIA § 18(d)(1); *see* 37 C.F.R. § 42.301(a). Congress provided a specific exception to this definition of a covered business method patent—"the term does not include patents for technological inventions." AIA § 18(d)(1)

As a threshold matter in considering whether to institute a review, the Board determined, after considering the Petition and Patent Owner's Preliminary Response (Paper 8), that the '191 patent is a covered business method patent and is eligible for a covered business method patent review.

Inst. Dec. 13–18; *see* AIA § 18(a)(1)(E) ("[t]he Director may institute a transitional proceeding [under § 18] only for a patent that is a covered business method patent."). In our analysis of whether the '191 patent was eligible for a covered business method patent review, we determined the method and apparatus claimed by the '191 patent perform operations used in the practice, administration, or management of a financial product or service and are incidental to a financial activity. Inst. Dec. 16. We also determined that the technological features of the claimed steps are directed to using known technologies, which does not render a patent a technological invention. *Id.* at 16–19. Thus, we determined that the '191 patent was eligible for covered business method patent review. *Id.* at 19; *see PNC Bank*, Case CBM2014-00100, slip op. at 8–17 (PTAB Sept. 8, 2015) (Paper 43, Final Written Decision); *id.*, slip op. at 12–18 (PTAB Sept. 9, 2014) (Paper 10, Decision to Institute); *Bank of the West*, Case CBM2015-00009, slip op. at 10–16 (PTAB April 13, 2015) (Paper 21, Decision to Institute).

During the covered business method patent review, Patent Owner again contested whether the '191 patent is a covered business method patent. PO Resp. 58–75. Therefore, after considering all the evidence of record, we address below whether the '191 patent is a covered business method patent and is eligible for a covered business method patent review.

1. Financial Product or Service

First, Patent Owner contends the '191 patent is ineligible for covered business method patent review because its invention is not directed to a financial product or service. PO Resp. 62–69. According to Patent Owner,

the ’191 patent claims an authentication server that authenticates data (such as a web page) from a server. *Id.* at 62. As such, Patent Owner contends the ’191 patent is not a covered business method patent, because (1) the claimed method and apparatus is directed to techniques to distinguish authentic data sent from authentic web sites from fraudulent data sent by fraudulent sites (*id.*), (2) none of the claims mentions a financial product or service (*id.* at 63), and (3) the claimed method and apparatus aid businesses in general (*id.* at 67–68). Patent Owner further contends that asserting the ’191 patent against financial institutions is not sufficient to demonstrate the ’191 patent is directed to a financial product or service. *Id.* at 66–68. Patent Owner also represents that the ’191 patent has been asserted against financial institutions because of the manner in which they authenticate web pages and asserts that companies other than financial institutions allegedly practice the techniques claimed by the ’191 patent. *Id.* at 67.

The general reasoning of Patent Owner’s contentions was rejected during rule-making. During rule-making, the Office stated:

> The suggestion to clarify that the term “financial product or service” is limited to the products or services of the financial services industry is not adopted. Such a narrow construction of the term would limit the scope of the definition of covered business method patents beyond the intent of section 18(d)(1) of the AIA.

77 Fed. Reg. 48,734 , 48,736 (Aug. 14, 2012). More recently, the Federal Circuit affirmed the Office’s position: “We agree with the USPTO that, as a matter of statutory construction, the definition of ‘covered business method patent’ is not limited to products and services of only the financial industry,

or to patents . . . directly affecting the activities of financial institutions such as banks and brokerage houses." *Versata Dev. Grp., Inc. v. SAP Am., Inc.*, 793 F.3d 1306, 1325 (Fed. Cir. 2015). As the Federal Circuit points out, "[t]he plain text of the statutory definition contained in § 18(d)(1)—'performing . . . operations used in the practice, administration, or management of a financial product or service'—on its face covers a wide range of finance-related activities." *Id.*

We determine that the method and apparatus claimed by the '191 patent perform operations used in the practice, administration, or management of a financial product or service and are incidental to a financial activity. The written description of the '191 patent discloses a need by financial institutions to ensure customers are confident that the financial institution's web page is authentic (Ex. 1001, 1:28–33). Additionally, the '191 patent discloses alternative embodiments of the invention as being used by financial institutions (*id.* at 8:21–23, 11:23–40, 11:52–67).

The '191 patent relates to authenticating a web page and claims a particular manner of doing so. Ex. 1001, 1:16–18, 12:9–18. The '191 patent is directed to solving problems related to providing a web site to customers of financial institutions. *Id.* at 8:21–23, 11:23–40, 11:52–67. Thus, the '191 patent covers the ancillary activity related to a financial product or service of web site management and functionality and so, according to the legislative history of the AIA, the method and apparatus of the '191 patent perform operations used in the administration of a financial product or service.

We recognize that the legislative history of the AIA has "competing statements from various legislators with regard to the possible scope of [these] issues." *Versata Dev. Grp.*, 793 F.3d at 1321. We note nonetheless that at least one legislator viewed "customer interfaces" and "Web site management and functionality," which are at issue here, as ancillary activities intended to be encompassed by the language "practice, administration and management" of a financial product or service. 157 Cong. Rec. S1364–65 (daily ed. Mar. 8, 2011) (statement of Sen. Schumer) (indicating the language "practice, administration and management" of a financial product or service "is intended to cover any ancillary activities related to a financial product or service, including, without limitation, marketing, customer interfaces, Web site management and functionality, transmission or management of data, servicing, underwriting, customer communications, and back office operations—e.g., payment processing, stock clearing").

Although not determinative, Patent Owner's allegations of infringement of claims of the '191 patent by approximately fifty financial institutions is also a factor weighing toward the conclusion that the '191 patent claims a method or apparatus that at least is incidental to a financial activity, even if other types of companies also practice the claimed invention. *See* Pet. 12 (representing Patent Owner has sued approximately fifty financial institutions).

We have considered whether the Board's determination that the '191 patent 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 should be changed in light of the Patent Owner's Response. *See* Inst. Dec. 16; AIA § 18(d)(1); 37 C.F.R. § 42.301(a). For the foregoing reasons, we maintain our determination that the '191 patent is directed to a financial product or service.

2. Exclusion for Technological Inventions

Second, Patent Owner contends that the inventions of the '191 patent are technological. PO Resp. 69–75. The definition of "covered business method patent" in section 18 of the AIA expressly excludes patents for "technological inventions." AIA § 18(d)(1); *see* 37 C.F.R. § 42.301(a). To determine whether a patent is for a technological invention, we consider "whether the claimed subject matter as a whole recites a technological feature that is novel and unobvious over the prior art; and solves a technical problem using a technical solution." 37 C.F.R. § 42.301(b).

The Office published a notice identifying examples of certain claim drafting techniques that typically would not render an invention a "technological invention." Office Patent Trial Practice Guide, 77 Fed. Reg. 48,756, 48,764 (Aug. 14, 2012). These are:

> (a) Mere recitation of known technologies, such as computer hardware, communication or computer networks, software, memory, computer-readable storage medium, scanners, display devices or databases, or specialized machines, such as an ATM or point of sale device.
>
> (b) Reciting the use of known prior art technology to accomplish a process or method, even if that process or method is novel and non-obvious.

> (c) Combining prior art structures to achieve the normal, expected, or predictable result of that combination.

Id.

The Board concluded at institution that the '191 patent was not for a technological invention. Inst. Dec. 16–19. Patent Owner also contends that the '191 patent is not eligible for covered business method patent review because the invention of the '191 patent is "for a machine that implements a technological solution." PO Resp. 69 (initial capitalization removed); *see id.* at 69–75.

Specifically, Patent Owner contends the claims of the '191 patent solve the technical problem of distinguishing authentic data for web pages from fraudulent data sent by a fraudulent web site. PO Resp. 69–70. Patent Owner contends that the claimed subject matter as a whole provides a technological solution—a computer-implemented system that includes a processor, an authenticity stamp, and an authenticity key organized into a specific structure, function and operation—that is novel and nonobvious. *Id.* at 70–74.

We consider whether the claimed subject matter as a whole has a technological feature that solves a technical problem using a technical solution. *See Versata Dev. Grp.*, 793 F.3d at 1326 (putting aside the regulation's definition of novel and nonobvious because "presumably the invention under review, since it has already been covered by an issued patent, was earlier determined by the USPTO to be novel and nonobvious" and analyzing whether the patent was for a technological invention based on

whether the patent has a technological feature that solves a technical problem using a technical solution).

Neither the problem addressed nor the solution that solves the problem addressed by the '191 patent is technological. As Patent Owner acknowledges, the problem addressed is distinguishing authentic web pages sent by a legitimate web site from fraudulent web pages sent by a fraudulent site. *See* PO Resp. 69, 70. To solve the problem that users have difficulty distinguishing authentic from non-authentic web pages, the invention as a whole displays an icon or other "authenticity stamp" to indicate to the user that the web site is authentic. *See* Ex. 1001, Abstract ("The present invention provides for an icon with an additional level of functionality that allows a user to validate that current information (e.g., a web page) originates from the true owner. . . ."), 2:58–60, Figs. 1, 2 (disclosing that a web page that has been authenticated according to the techniques described by the '191 patent includes "all of the information in the same format as the non-authenticated page" and also includes an "authenticity stamp."), 12:9–14:31 (all claims require retrieving an authenticity stamp from a preferences file); *see also* PO Resp. 3–4 (describing the problem of fraudulent web pages from an Internet user's point of view).

Displaying an authenticity stamp to indicate to the user that the web site is authentic is not a technological solution. This is indicated by the functional nature of the claims. For instance, some claims require "verifying authenticity . . . based on the authenticity key" or "validating [a web page] based on the authenticity key," without specifying the technical operations to

be used to verify or validate other than the general statement "based on the authenticity key." Ex. 1001, 12: 23–25 (claim 3), 12:48–51 (claim 13).

A feature of the solution is an "authenticity key." The technological features for the authenticity key are not recited by the claims. Rather, the claims recite how the authenticity key is used—inserting an authenticity key or a second authenticity key into data or data having an authenticity key (independent claims 1, 17, 29, 31, 32; dependent claims 13, 23), receiving an authenticity key from a third party (claim 11), verifying or validating data based on an authenticity key (claims 3, 13), and displaying data in response to the verification of the authenticity key (claim 4).

Moreover, the '191 patent discloses using cryptographic techniques to generate the authenticity key and verify authenticity, without specifying cryptographic algorithms for encryption and decryption. *See id.* at 6:28–32. Instead, the '191 patent incorporates by reference a cryptography text (*id.* at 10:44-48), which further undermines Patent Owner's contention that the invention of the '191 patent has a technological feature that solves a technical problem using a technical solution. *See Versata Dev. Grp.*, 793 F.3d at 1326 (citing 77 Fed. Reg. at 48,764) (explaining that the Office Trial Practice Guide indicates mere "recitation of known technologies," "reciting the use of known prior art technology," and "combining prior art structures to achieve the normal, expected, or predictable result of that combination" do not help support a finding that the invention is within the technological invention exception).

The independent claims recite that the authenticity stamp is retrieved from a preferences file and dependent claims 5 and 6 further recite the authenticity stamp is displayed for certain data. *Id.* at 12:17–18 (claim 1), 12:29–32 (claims 5 and 6), 12:66–67 (claim 17), 14:9–10 (claim 29), 14:21–22 (claim 31), 14:31 (claim 32). Further, the '191 patent describes an authenticity stamp as having a number of variations, including graphics only, text only, text and graphics, audio, blinking (Ex. 1001, 2:67–3:7), but does not describe novel or nonobvious technology used to implement those features.

Moreover, Patent Owner's contention that subject matter of the invention solves a technological problem using a technical solution is undermined by disclosures of the '191 patent indicating the components of the computer system are known technologies. *See Versata Dev. Grp.*, 793 F.3d at 1326 (citing 77 Fed. Reg. at 48,764) (explaining that the Office Trial Practice Guide indicates mere "recitation of known technologies," "reciting the use of known prior art technology," and "combining prior art structures to achieve the normal, expected, or predictable result of that combination" do not help support a finding that the invention is within the technological invention exception). For example, the '191 patent discloses known computer systems and devices running known operating systems (Ex. 1001, 3:30–34, 10:30–35, 11:7–12), known user input devices (*id.* at 11:3–6), and known networks and networking and communication protocols (*id.* at 3:38–44, 10:67–11:3, 11:12–17). The '191 patent further discloses that the system is programmed using known programming and scripting languages,

programmed using known data structures (*id.* at 10:35–40), and discloses that the system uses "conventional techniques for data transmission, signaling, data processing, network control, and the like" (*id.* at 10:41–44).

We are not persuaded that the claimed subject matter, as a whole, requires any specific, unconventional software, computer equipment, cryptography algorithms, processing capabilities, or other technological features. Furthermore, Patent Owner's identification of allegedly novel or unobvious steps, such as limitations in the independent claim and dependent claims 2 and 4 (PO Resp. 36), does not persuade us that any of the steps require the use of specific computer hardware alleged to be novel and unobvious over the prior art. Reciting the use of known prior art technology to accomplish a process or method, even if that process or method is novel and non-obvious does not render the claimed subject matter a technological invention. *See* 77 Fed. Reg. at 48,764.

Having considered Patent Owner's Response, we maintain the determination that the '191 patent is not a technological invention.

3. Eligible for Covered Business Method Patent Review

Having determined that the '191 patent 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 and does not fall within the exception for technological inventions, we maintain our determination that the '191 patent is eligible for a covered business method patent review.

B. Petitioner's Motion to Exclude

Petitioner seeks to exclude various portions of the testimony of Dr. Jonathan Katz based on three theories why such testimony is improper expert testimony under Federal Rule of Evidence 702 ("FRE 702").[5] *See, e.g.*, Mot. 13 (conclusion). As movant, Petitioner bears the burden of showing by a preponderance of evidence that portions of Dr. Katz's testimony should be excluded. 37 C.F.R. §§ 42.1(d) (evidentiary standard), 42.20(c) ("The moving party has the burden of proof to establish it is entitled to the requested relief."). We address each of Petitioner's three theories in turn.

1. Testimony from the Perspective of One of Ordinary Skill in the Art

First, Petitioner asserts paragraphs 19–22, 33, 38, 40, 47, 50, and 54 of Dr. Katz's declaration (Exhibit 2008) should be excluded and expunged because those paragraphs require testimony from the perspective of one of ordinary skill in the art, which (according to Petitioner) Dr. Katz was not at the time of the invention. *See, e.g.*, *id.* at 2–8, 13. Thus, according to Petitioner, Dr. Katz had "no reasonable basis on which to opine." *Id.* at 3. Therefore, Petitioner reasons that Dr. Katz's testimony in the enumerated paragraphs is improper because "those paragraphs cannot 'help the trier of fact to understand the evidence or to determine a fact in issue,' and are not

[5] With some enumerated exceptions, the Federal Rules of Evidence apply to a covered business method patent review. 37 C.F.R. § 42.62.

'based on sufficient facts or data,'" as required by FRE 702. *Id.* at 8; *see id.* at 2–8, 13.

With support of its expert witness, Mr. Bruce Schneier, Petitioner asserts, and Patent Owner does not contest, that the relevant time period of the invention of the '191 patent is "in or around the year 2000." *Id.* at 3. This is consistent with our determination in the Final Written Decision in CBM2014-00100, and based on the record in that proceeding, that the effective filing date of claims 1–32 of the '191 patent is September 6, 2000. *PNC Bank*, CBM2014-00100, slip. op. at 32–34 (Paper 43).

Patent Owner opposes, contending that Dr. Katz testified from the perspective of one of ordinary skill in the art at the time of the invention based on Dr. Katz's later-acquired knowledge. PO Opp. 3. Patent Owner contends that Dr. Katz's master's and Ph.D. in computer science from Columbia University in 2001 and 2002 demonstrate he would have "acquired an understanding of the knowledge and perspective" of one of ordinary skill in the art around the year 2000. *Id.* at 4 (citing Ex. 2008 ¶ 4). Patent Owner also contends that Dr. Katz's teaching, research and publication experience as a university professor further indicate that he is qualified to provide expert testimony. *Id.* at 4–7. Specifically, Patent Owner relies on Dr. Katz's experience "teaching cryptography and computer security, at both the undergraduate and graduate levels, at both Columbia University and the University of Maryland." *Id.* at 6. Patent Owner also relies on Dr. Katz's uncontested testimony that he has also "written a textbook on cryptography, as well as a book on digital signature schemes,"

which are "widely used at universities . . . around the world" and currently serves "on the editorial board of the Journal of Cryptography." *Id.* (quoting Ex. 2008 ¶ 5); *see also* Ex. 3001 (curriculum vitae of Dr. Katz).[6]

Petitioner's contentions focus narrowly on whether Dr. Katz was one of ordinary skill in the art at the time of the invention. Mot. 2–8, 13; Mot. Reply 1–4. Notably, Petitioner does not cite support for its legal proposition that Dr. Katz must have been one of ordinary skill in the art at the time of invention. *See generally* Mot. 2–8, 13; Mot. Reply 1–4.

Contrary to Petitioner's contentions, the proper inquiry is whether one is "qualified in the pertinent art." *Sundance, Inc. v. DeMonte Fabricating Ltd*., 550 F.3d 1356, 1363–64 (Fed. Cir. 2008) (holding "it is an abuse of discretion to permit a witness to testify as an expert on the issue[s] of . . . invalidity unless that witness is qualified as an expert in the pertinent art."). The Federal Circuit continues by noting that being one of ordinary skill in the art would not "automatically entitle[] a witness to testify as an expert" as to invalidity issues, but the Federal Circuit clarifies that it does not "suggest[] that Rule 702 requires a witness to possess something more than ordinary skill in the art to testify as an expert." *Id.* at 1363. Furthermore,

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[6] Dr. Katz's declaration states that his curriculum vitae is included as Attachment A (Ex. 2008 ¶ 6), which is not correct. Petitioner also incorrectly states in its Motion that Dr. Katz's declaration from IPR2014-00475 (Ex. 2007) was "submitted as Exhibit 1037 in this proceeding." Mot. 4. Accordingly, for clarity and completeness of the record in this proceeding, we have entered Dr. Katz's Declaration, filed as Exhibit 2007 (including its Attachment A) in IPR2014-00475, as Exhibit 3001 in the instant proceeding.

the Federal Circuit has upheld admission of the testimony of an expert who "had experience relevant to the field of the invention," despite admitting that he was not a person of ordinary skill in the art. *Mytee Prods., Inc. v. Harris Research, Inc.*, 439 Fed. App'x 882, 886–87 (Fed. Cir. 2011) (non-precedential) (upholding admission of the testimony of an expert who "had experience relevant to the field of the invention," despite admission that he was not a person of ordinary skill in the art). In holding that, to testify as an expert under FRE 702, one must be qualified as an expert in the pertinent art, the Federal Circuit has not placed temporal restrictions, such as requiring an expert be qualified in the pertinent art at the time of the invention.

Patent Owner asserts that the "field of the '191 patent" is "cryptography and computer security" (PO Opp. 1), which Petitioner does not challenge. The '191 patent indicates its "Field of the Invention" is "computer security" and techniques "for authenticating a web page." Ex. 1001, 1:14–18. We, however, find that the '191 patent concerns the more general area of "information technology."

The '191 patent concerns general computer systems using known technologies and is not limited to cryptographic technology or specialized authentication techniques. *See, e.g.*, Ex. 1001 3:26–55 (describing client-server communications), 4:5–12 (describing using "normal page requests" using a HTTP or HTPPS page request), 10:35–40 (describes using known programming and scripting languages), 10:41–44 (describes using "conventional techniques for data transmission, signaling, data processing,

network control, and the like"). In addition, Petitioner's expert witness, Mr. Schneier, testifies that:

> one of ordinary skill in the art would not be of ordinary skill in the field of cryptography, which would be beyond the scope of what the '191 Patent is attempting to teach in any event. A person of ordinary skill in the field of the '191 Patent would not be qualified to either design or analyze cryptographic algorithms or protocols, but would be qualified to use existing designs in more general computer systems.

Ex. 1008 ¶ 36. Mr. Schneier's testimony that one of ordinary skill in the art "would not be qualified to either design or analyze cryptographic algorithms or protocols" and "would be qualified to use existing designs in more general computer systems" further supports our finding that the pertinent art concerns information technology, not merely the narrower field of cryptography and computer security.

Dr. Katz's credentials, in the pertinent art of information technology (which includes computer security and cryptography), qualify him to provide testimony concerning unpatentability of the challenged claims of the '191 patent. Moreover, Dr. Katz testifies that he is "the director of the Maryland Cybersecurity Center as well as a tenured, full professor at the University of Maryland, with a joint appointment in the Department of Computer Science and the University of Maryland Institute for Advanced Computer Studies." Ex. 2008 ¶ 3.

For these reasons, we are not persuaded that paragraphs 19–22, 33, 38, 40, 47, 50, and 54 of Dr. Katz's declaration (Exhibit 2008) should be excluded.

2. Meaning of Claim Term "File" in Paragraph 22

Petitioner also contends that Dr. Katz's opinion set forth in paragraph 22 of his declaration is not supported as required by FRE 702. Mot. 8–12. Paragraph 22 reads as follows:

> 22. It is also my opinion that one of ordinary skill in the art at the time of the invention of the '191 patent would have understood the claim term "file" as "a uniquely named collection of data stored on a hard drive, disk, or other storage medium and treated as a single entity," as set forth in the Patent Owner's Response. Understanding a "file" as merely a "collection of related records treated as a unit" is too broad since, for example, one of ordinary skill in the art would not have understood that medical records relating to a single patient but stored in geographically distinct locations, and not uniquely named, constitute a "file."

Ex. 2008 ¶ 22. Petitioner contends that (i) Dr. Katz did not provide any evidence to support his definition of the term "file" (Mot. 11); (ii) Dr. Katz did not consult any technical dictionaries (*id.* at 9), and (iii) Dr. Katz "did not come up with the proposed construction, but took it from the Patent Owner's Response" (*id.* at 9–10).

In response, Patent Owner correctly notes that Dr. Katz's testimony in paragraph 22 provides an illustration differentiating his construction from a broader construction (i.e., the medical record illustration). PO Opp. 8. Patent Owner also cites to Dr. Katz's deposition testimony that further elaborates on Dr. Katz's construction. *Id.* at 8–10.

We will not exclude paragraph 22 of Dr. Katz's declaration testimony because (1) Dr. Katz provided, in his declaration, some reasoning (i.e., the medical record illustration) regarding why his construction is narrower than

a broader construction at issue in the proceeding, and (2) Dr. Katz provided, in his deposition testimony, additional reasoning regarding his opinion regarding his proposed construction, as described by Patent Owner in its Opposition. *Id.* at 8–10.

For these same reasons, we do not agree with Petitioner (Mot. 8) that paragraph 22 should be accorded no weight under 37 C.F.R. § 42.65(a). We will, however, weigh Dr. Katz's testimony in accordance with his admissions identified by Petitioner.

3. Paragraphs 8, 11–13, 19–21, 23–30, 32–40, 42–48, 50–52, and 54

Petitioner contends that paragraphs 8, 11–13, 19–21, 23–30, 32–40, 42–48, 50–52, and 54 of Dr. Katz's declaration "are replete with similar unsupported and unsubstantiated conclusory opinions." Mot. 12–13. Petitioner has two specific arguments.

First, concerning paragraph 50, Petitioner contends that "[Dr.] Katz concludes that 'Houser and Yoshiura are not motivated by the same concern,' yet fails to include a single supporting citation, either to the text of the references themselves or otherwise." Mot. 12. We will not exclude paragraph 50 because Dr. Katz provides reasoning to support his conclusion. Ex. 2008 ¶ 50. Specifically, as shown below, Dr. Katz contrasts the two references:

> It is my opinion, however, that Houser and Yoshiura are not motivated by the same concern as alleged by the Petitioner. Rather, Houser is directed to displaying the handwritten initials, signature, or other graphic of an author of an electronic document only when the content of the electronic document matches the

> content at the time when the signature was applied. Yoshiura, in contrast, is directed to identifying a recipient of electronic digital content who has produced illegal copies of that content.

Id.

Second, concerning paragraphs 19, 20, and 21, Petitioner contends that these paragraphs should be excluded because "[Dr.] Katz makes blanket statements about the meaning of claim terms, and then asserts that such meanings are 'also consistent with the patent specification,' without so much as a single supporting citation." Mot. 12.

We will not exclude paragraphs 19, 20, and 21 of Dr. Katz's declaration. Although Petitioner is correct that Dr. Katz does not support his assertion that his construction is "also consistent with the patent specification," Petitioner ignores Dr. Katz's reliance on the plain language of the claims for support. For example, with regard to the claim term "transforming," Dr. Katz opines:

> It is my opinion that one of ordinary skill in the art at the time of the invention of the '191 patent would have understood the claim term "transforming" as "changing" as set forth in the Patent Owner's Response. This is clear from the language of the claims, which describe, e.g., "transforming … received data by inserting an authenticity key."

Ex. 2008 ¶ 19.

We also agree with Patent Owner that Dr. Katz provided citations to the '191 patent in paragraphs 11, 12, and 13 (PO Opp. 7), which further undercuts Petitioner's allegations.

Thus, we conclude that Petitioner has not met its burden, as movant, to show why paragraphs 8, 11–13, 19–21, 23–30, 32–40, 42–48, 50–52, and 54 of Dr. Katz's Declaration should be excluded or accorded no weight.

4. Conclusion

For the reasons given, we deny Petitioner's Motion to Exclude certain paragraphs of Dr. Katz's declaration testimony.

C. Claim Construction

In a covered business method patent 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. § 42.300(b); *see Versata Dev. Grp.*, 793 F.3d at 1328 (affirming use of broadest reasonable construction standard in a covered business method patent review); *see also In re Cuozzo Speed Techs., LLC*, 793 F.3d 1268, 1275–79 (Fed. Cir. 2015 ("Congress implicitly approved the broadest reasonable interpretation standard in enacting the AIA," and "the standard was properly adopted by PTO regulation."), *cert. granted sub nom. Cuozzo Speed Techs., LLC v. Lee*, 136 S. Ct. 890 (mem.) (2016). Under that standard, claim terms are presumed to be 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). Any special definition for a claim term must be set forth in the specification with reasonable clarity, deliberateness, and precision. *In re Paulsen*, 30 F.3d 1475, 1480 (Fed. Cir. 1994). A particular embodiment

appearing in the written description should not be read into the claim if the claim language is broader than the embodiment. *SuperGuide Corp. v. DirecTV Enters, Inc.*, 358 F.3d 870, 875 (Fed. Cir. 2004); *In re Van Geuns*, 988 F.2d 1181, 1184 (Fed. Cir. 1993). Furthermore, "[t]he PTO should also consult the patent's prosecution history in proceedings in which the patent has been brought back to the agency for a second review." *Microsoft Corp. v. Proxyconn, Inc.*, 789 F.3d 1292, 1298 (Fed. Cir. 2015). We construe the terms below and discuss terms relative to prior art disclosures in accordance with these principles.

The parties each propose constructions for various claim terms and oppose several of one another's proposed constructions. Pet. 16–27; PO Resp. 9–29; Reply 3–7. We address claim terms as necessary for this decision.

The parties also refer to claim constructions from prior litigation involving the '191 patent. Pet. 16–20; PO Resp. 14–19; *see also* Ex. 1007 (Mem. Op. and Order, *Secure Axcess, LLC v. Bank of Am. Corp.*, No. 6:10-cv-00670 (E.D. Tex. July 9, 2012)). We apply a different claim construction standard than that applied by a district court, and are not generally bound by a construction of a claim term using a different claim construction standard. *Power Integrations, Inc. v. Lee*, 797 F.3d 1318, 1326 (Fed. Cir. 2015). Nonetheless, we are mindful of the constructions by the District Court, including constructions of the terms "authenticity key," "preferences file," and "authenticity stamp." Ex. 1007, 21. Those terms, however, need not be construed expressly for this decision, so we need not determine whether

those constructions are consistent with the broadest reasonable construction of the terms. *Cf. Power Integrations*, 797 F.3d at 1327 ("We do not hold that the board must in all cases assess a previous judicial interpretation of a disputed claim term."). Furthermore, our analysis in this Decision is not impacted by whether we apply the broadest reasonable interpretation or the *Phillips* standard. *See Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005).

1. "File"

Each of the challenged independent claims recites "file" and, more specifically, "a preferences file."[7] Challenged independent claims 1, 29, and 31 each recites "an authenticity stamp is retrieved from the preferences file," and independent claim 32 similarly recites "retrieving an authenticity stamp from the preferences file." Additionally, each of the challenged claims requires that the authentication key either be retrieved to locate a preferences file or to be able to locate a preferences file. The dependent claims do not recite additional features or functions for a file. Thus, the plain language of the claims requires a "file" to be able to store something that can be retrieved.

The Specification describes exemplary embodiments of a preferences file. First, in describing exemplary communications among computer

[7] Although the District Court construed "a preferences file" as "a file containing one or more authenticity stamps," the District Court did not construe separately the more general term "file." Ex. 1007, 9–10.

components, the Specification indicates a software component (i.e., "a plug-in") "reads the preferences file," "decrypts" the preferences file, and determines the location of the preference file. Ex. 1001, 4:34, 4:40–41. The Specification also explains that "the location of the file is not readily known" to the software component. *Id.* at 4:37–38. The Specification further indicates that "[i]n exemplary embodiments, the preferences file is stored on the user's[8] 110 file system." *Id.* at 4:35–37. In the context of other exemplary embodiments, the Specification describes that the "preferences file is used to store information, such as a user's secure word" and "[p]referably the preferences file is placed in a random directory to help obscure the location of the preferences file and facilitate the creation of unique user configurations." *Id.* at 9:52–56. Thus, the Specification indicates that a file "is used to store information" and, in some exemplary embodiments, may be stored on a file system of a computer or may be placed in a random directory.

In the Decision to Institute, we did not construe expressly "file" but we relied on the definition of "file" from a technical dictionary that predates the effective filing date of the '191 patent—"[a] collection of related records treated as a unit"—for its ordinary and customary meaning as would be understood by one of ordinary skill in the art. Ex. 3002 (defining "file" in

[8] The Specification refers to item 110 both as "user 110" and "user computer 110." Ex. 1001, 4:51–52, 4:60.

the context of computer science).[9] Both Patent Owner's expert witness (Dr. Katz) and Petitioner's expert witness testifying in support of Petitioner's Reply (Mr. Román) agree that the MCGRAW-HILL DICTIONARY OF SCIENTIFIC AND TECHNICAL TERMS, on which we relied, is an authoritative reference in the field of computers generally. Ex. 1019, 79:5–11; Ex. 1016 ¶ 62.

(i) Patent Owner's Contentions and Evidence

Patent Owner does not agree with the construction of "file" in the Decision to Institute. PO Resp. 19–21. Dr. Katz opines that construction is incorrect because it would encompass (presumably, non-electronic) medical records for a single patient stored in geographically distinct locations. Ex. 2008 ¶ 22.

Instead, Patent Owner proposes "file" should be construed as "a uniquely named collection of data stored on a hard drive, disk or other storage medium and treated as a single entity." PO Resp. 19–21. For support, Patent Owner relies on a definition of "file" in the "computer information" context from a general-purpose dictionary published around the effective filing date of the '191 patent. *Id.* at 19–20 (citing Ex. 2006[10]).

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[9] MCGRAW-HILL DICTIONARY OF SCIENTIFIC AND TECHNICAL TERMS 752 (5th ed. 1994)

[10] MICROSOFT ENCARTA COLLEGE DICTIONARY 532 (2001) (defining "file" as "3 COMPUTER INFORMATION a uniquely named collection of program instructiso ions or data stored on a hard drive, disk, or other storage medium and treated as a single entity." Patent Owner does not explain why

Acknowledging that its dictionary definition was published after the priority date of the '191 patent, Patent Owner contends that its proposed construction "is consistent" with a general purpose dictionary that was published before the priority date. PO Resp. 19–21. That dictionary—THE OXFORD AMERICAN DICTIONARY AND LANGUAGE GUIDE—defines "file" in the computing context as "a collection of (usu. related) data stored under one name" in the computer context. *Id.* at 20 (citing Ex. 2009[11]). Although the Oxford definition provides additional support for a portion of Patent Owner's proposed construction based on the MICROSOFT ENCARTA COLLEGE DICTIONARY (i.e., a uniquely named collection of data), the Oxford definition does not provide express support for the portion of Patent Owner's construction requiring "data to be stored on a hard drive, disk, or other storage medium and treated as a single entity."

Patent Owner also contends that its proposed construction "is consistent" with the Specification. PO Resp. 20–21. Specifically, Patent Owner contends that the Specification's indication that, in exemplary embodiments, the preferences file may be stored on a computer file system "indicates that the preferences file is stored on a storage medium and is uniquely named." PO Resp. 20–21 (citing Ex. 1001, 4:35–37). Patent Owner further contends that the Specification's description that a software component "reads the preferences file to determine the authenticity stamp

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"program instructions" from the definition was not included in its proposed construction.

[11] THE OXFORD AMERICAN DICTIONARY AND LANGUAGE GUIDE 358 (1999).

and how it is to be displayed" "indicates that the preferences file is stored on a storage medium and is uniquely named." PO Resp. 20 (citing Ex. 1001, 4:40–41). Patent Owner's expert witness, Dr. Katz, supports Patent Owner's proposed construction. Ex. 2008 ¶ 22 (opining that one of ordinary skill in the art would have understood "file" in the manner defined by Patent Owner).

(ii) Petitioner's Contentions and Evidence

In reply, Petitioner relies on Mr. Román's testimony and evidence. Reply 3–7. Mr. Román testifies that he has over thirty years' experience "in the design, implementation, testing, and analysis of computer software, firmware, and hardware," including "analysis of file systems including source code and data structures." Ex. 1016 ¶ 16; *see also* Ex. 1017 (Curricumlum Vitae). Patent Owner does not challenge Mr. Román's qualifications.

Mr. Román testifies that the construction of "file" as "a collection of related records treated as a unit" is within the broadest reasonable construction in light of the Specification. Ex. 1016 ¶ 48; Reply 5. Mr. Román, however, further testifies, in addition to including "related records," that he would add "that a file can be a collection of related *data* that is treated as a unit." Ex. 1016 ¶ 48; Reply 5.

Mr. Román's opinion is supported by a variety of evidence. First, Mr. Román's testimony includes the origin and historical evolution of the term "file." Ex. 1016 ¶¶ 49–55; Reply 5. Mr. Román testifies that the word "file" originally arose outside of the computer context and later a computer-

specific definition was adopted. Ex. 1016 ¶¶ 49–53. Second, Mr. Román's opinion is based on his knowledge of specific file architectures, including files used by the 1984 Apple Macintosh, files used in the Unix operating system at least in 1986, and files used by Windows 3.1. Ex. 1016 ¶¶ 56–61, 78–80; Reply 5. Third, Mr. Román's opinion is supported by multiple dictionary definitions. Reply 5 (citing Ex. 1016 ¶¶ 62–74, 77); *id.* ¶ 62 (testifying that the dictionary used in the Decision to Institute to be "an authoritative reference in the field of computers generally"); *id.* ¶ 64–68 (relying on computer-science specific definitions in an AMERICAN HERITAGE DICTIONARY (Ex. 1020)); *id.* ¶ 69–73 (relying on the ENCYCLOPEDIA OF COMPUTER SCIENCE (Ex. 1022)); *id.* ¶ 74 (relying on MERRIAM WEBSTER'S COLLEGE DICTIONARY (Ex. 1024)); *id.* ¶ 77 (relying on the DICTIONARY OF COMPUTING by Oxford University Press (Ex. 1025)).

Mr. Román also testifies that the construction of "file," as when read in view of the Specification, would be understood to be "a collection of related records data treated as a unit" and would be understood to include "related data." Reply 5–6 (citing Ex. 1016 ¶¶ 84–90). In his testimony, Mr. Román identifies nine occurrences of the term "file" in the written description of the '191 patent. Ex. 1016 ¶¶ 86–88. Of the nine, Mr. Román identifies that only one provides insight into the meaning of "file"—the description of storing the preferences file on a file system in "preferred embodiments." *Id.* ¶¶ 86–87. Because the Specification described storing the file on a file system only in "preferred embodiments," Mr. Román opines that "one of ordinary skill in the art would understand such a feature to be

strictly optional, and in no way a requirement of the claimed invention." *Id.* ¶ 88. Mr. Román also testifies that he found "no evidence [in the prosecution history] that the applicant intended the term 'file' to have anything other than its plain and ordinary meaning." *Id.* ¶ 89.

(iii) Analysis

We do not adopt Patent Owner's proposed construction of "file" as "a uniquely named collection of data stored on a hard drive, disk or other storage medium and treated as a single entity." PO Resp. 19–21. First, although Dr. Katz nominally supports Patent Owner's proposed construction in his declaration, his deposition testimony diminishes the weight we give Dr. Katz's declaration testimony. *Compare* Ex. 2008 ¶ 22 (opining that one of ordinary skill in the art would have understood "file" in the manner defined by Patent Owner), *with* Ex. 1019, 66:21–67:3 (referring to Ex. 2008 ¶ 22), 90:5–9 (Dr. Katz acknowledges that he "believe[s]" that he took his definition of "file" set forth in his declaration "from the Patent Owner's response" and he "*would have used different words*" if he had formulated a construction without first being shown Patent Owner's proposed construction) (emphasis added). Furthermore, other than the medical record example, Dr. Katz provides no specific reasoning to support his position. Thus, we accord Dr. Katz's testimony in this regard relatively little weight.

Second, Mr. Román testifies that Patent Owner's proposed construction "imposes additional requirements beyond those reflected in many of the most respected and authoritative references available in or

around the year 2000." Ex. 1016 ¶ 83; *see also* Exs. 1020, 1022, 1024, 1025, 3002 (dictionary definitions discussed by Mr. Román).

Third, Mr. Román provides examples of computers and operating systems that do not require files to be uniquely named—(i) example in which a file may have two names (Ex. 1016 ¶ 79), (ii) an example in which multiple files can have the same name and be distinguished by different version numbers (Ex. 1016 ¶ 80), (iii) an example in which file names are not unique and files are distinguished based on storage location of the file (Ex. 1016 ¶¶ 78–79). Thus, Mr. Román's testimony and the evidence on which his testimony is based contradicts Patent Owner's proposed construction that requires "a uniquely named collection of data."

In its argument concerning the art, Patent Owner further contends that the term "file" also requires that data must be treated as a unit by a file system, thus implicitly adding the phrase "by a file system" to its construction. PO Resp. 33–34. Based on Mr. Román's testimony and evidence, we disagree with Patent Owner's assertion that a file must be "treated as a unit by a file system." *See, e.g.*, Reply 12 (citing Ex. 1016 ¶¶ 63, 66, 69, 70, 74, 77). Mr. Román testifies that the sole reference in the Specification was in the context of "preferred embodiments" and so one of ordinary skill in the art would not understand that to be required. Similarly, the evidence relied on by Mr. Román does not require a file system. Other than a preferred embodiment in the Specification, the evidence of record that best seems to support Patent Owner's assertion that "a file system" would be required is one of Patent Owner's two dictionary definitions—MICROSOFT

ENCARTA COLLEGE DICTIONARY indicating a file is "stored on a hard drive, disk or other storage medium and treated as a single entity" (Ex. 2006)—the definition that post-dates the effective date of the claims.

Addressing Mr. Román's testimony that supports the construction in the Decision to Institute, Patent Owner contends that this construction is overly broad. Obs. 3–8 (citing Ex. 2010, 9:24–10:2, 12:4–11, 12:20–13:4, 13:16–21, 24:23–25:1). According to Patent Owner, Mr. Román testified that a footer, a header, a section, or a paragraph in an electronic document created by particular commercial word processing software in 2015 (i.e., fifteen years after the priority date) would constitute a file under the Board's construction in the Decision to Institute. Obs. 3–8 (citing Ex. 2010, 9:24–10:2, 12:4–11, 12:20–13:4, 13:16–21, 24:23–25:1, 29, 5–11). According to Patent Owner's attorney-argument, a footer, a header, a section, or a paragraph in such an electronic document actually would not be a file and so the construction in the Decision to Institute is overly broad. *See, e.g.*, Tr. 41:3–7 (arguing that "you would not consider" a footer in an electronic document to be a file).

Petitioner disagrees with Patent Owner's characterization of Mr. Román's testimony. Resp. to Obs. 2–3 (citing Ex. 2010, 70:18–71:21[12]). Petitioner cites to testimony clarifying that Mr. Román's

[12] "Q: Now was your testimony about the header, footer, and footnote . . . based on your understanding that Microsoft Word, at least in 2015 . . . uses a component architecture for structuring its documents?
A: Yes.

testimony only addresses the narrow context of Patent Owner's hypothetical question—how a particular word processor in 2015 treats a footer, a header, a section, or a paragraph in an electronic document. *Id.* Specifically, Petitioner identifies Mr. Román's testimony that a footer, a header, a section, or a paragraph in an electronic document would *not* be a file, *unless* that data was being stored in "a component document architecture," such as one used in 2015 by the particular word processing program at issue. Resp. to Obs. 2–3 (citing Ex. 2010, 70:18–71:21 (contrasting footers and headers in a document using a component document architecture with footers and headers in a "ASCII text file"). Thus, we do not agree with Patent Owner's conclusion that the construction in the Decision to Institute is overly broad.

Furthermore, based on Mr. Román's testimony and evidence, however, we are persuaded that we should modify the construction in two ways. First, we should add "related data" for the reasons enumerated in Mr. Román's testimony. We also note that, at the hearing, Patent Owner repeatedly used the term "related data" in place of "related records" in the proposed construction[13] and, thus, appears not to object to this modification to the construction of "file." Second, in view of Mr. Román's testimony that a definition of "file" became "specifically tailored to the field of computers" and in view of the computer context of the '191 patent, we are persuaded we

[13] *See, e.g.*, Tr. 46:5–7 (arguing that "there is a dispute over what . . . related data needs to be treated as a unit in order to be considered to be a file"); *id.* at 51:11–13 (arguing "a complete definition for the term file [requires] related data to be treated as a unit by a file system"); *id.* at 52:9–10 (arguing "a separate file, meaning that it is seen as related data by the file system").

should add "electronic" to the construction of "file." Ex. 1016 ¶¶ 52–53; *id.* ¶ 54 (describing "electronic files"). Both parties recognize the electronic context of the '191 patent. Pet. 5 ("The '191 Patent relates to authenticating a web page. . ."); PO Resp. 3 (describing the inventors of the '191 patent as solving "the problems associated with fraudulent web pages. . ."). We further note that Petitioner agrees that files in the context of the '191 patent are electronic files.[14]

For these reasons, we construe "file" to mean "an electronic collection of related records or related data treated as a unit."

2. "Transforming" or "Transforms"

Independent claim 1 recites "transforming, at an authentication host computer, received data by inserting an authenticity key to create formatted data."[15] Independent claim 32 recites "transforms the received data by inserting an authenticity key to create the formatted data."

Petitioner asserts the broadest reasonable construction of "transforming" is "formatting" and the broadest reasonable construction of "transforms" is "formats." Pet. 24–25. Petitioner indicates that the term

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[14] Tr. 16:1–12 (Petitioner's counsel indicating the context of the '191 patent and the applied art (Houser) deal with "electronic documents" and "electronic data").

[15] Although claims 10 and 13 are not challenged in this Petition, those claims respectively recite, similarly to claim 1, "further transforming received data by inserting a second authenticity key into the received data" and "further transforming by inserting a second authenticity key into the formatted data."

"transform" does not appear in the written description of the '191 patent. *Id.* Petitioner further relies on the testimony of its expert witness, Mr. Schneier, that the construction of "transforming" to mean "formatting" finds support in the written description of the '191 patent. *Id.* at 26–27 (citing Ex. 1008 ¶¶ 38–43).

In contrast, Patent Owner contends "transforming" means "changing." PO Resp. 27–29. Patent Owner supports its contention with a general purpose dictionary definition. *Id.* at 27. Patent Owner further relies on the language in claims 1, 10, and 13 that indicates how the transformation occurs—by inserting an authenticity key. *Id.* at 27–28. Because the written description describes inserting an authenticity key, Patent Owner contends that the written description of the '191 patent is consistent with its proposed construction of "transforming" as "changing." *Id.* at 28–29 (citing Ex. 1001, 1:55–57, 7:64–8:6).

We agree with Petitioner's proposed construction. The language of independent claims 1 and 32 each recites the result of transformation—"transforming . . . to create formatted data" and "transforms . . . to create the formatted data." Further, as indicated by Petitioner's declarant Mr. Schneier, the written description of the '191 patent does not describe expressly "transforming" but expressly describes "a formatting step to create formatted data, *i.e.*, the web page." Ex. 1008 ¶ 40; *see* Ex. 1001, 5:4–6 ("The logic of retrieving and formatting the requested page is described below with reference to FIGS. 9 and 10."). Being mindful not to import

limitations from the Specification into the claims, we agree that the Specification is consistent with construing "transform" to mean "format."

The result of the recited transformation—formatted data—stays true to the claim language and most naturally aligns with the Specification's description of the invention. *See Translogic Tech.*, 504 F.3d at 1257 ("The specification 'is the single best guide to the meaning of a disputed term.'") (quoting *Phillips v. AWH Corp.*, 415 F.3d 1303, 1315 (Fed. Cir. 2005) (en banc)); *cf. Phillips*, 415 F.3d at 1316 ("The construction that stays true to the claim language and most naturally aligns with the patent's description of the invention will be, in the end, the correct construction.") (citation omitted). Further, the dependent claims do not have language that would indicate a different construction.

For these reasons, we construe "transforming" as "formatting" and "transforms" as "formats."

3. "Received Data"

Independent claims 1, 31, and 32 recite "received data."[16] In the Decision to Institute, in response to Patent Owner's preliminary arguments, we determined that independent claims 1, 31, or 32 did not require an authentication host computer to receive data from outside of itself or from a

[16] The District Court determined that no construction was necessary for "received data." Ex. 1007, 13–14. The District Court also rejected both Patent Owner's proposed construction of "data indicative of at least part of a web page" and the defendants' proposed construction of "a webpage or other document requested by the user." *Id*.

device other than the authentication host computer. Inst. Dec. 10. We consider this issue here based on the record as fully developed during trial. For the following reasons discussed below, we do not construe the independent claims 1, 31, and 32 to require an authentication host computer to receive data from outside of itself or from a device other than the authentication host computer.

In its Patent Owner Response, Patent Owner proposes, with support of Dr. Katz, that "transforming, at an authentication host computer, received data" (recited in independent claim 1), "instructions to format received data by inserting an authenticity key to create formatted data" (recited in independent claim 31), and "the authentication host computer receives the data to create received data" (recited in independent claim 32) require the authentication host computer "to receive data from outside of itself." PO Resp. 8–14; Ex. 2006 ¶ 20.

Petitioner opposes Patent Owner's proposed construction that the claim limitations which recite "received data" require an authentication host computer to receive data from outside of itself. Reply 14–16. Petitioner argues that Patent Owner's proposed construction improperly imports limitations from a single embodiment of the '191 patent—using a web server to forward a retrieved page to an authentication server. *Id.* at 15 (citing Ex. 1001, 3:49–55, Fig. 4). Petitioner also indicates that the '191 patent discloses an alternative embodiment in which the logic of the authentication server and the logic of the web server is combined on the same server. Reply 15 (citing Ex. 1001, 4:57–58 ("the logic of the authentication server

may be combined with the logic of the web server"), 8:17–18, Fig. 5). Thus, contrary to Patent Owner's proposed construction, the Specification describes in that embodiment the authentication server receives data from the web server logic and not from a device outside of the authentication server.

With the support of Mr. Schneier, Petitioner proposes the term "received data" encompasses "receiving data sent from a component in or associated with the authentication host computer." Pet. 22. Petitioner relies on the plain language of the claim, the Specification, and testimony from Mr. Schneier. *Id.* at 22–24 (citing Ex. 1001, 4:56–58, 8:17–18; Ex. 1008 ¶ 54).

As an initial matter, in accordance with the plain language of the claims and because the '191 patent does not provide any special meaning for the term "received data," we construe "received data" to mean "data that has been received." The term "received data" implies data has been received but does not itself require the data to be received at a particular time, in a particular manner, by a particular device (such as an authentication host computer), or from a particular device (such as a device other than an authentication host computer).

None of independent claims 1, 31, or 32 expressly recites from where the received data is sent, much less recites expressly that the data is sent from a device other than the authentication host computer and, thus, would be received "from outside of itself." Of independent claims 1, 31, and 32, only independent claim 32 expressly requires a particular device—"an

authentication host computer"—to receive data. Independent claim 32 also requires the authentication host computer to act on received data in a particular manner—"wherein the authentication host computer receives the data to create received data." Similarly, independent claims 1 and 31 require acting on received data in a certain manner—to transform (claim 1), or format (claim 31), received data in a certain manner to create formatted data. Thus, none of claims 1, 31, or 32 expressly requires an authentication host computer to receive data from a device other than the authentication host computer, as Patent Owner contends.

(i) Independent Claim 1

In reciting "transforming, at an authentication host computer, received data," independent claim 1 requires the transforming be performed by a particular device—"an authentication host computer." In reciting "received data," however, claim 1 impliedly requires data have been received but does not require the data to be received by a particular device, such as an authentication host computer.

This construction is consistent with the '191 patent because claim 1 recites "an authentication host computer," a term that does not appear in the '191 patent other than in the claims and does not recite "an authentication server," a term that does appear in the written description of the '191 patent.[17] Because the '191 patent discloses embodiments that do not require

[17] Patent Owner apparently equates the recited "authentication host computer" with the "authentication server" disclosed in the '191 patent. *See*,

an authentication server, we will not equate the claim term "authentication host computer" with the disclosed authentication server. *See* Ex. 1001, 4:5–43, Fig. 5 (using a web server that digitally signs without involving a separate authentication server), *id.* at 4:57–58 (describing a combined web server and authentication server where the authentication server receives data from the web server logic), Figs. 9, 10. This view is confirmed by the prosecution history of the '191 patent. *See Microsoft Corp. v. Proxyconn, Inc.*, 789 F.3d 1292, 1298 (Fed. Cir. 2015) ("The PTO should also consult the patent's prosecution history in proceedings in which the patent has been brought back to the agency for a second review."). The applicants during examination deliberately removed "authentication server" from a pending claim. Ex. 3003,[18] 11 (deleting "authentication server" from application claim 8 in response to the Office action dated July 16, 2008). Later to address a rejection that the claim did not recite patent-eligible subject matter, the applicants added "an authentication host computer"—not "authentication server"—to claim 1. *Id.* at 2 (adding "authentication host computer" to application claim 1 in response to the Office action dated January 9, 2009).

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e.g., PO Resp. 10–14 (relying on an "authentication server" depicted in Ex. 1001, Figs. 9, 10 for support of Patent Owner's contention that the recited "authentication host computer" receives data from a web server).

[18] Petitioner's Exhibit 1002 is labeled "File Wrapper for US 7,631,191" but the exhibit does not contain the file history of the '191 patent. Thus, for clarity and completeness, we have provided excerpts from the prosecution history of the '191 patent as Ex. 3003.

Additionally, during examination, the applicants removed from claim 1 a limitation specifying a source from which the data was received and then deleting the receiving step entirely. *Id.* at 25 (removing the source from which data was received by changing "receiving data *from* a client" to "receiving data *for* a client" in claim 1 in response to the Office action dated October 18, 2007); *id.* at 10 (then deleting the receiving step entirely by deleting "receiving data for a client to create received data" in application claim 1 in response to a later Office action dated July 16, 2008).

Thus, the applicants deliberately broadened claim 1 by removing a limitation specifying from where the data is received. This further confirms our determination that the transformation limitation in claim 1 should not be construed to require the authentication host computer to receive data from outside of itself or from another device (such as a client computer or a web server), which is a more narrow construction than the plain language of the claim requires.

(ii) Independent Claim 31

We turn to independent claim 31, which Patent Owner contends requires an authentication host computer to receive data outside of itself and further requires the authentication host computer to receive data from another device. PO Resp. 42 ("[The prior art reference] does not disclose that 'the authentication host computer receives the data to create received data, and transforms the received data'. . . *as similarly recited in independent claims 31* and 32") (initial capitalization removed; emphasis added).

Contrary to Patent Owner's arguments, Independent claim 31 does not recite an "authentication host computer" but rather recites a "computer readable medium having . . . instructions to format received data." We are not persuaded that the recited instructions must be executed by an authentication host computer because other embodiments are described by the '191 patent, among them an embodiment using a web server that digitally signs without involving separate authentication server (Ex. 1001, 4:5–43, Fig. 5) and a combined web server and authentication server (*id.* at 4:57–58).

(iii) Independent Claim 32

Turning to independent claim 32, the plain language "receiving, at a client computer, formatted data from a[n] authentication host computer wherein the authentication host computer receives the data to create received data" requires the authentication host computer to receive data and to create received data. We are not persuaded, however, that independent claim 32 requires the authentication host computer to receive data from another device, as Patent Owner contends. *See*, *e.g.*, PO Resp. 40 (arguing "Houser cannot possibly disclose an authentication host computer first receiving data and then transforming that data because the data that is processed at the computer in Houser is created rather than received at the computer").

We credit Mr. Schneier's testimony that the express language of the claim would not be understood by one of ordinary skill in the art to limit or define the location from which the received data originates. Ex. 1008 ¶ 54. Mr. Schneier testifies: "[i]n absence of express guidance from the

specification, one of ordinary skill in the art would understand the claim language as supporting embodiments that are not limited to data transmitted between remotely situated devices." *Id.* This supports Mr. Schneier's testimony that "received data" would encompass "receiving data sent from a component in or associated with the authentication host computer." *Id.*; *see id.* ¶¶ 52–54.

Turning to Dr. Katz's testimony on this issue, Dr. Katz testifies that independent claim 32 requires "the authentication host computer to receive data before it can transform that data" because "[i]f the data being transformed were already located at the authentication host computer, there would be no need to receive the data first." Ex. 2008 ¶ 20. We give Dr. Katz's testimony less weight than Mr. Schneier's opposing testimony. First, Dr. Katz's testimony indicates that the authentication host computer transforms the received data. The plain language of the claim, however, does not recite what device or component transforms the received data. Nor does Dr. Katz explain why he concludes the authentication host computer transforms the received data. This undermines Dr. Katz's testimony that the authentication host computer transforms the received data, a basis of Dr. Katz's opinion.

Second, the plain language of the claim requires the authentication host computer not only to "receive[] the data" but also "to create received data." Dr. Katz fails to account in his analysis for the claim requirement "to create received data." This further undermines Dr. Katz's opinion that

independent claim 32 precludes the authentication host computer from receiving data from a component or device within itself.

Third, neither Patent Owner nor Dr. Katz address persuasively how the disclosure of a combined web server and authentication server (*id.* at 4:57–58) or the use of the term "authentication server" in the '191 patent (as opposed to the claimed "an authentication host computer") would affect how one of ordinary skill in the art would understand the scope of independent claim 32.

We note that independent claim 32 recites "a client computer" and "a[n] authentication host computer," but independent claim 32 does not recite a "web server." As noted previously, the '191 patent describes an embodiment in which the logic of the authentication server and the logic of the web server is combined on the same server. Ex. 1001, 4:57–58 ("the logic of the authentication server may be combined with the logic of the web server"), Figs. 9, 10. In such a case, the exemplary logic of an authentication server depicted in Figure 10 would receive data "forwarded" from the web server logic depicted in Figure 9. *Id.* at 4:52–58, Fig. 9 step 507 ("Forward retrieved page to authentication server"), fig. 10 steps 608–610 ("Generate authenticity key, Insert authenticity code into page, Return page with authenticity code to web server") (capitalization removed). Thus, the '191 patent discloses an embodiment in which the authentication server receives data from "web server logic" that is not "outside of" the authentication server and is not from another device. *Baran v. Med. Device*

Techs., Inc., 616 F.3d 1309, 1316 (Fed. Cir. 2010) ("It is not necessary that each claim read on every embodiment.").

(iv) Conclusion

For these reasons, we determine that independent claims 1, 31, or 32 do not require an authentication host computer to receive data from outside of itself or from a device other than the authentication host computer.

4. "Authenticity Key" and "Locating a Preferences File"

Independent claims 1, 29, 31, and 32 each recites some limitation regarding the authenticity key and locating a preferences file. Independent claim 1 recites "returning . . . the formatted data to enable the authenticity key to be retrieved from the formatted data and to locate a preferences file." Independent claim 29 recites "the authenticity key enables location of a preferences file." Independent claim 31 recites "the authenticity key is retrieved from the formatted data to locate a preferences file." Similarly, independent claim 32 recites "retrieving, by the client computer, the authenticity key from the formatted data to locate a preferences file."

The parties dispute whether these claims require the preferences file to be hidden and require "the authentication key to provide the ability to determine a location of a preference file," as Patent Owner contends (PO Resp. 19–22). For the following reasons, we do not construe the independent claims 1, 29, 31, and 32 to require the preferences file to be hidden or to require the authentication key be used to, or provide the ability to, determine a location of a preference file.

Preferences File Need Not Be Hidden

Turning first to whether the claims require the recited "preferences file" to be hidden, Patent Owner contends that all of the challenged claims require the "preferences file" to be hidden or obscured—its location not to be known. Despite Patent Owner contentions, none of the independent claims recite expressly hiding or obscuring the location of the preferences file, or that the location of the preferences file is hidden or obscured. In support of its position, Patent Owner relies on a preferred embodiment disclosed in the written description in which the location of the preferences file is obscured. *See, e.g.,* PO Resp. 23–24 (citing Ex. 1001, 4:37–38). Patent Owner's contentions seem to require the location of the preferences file to be concealed, rather than merely not being known. *Id*. at 24 (arguing "the preferences file . . . is hidden" and "the preferences file remains hidden"), 38 (arguing the prior art reference does not disclose the claimed preferences file because the prior art information "is known").

In response, Petitioner opposes, indicating "to enable the authenticity key . . . to locate a preferences file" and similar claim terms do not require the location of the preferences file to be hidden. Reply 2–3. Petitioner acknowledges that the '191 patent describes the file location of the preferences file as "not readily known to the" user computer. *Id.* at 3 (quoting Ex. 1001, 4:37–38). Petitioner correctly notes, however, that the '191 patent does not require a preferences file be hidden but only discloses the location may be obscured or not readily known in preferred, but not all, embodiments. Ex. 1001, 4:5–7, 37–40 (indicating in an exemplary

embodiment, "the location of the preferences file is not readily known" to the user computer, so the user computer "must get the preferences key to determine the location of the preferences file"). In another example, the '191 patent indicates that "*[p]referably*, the preferences file is placed in a random directory to help obscure the location of the preferences file." *Id.* at 9:53–55 (emphasis added). Thus, the '191 patent does not require a preferences file be hidden but only discloses the location may be obscured or not readily known in preferred, but not all, embodiments, a determination with which Mr. Schneier agrees (Ex. 1008 ¶¶ 60–61).

We decline to read limitations into a claim from these preferred embodiments described in the Specification when the claim language is broader than the embodiment. *In re Am. Acad. of Sci. Tech Ctr*., 367 F.3d 1359, 1364 (Fed. Cir. 2004); *In re Van Geuns*, 988 F.2d at 1184. Here, the claim language is broader than the preferred embodiments describing the location of the preferences file as obscured or not readily known and, therefore, should not be narrowed by embodiments in the '191 patent. Furthermore, the '191 patent does not set forth a special definition for that claim term with reasonable clarity, deliberateness, or precision that would impose a special meaning requiring the location of the preferences file be obscured or hidden. *See In re Paulsen*, 30 F.3d at 1480.

Accordingly, neither the term "to locate a preferences file" in claims 1, 31, and 32, nor the term enabling "location of a preferences file" in claim 29, require the location of the preferences file be obscured or hidden. Nor does "enabl[ing] authentication of the authenticity key . . . to retrieve an

authenticity stamp from a preferences file," as recited in independent claim 17, require the preferences file to be obscured or hidden.

Enabling the Authenticity Key to Locate a Preferences File

Petitioner contends that none of the claims require the formatted data or the authenticity key be used to locate the preferences file. Pet. 17–18. Rather, Petitioner contends independent claims 1, 29, 31, and 32 only require "enabling, by an authenticity key as a precondition, a process of by which a preferences file is located." *Id*. at 17. With support from Mr. Schneier, Petitioner contends that the Specification does not disclose that information from the authenticity key is used to locate a preferences file. *Id*. at 18 (citing Ex. 1008 ¶¶ 19, 22, 24). Petitioner also indicates that the District Court concluded that the Specification does not support using an authenticity key to locate a preferences file. *Id*. (citing Ex. 1007, 18 ("The Court has already clarified that the authenticity key is not used to locate the preferences file. Rather, the preferences key is used to locate a preferences file.") (citing the '191 patent, 4:38–40)).

Patent Owner does not challenge directly whether the authenticity key must be used to locate the preferences file. Patent Owner, however, contends that one of ordinary skill in the art would have understood the claim limitation "to enable the authentication key . . . to locate a preferences file" to require "the authenticity key to provide the ability to determine a location of a preference file." PO Resp. 25; *see id.* at 23 ("The Board should construe the claim phrases emphasized above to require 'the authenticity key to provide the ability to determine a location of a preference file.'").

We agree with Petitioner that none of the claims require the authenticity key to locate the preferences file or have the ability to determine the location of a preferences file. First, none of the independent claims recite the authenticity key being used to locate the preferences file. Nor is there evidence of written description support for such an interpretation—the '191 patent does not disclose using an authenticity key to locate the preferences file, as recognized by the District Court. Ex. 1007, 18 ("The Court has already clarified that the authenticity key is not used to locate the preferences file."). Rather, as noted previously, the '191 patent discloses in a preferred embodiment that a preferences key, which is different than an authenticity key, is used to locate the preferences file. *See* Ex. 1001, 4:38–40; *see also* Ex. 1007, 18 (the District Court indicating that "the preferences key is used to locate a preferences file.").

Mr. Schneier supports Petitioner's position (Ex. 1008 ¶¶ 19, 61), and Dr. Katz supports Patent Owner's position (Ex. 2008 ¶ 21). Neither expert witness provides additional reasoning or analysis to that presented in each of the respective briefing by the parties.

Petitioner's proposed construction of independent claims 1, 29, 31, and 32 as "enabling, by an authenticity key as a precondition, a process by which a preferences file is located" better comports with the claims and written description of the '191 patent. Pet. 17. For example, the '191 patent discloses that after verification of a received digital signature, the preferences key is requested and subsequently used to determine the location of the preferences file. *See* Ex. 1001, 4:22–40 (referring to Fig. 5). The

verification of the received digital signature must occur before the preferences key can be requested and used to determine the location of the preferences file. In other words, verification of the received digital signature is a precondition of requesting and using the preferences key to determine the location of the preferences file. Thus, verification of the received digital signature enables—supplies the opportunity for[19]—the requested preferences key.

Accordingly, we agree with Petitioner that none of the claims require the formatted data or the authenticity key be used to locate the preferences file.

D. Principles of Law Regarding Anticipation and Obviousness

To prevail in challenging claims 1–5, 16, and 29–32 of the '191 patent, Petitioner must demonstrate by a preponderance of the evidence that the claims are unpatentable. 35 U.S.C. § 326(e); 37 C.F.R. § 42.1(d).

To establish anticipation under 35 U.S.C. § 102, each and every element in a claim, arranged as recited in the claim, must be found in a single prior art reference. *Net MoneyIN, Inc. v. VeriSign, Inc.*, 545 F.3d 1359, 1369 (Fed. Cir. 2008); *Karsten Mfg. Corp. v. Cleveland Golf Co.*, 242 F.3d 1376, 1383 (Fed. Cir. 2001). To anticipate, a prior art reference must

[19] AMERICAN HERITAGE DICTIONARY 605 (3d ed. 1992) (defining "enable" as "1. To supply the means, knowledge, or opportunity; make able") (Ex. 3004); RANDOM HOUSE WEBSTER'S COLLEGE DICTIONARY 433 (2nd ed. 2000) (defining "enable" as "1. to make able; authorize or empower. 2. to make possible or easy") (Ex. 2004).

disclose more than "multiple, distinct teachings that the artisan might somehow combine to achieve the claimed invention." *Net MoneyIN*, 545 F.3d at 1371; *see also In re Arkley*, 455 F.2d 586, 587 (CCPA 1972) ("The [prior art] reference must clearly and unequivocally disclose the claimed [invention] or direct those skilled in the art to the [invention] without *any* need for picking, choosing, and combining various disclosures not directly related to each other by the teachings of the cited reference."). Although the elements must be arranged or combined in the same way as in the claim, "the reference need not satisfy an *ipsissimis verbis* test," i.e., identity of terminology is not required. *In re Gleave*, 560 F.3d 1331, 1334 (Fed. Cir. 2009); *In re Bond*, 910 F.2d 831, 832 (Fed. Cir. 1990). Moreover, the prior art reference is read from the perspective of one with ordinary skill in the art. *In re Graves*, 69 F.3d 1147, 1152 (Fed. Cir. 1995) ("A reference anticipates a claim if it discloses the claimed invention such that a skilled artisan could take its teachings in combination with his own knowledge of the particular art and be in possession of the invention."); *In re Preda*, 401 F.2d 825, 826 (CCPA 1968) ("[I]t is proper to take into account not only specific teachings of the reference but also the inferences which one skilled in the art would reasonably be expected to draw therefrom.").

Under 35 U.S.C. § 103(a), a claim is unpatentable 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 the following: (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 ordinary skill in the art; and (4) objective evidence of nonobviousness. *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).

E. Asserted Ground that Claims 1, 3, 5, 16, and 29–32 Are Anticipated By Houser

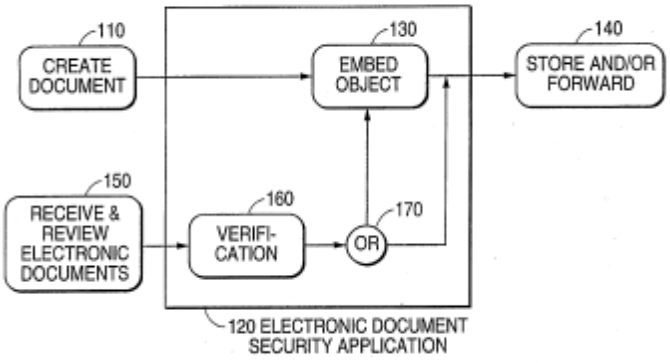
Petitioner asserts that claims 1, 3, 5, 16, and 29–32 are unpatentable under 35 U.S.C. § 102(b) as anticipated by Houser. Pet. 52–71; Reply 1–18. Petitioner provides citations to Houser and analysis specifying where limitations of the challenged claims purportedly are disclosed by Houser. *Id.* Petitioner also relies on the declaration testimony of Mr. Schneier (Ex. 1008) and of Mr. Román (Ex. 1016). Patent Owner challenges Petitioner's assertions, relying on the declaration testimony of Dr. Katz. PO Resp. 29–46 (citing Ex. 2008). We have reviewed the Petition, the Patent Owner's Response, and Petitioner's Reply, as well as the relevant evidence discussed in those papers and other record papers. We determine the record supports Petitioner's contentions and adopt Petitioner's contentions discussed below as our own. For reasons that follow, we determine that Petitioner has shown by a preponderance of the evidence that Houser anticipates claims 1, 3, 5, 16, and 29–32.

1. Summary of Houser

To address the problem of altered or forged electronic documents, Houser describes techniques for indicating authenticity of an electronic document. Ex. 1004, 1:7–13, 1:59–67. More specifically, Houser describes verifying the integrity or signator of an electronic document "by embedding a security object . . . in the electronic document . . . at a location selected by the signator." *Id.* at Abstract. "The embedded security object includes security information and an identifier for invoking the processing of security information." *Id.* The security information may include "the signator's 'electronic chop,' which may be the signator's digitized signature or other graphic image." *Id.* "If the signator and the document integrity are confirmed, the electronic chop is displayed in the document." *Id.* "If, however, the signator or document integrity are not verified, the electronic chop is not displayed." *Id.*

Figure 1 of Houser is set forth below:

FIG. 1



The fundamental operation cycle of Houser's techniques is shown in Figure 1. *Id.* at 7:15–16. An electronic document is created at 110. *Id.* at

7:16. Then electronic security application 120 is used to embed a security object in the electronic document as represented at 130. *Id.* at 7:29–31. "The 'signed' electronic document (i.e., the electronic document including one or more embedded security objects) may be stored and/or transmitted to another party represented at 140." *Id.* at 7:62–65. The electronic document is received at 150 and an identifier in the embedded security object invokes the verification processing of the electronic document security application 120 at 160. *Id.* at 7:66–8:2. Houser indicates that performing verification processing by another electronic document security application is preferred because it facilitates communication of electronic documents between users. *Id.* at 8:2–8.

2. Independent Claims 1, 29, 31, and 32

(i) Petitioner's Contentions

Petitioner contends each limitation of independent claims 1, 29, 31, and 32 is disclosed by Houser. Petitioner asserts that Houser's electronic document before the security object is embedded discloses the recited "received data" and the electronic document after the security object is embedded discloses the recited "formatted data." Pet. 52, 54. Petitioner's position is that Houser's graphic of the signator's digitized signature (called an "electronic chop") discloses the recited "authenticity stamp." *Id.* at 52. According to Petitioner, Houser's identifier in the embedded security object discloses the recited "authentication key" to be retrieved from formatted data. *Id.* at 54–55, 61.

Petitioner contends that, because the security object with the identifier is embedded in the electronic document (i.e., "the formatted data) and the identifier (i.e., "authentication key") are used to invoke the processing of security information, Houser discloses formatted data having an authentication key. *Id.* at 56, 61. Petitioner further contends that Houser's security information (which includes the "electronic chop" or other graphic, corresponding to the claimed "authenticity stamp") in the security object discloses the recited "preferences file" from which the "authenticity stamp" is retrieved. *Id.* at 57, 64–65; Tr. 11:18–12:1.

According to Petitioner, Houser's description of embedding a security object (having an identifier—"authentication key") in the electronic document discloses the recited "transforming, at an authentication host computer, received data by inserting an authenticity key to create formatted data." Pet. 61. Petitioner contends that Houser's electronic document security application 120, which is implemented using a standard computer and described as embedding the security object into the electronic document, discloses the recited authentication host computer. *Id.* at 59–60 (citing Ex. 1004, 7:29–31, 8:50–62).

Petitioner further contends that Houser's description of transmitting the electronic document with the embedded security object to another party and subsequently invoking the verification processing discloses the recited "returning, from the authentication host computer, the formatted data to enable the authenticity key to be retrieved from the formatted data and to locate a preferences file." *Id.* at 59–61, 63–64; *see id.* at 60 (indicating

Houser's Figure 1 discloses the "'authentication host computer' (e.g., security application 120) . . . is returning or sending 'formatted data' at block 140") (citing Ex. 1004, 7:16–8:19). The portion of Houser cited by Petitioner indicates that performing verification processing by another electronic document security application is preferred because it facilitates communication of electronic documents between users. *Id.* at 60 (citing Ex. 1004, 8:2–8).

Petitioner contends that Houser's description of extracting the electronic chop ("authenticity stamp") from the embedded security object having security information ("preferences file") and displaying the electronic chop discloses the recited "an authenticity stamp is retrieved from the preferences file." *Id.* at 64–65.

We agree with Petitioner's position that Houser anticipates the challenged independent claims 1, 29, 31, and 32. The identified citations from Houser support Petitioner's position when read in view of the proper construction of the claims discussed in Section II.C.

(ii) Analysis of Patent Owner's Contentions

Patent Owner contends that Petitioner has not demonstrated that claims 1, 3, 5, 16, and 29–32 are anticipated by Houser. PO Resp. 29–47.

(a) Houser Discloses a Preferences File

First, Patent Owner disputes that Houser discloses a preferences file as required by independent claims 1, 29, 31, and 32 based on limitations not required by the claims. *Id.* at 30–35. Patent Owner's argument that

Houser's embedded security object is not a preferences file because, according to Patent Owner, the recited preferences file must be "a uniquely named collection of data" (*id.* at 30–31) is premised on an incorrect claim construction for reasons discussed previously.

Patent Owner also contends that Houser does not disclose the recited preferences file because Houser's security information cannot be accessed by a file system, which Patent Owner contends is required. *Id.* at 31–35. Patent Owner's argument again is premised on an incorrect claim construction for reasons discussed previously.

Moreover, Mr. Román testifies that, because Houser describes "assembl[ing]" the security information into a "predetermined format," which is accessible to the security application, Houser describes the "security information" is a set of related data treated as a unit. Reply 11 (citing Ex 1016 ¶¶ 141–42). We also note that Houser refers to "security information" as a unit—"the operating system of the computer, responsive to the identifier, may invoke processing of the security information in the embedded security object." Ex. 1004, 7:35–41. Furthermore, Dr. Katz does not disagree and testifies that "the conclusion that Houser treats the security information as a unit" was "reasonable." Ex. 1019, 64:12–17; Reply 11 (quoting Ex. 1019, 64:12–17).

Patent Owner further contends that Houser does not disclose an "authenticity stamp is retrieved from the preferences file" because, according to Patent Owner, Houser does not disclose the recited preferences file. PO Resp. 35–36. First, we do not agree that Houser does not disclose

the recited "preferences file," for the reasons discussed previously. Second, Patent Owner acknowledges that "Houser's electronic chop [the element on which Petitioner relies as disclosing the recited authentication stamp] is part of the security information within the embedded security object." PO Resp. 36 (citing Ex. 1004, 4:47–48). Thus, we agree with Petitioner that "[o]nce [Houser's] 'security information' is determined to be a 'file,' there is no dispute that Houser further discloses an authenticity stamp being retrieved from a preferences file." Reply 12.

(b) Houser's Security Information Is Known

Patent Owner also contends that, because Houser's security information is known, Houser does not disclose an authenticity key that provides the ability to determine a location of a preferences file. PO Resp. 38–39. As explained previously, we do not agree that the location of a preferences file must be hidden, obscured, or unknown.

(c) Houser Receives and Returns the Electronic Document

Patent Owner further contends that, because the same server in Houser creates the document and embeds the security object in the document, Houser does not disclose an authentication host computer (claim 1) or a device (claims 31 and 32) receiving data sent from outside itself, as Patent Owner contends is required by claim 1. *Id.* at 39–41. As discussed previously, we do not agree that any of the claims require a computer to receive data from outside itself. Thus, we are not persuaded by Dr. Katz's testimony, relied on by Patent Owner, that "Houser does not

disclose that a computer first receives data from outside of itself and then transforms that data." PO Resp. 41 (citing Ex. 2008 ¶ 38).

Nor are we persuaded by Patent Owner's contention that Houser does not disclose the requisite returning because Houser does not return the electronic document with the embedded security object to the application that created the electronic document. *Id.* at 42–45. Patent Owner contends that "returning" requires the formatted data to be returned to the same location from which the data was received. *Id.*; *see, e.g., id.* at 44 (asserting "independent claims 31 and 32 similarly require formatted data to be sent to the client from which data was received"). We disagree for the reasons given previously in construing "received data." Accordingly, we are not persuaded by Dr. Katz's testimony, relied on by Patent Owner, that Houser's "computer that embeds the electronic document with the security object cannot possibly return the modified electronic document to a source outside of itself" because the computer did not receive the electronic document from a source outside of itself. PO Resp. 44 (citing Ex. 2008 ¶ 43).

(iii) Conclusion Regarding Independent Claims 1, 29, 31, and 32

For these reasons, we determine that Petitioner has shown, by a preponderance of the evidence, that Houser anticipates independent claims 1, 29, 31, and 32.

3. Dependent Claim 16

Claim 16, which depends from independent claim 1, additionally recites "the returning includes returning the formatted data to at least one of:

a Personal Computer (PC), Personal Digital Assistant (PDA), cellular telephone, or an email device."

As described previously, Petitioner contends that Houser's description of transmitting the electronic document with the embedded security object to another party and subsequently invoking the verification processing discloses the recited "returning, from the authentication host computer, the formatted data to enable the authenticity key to be retrieved from the formatted data and to locate a preferences file." Pet. 60 (citing Ex. 1004, 7:16–8:19). The portion of Houser cited by Petitioner indicates that performing verification processing by another electronic document security application is preferred because it facilitates communication of electronic documents between users. *Id.* at 60 (citing Ex. 1004, 8:2–8). For the additional limitation recited in claim 16, Petitioner relies on Houser's description that "[t]he electronic security application may be implemented using a standard computer, such as an IBM PC-compatible computer." *Id.* at 67 (quoting Ex. 1004, 8:50–52).

In disputing Petitioner's contention, Patent Owner and Dr. Katz rely on its interpretation that the claim "requires the formatted data to be returned to a PC, PDA, cell phone or email device" from which the authentication host computer received the data. PO Resp. 45–47; Ex. 2008 ¶ 46. As explained previously, we do not agree that received data must be returned to the same place from which it was received.

For these reasons, we determine that Petitioner has shown, by a preponderance of the evidence, that Houser anticipates claim 16.

4. Dependent Claims 3, 5, and 30

Claim 3 depends from independent claim 1 and further requires "reading the formatted data" and "verifying authenticity of the formatted data based on the authenticity key in response to the formatted data including the authenticity key." As noted previously with respect to independent claim 1, Petitioner contends Houser's electronic document that includes the embedded security object discloses the recited "formatted data" and Houser's identifier in the security object discloses the recited "authentication key." Pet. 56, 61. For the additional steps recited by claim 3, the Petition cites various portions of Houser describing verification processing being invoked by the identifier. *Id.* at 65–66 (citing Ex. 1004, 3:55–60, 7:31–43, 7:66–8:2, 7:29–44). For example, the Petition cites Houser's description of verification processing being invoked when the signed electronic document is recalled from memory:

> When the signed electronic document is received or recalled from memory at 150, verification processing in the electronic security application 120 is invoked by the identifier in the embedded security object at 160.

Ex. 1004, 7:66–8:2.

Claim 5, which depends from claim 3, further recites "the authenticity stamp is displayed for formatted data that is verified." As mentioned previously with regard to independent claim 1, Petitioner contends Houser's "electronic chop" discloses the recited "authenticity stamp." *Id.* at 57, 64–65. The Petition cites Houser's description of displaying the electronic chop based on the result of verification processing. *Id.* at 66–67 (citing Ex. 1004, 4:47–60, 5:50–65, 8:13–19). For example, Houser describes "display[ing]

the electronic chop superimposed on the watermark graphic if the verification processor verifies the signed electronic document." Ex. 1004, 4:57–60.

Claim 30 depends from independent claim 29 and further recites "at least one of color or positioning of a graphic image within the formatted data is configurable." The Petition cites Houser's description of a user controlling the position that the user's electronic chop is displayed on the electronic document. Pet. 70 (citing Ex. 1004, Abstract, 13:57–64, Fig. 7E).

For these reasons, we determine that Petitioner has shown, by a preponderance of evidence, that Houser anticipates claims 3, 5, and 30. Patent Owner does not provide particular arguments challenging Houser's purported disclosure of the additional recited steps in claims 3, 5, and 30.

F. Asserted Ground that Claims 2 and 4 Would Have Been Obvious Over Houser and Yoshiura

Petitioner asserts claims 2 and 4, each of which depends from independent claim 1, would have been obvious over the combination of Houser and Yoshiura, relying on the declaration testimony of Mr. Schneier (Ex. 1008) and of Mr. Román (Ex. 1016). Pet. 71–73; Reply 19–22. Patent Owner opposes, relying on declaration testimony of Dr. Katz. PO Resp. 41–58 (citing Ex. 2008). We have reviewed the Petition, the Patent Owner's Response, and Petitioner's Reply, as well as the relevant evidence discussed in those papers and other record papers. We determine the record supports Petitioner's contentions and adopt Petitioner's contentions discussed below as our own. For reasons that follow, we determine that Petitioner has shown

by a preponderance of the evidence claims 2 and 4 would have been obvious over Houser and Yoshiura.

1. Level of Ordinary Skill in the Art

In determining whether an invention would have been obvious at the time it was made, 35 U.S.C. § 103 requires us to determine the level of ordinary skill in the pertinent art at the time of the invention. *Graham,* 383 U.S. at 17. "The importance of resolving the level of ordinary skill in the art lies in the necessity of maintaining objectivity in the obviousness inquiry." *Ryko Mfg. Co. v. Nu-Star, Inc.*, 950 F.2d 714, 718 (Fed. Cir. 1991). The person of ordinary skill in the art is a hypothetical person who is presumed to have known the relevant art at the time of the invention. *In re GPAC, Inc.*, 57 F.3d 1573, 1579 (Fed. Cir. 1995). The level of ordinary skill in the art is reflected by the prior art of record. *Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001). Factors that may be considered in determining the level of ordinary skill in the art include, but are not limited to, the types of problems encountered in the art, the sophistication of the technology, and educational level of active workers in the field. *Id.* In a given case, one or more factors may predominate. *Id.* Generally, it is easier to establish obviousness under a higher level of ordinary skill in the art. *Innovention Toys, LLC v. MGA Entm't, Inc.*, 637 F.3d 1314, 1323 (Fed. Cir. 2011) ("A less sophisticated level of skill generally favors a determination of nonobviousness . . . while a higher level of skill favors the reverse.").

In two prior proceedings challenging the '191 patent, Dr. Katz testified on behalf of Patent Owner that "a person of ordinary skill in the art

at the time of the filing of the '191 Patent [would] be someone who holds at least a Bachelor's degree in Computer Science, Computer Engineering, or an equivalent field, with at least two years of work experience or equivalent in the field of information technology." CBM2014-00100, Ex. 2006 ¶ 8; IPR2014-00475, Ex. 2007 ¶ 8. As noted in the Final Written Decision of CBM2014-00100, Petitioner agreed with Dr. Katz's position and the Board adopted Dr. Katz's proposed level of ordinary skill. CBM2014-00100, Paper 43, 31–32. In the Final Written Decision of IPR00475, based on areas of agreement between the parties' proposals, the Board found a similar level of ordinary skill: "one of ordinary skill in the art would have a bachelor's degree in computer science (or an equivalent field) and at least two years of work experience in the area of information technology." IPR2014-00475, Paper 30, 23–24.

In the instant proceeding, Petitioner, relying on Mr. Schneier's testimony, takes the position that one of ordinary skill in the art at the time of the invention would possess a "Bachelor's Degree, or its equivalence, in Electrical Engineering or Computer Science, or two years of experience in cryptographic software development or an equivalent work experience." Mot. 3 (citing Ex. 1008 ¶ 36). Petitioner contends its proposed level of ordinary skill is "consistent with the definition this Board adopted in" the earlier IPR2014-00475 proceeding regarding the '191 patent. *Id.* We note, however, that Mr. Schneier testifies that one of ordinary skill in the art would possess a certain type of degree *or* have two years of experience in cryptographic software development or an equivalent work experience. *Id.*

The definition the Board adopted in the earlier proceeding required both a degree *and* certain work experience. Having reviewed the prior art of record, including the types of problems encountered in the art, the sophistication of the technology, and educational level of active workers in the field, we conclude that one of ordinary skill in the art would possess both a degree and two years of work experience, which is consistent with Dr. Katz's testimony and the Board's earlier findings.

In the instant proceeding, Dr. Katz changes his previous testimony concerning the level of ordinary skill in the art at the time of the invention to add mathematics as an example of an equivalent field of computer science and computer engineering. Ex. 2008 ¶ 8. In his declaration testimony, Dr. Katz does not acknowledge his prior testimony concerning the level of ordinary skill in the art concerning the invention of the '191 patent. Nor does Dr. Katz provide any explanation as to why he now considers mathematics to be an equivalent field of computer science and computer engineering. As noted by Petitioner, Dr. Katz testified that his own undergraduate mathematics degree included only four courses relating to the field of computer science. Mot. 5 (citing Ex. 1019, 15:5–10). This undermines Dr. Katz's testimony that mathematics would be an equivalent field of computer science and computer engineering in the context of the '191 patent and the time of its invention. In addition, Dr. Katz also dropped the requirement of having at least two years of work experience from his prior testimony regarding the level of ordinary skill, without acknowledging his prior testimony or explaining the change. Ex. 2008 ¶ 8.

Weighing the evidence in this proceeding (including Petitioner's acknowledgement that its proposed position is consistent with the level of ordinary skill determined in the IPR2014-00475 proceeding), one of ordinary skill in the art would have had a bachelor's degree in computer science (or an equivalent field) and at least two years of work experience in the area of information technology.

2. Summary of Yoshiura

Yoshiura is a European Patent Application publication directed to a digital data authentication method. Ex. 1005 [54]. Yoshiura describes checking the validity of a web page by checking the validity of a "mark." *See* Ex. 1005, 37:42–45, 37:56–38:1. To do so, a digital signature, which is embedded in the mark displayed on the web page, is validated. *See id.* at 37:19–30, 37:49–38:4. If the digital signature is valid, a message is displayed that the mark was validated; but if the digital signature is not valid, a message is displayed that the mark was not validated. *See id.* at 37:56–38:8, Fig. 9 (display unit 1102).

3. Dependent Claim 2

Claim 2 additionally recites "the formatted data is a web page." For this requirement, Petitioner relies on Yoshiura's description of checking the validity of a web page by using a digital signature embedded in a "mark" on the web page. Pet. 71. According to Petitioner, Yoshiura's checking the validity discloses authenticating, Yoshiura's digital signature discloses the recited "authenticity key," and Yoshiura's embedded "mark" on a web page

discloses the formatted data. *Id.* Petitioner also relies on Yoshiura's description of displaying a message stating that the mark was validated, which according to Petitioner, discloses the recited "authenticity stamp." *Id.* Patent Owner does not challenge Petitioner's position regarding what Yoshiura would have conveyed to one of ordinary skill in the art regarding the additional limitation recited by claim 2. *See generally* PO Resp. 53–58. Furthermore, Dr. Katz agrees that Yoshiura describes authenticating web pages. Ex. 1019, 76:17–18 ("Yoshiura does disclose authenticating web pages.").

Petitioner acknowledges that "Houser does not explicitly state that the 'electronic documents' that are authenticable using its methodology include web pages . . . ." Pet. 71. As noted by Petitioner, however, "Houser broadly indicates that "it should be clear that the present invention is not limited by the type of document created.'" *Id.* (quoting Ex. 1004, 7:26–28).

Petitioner also contends that it would have been obvious to one of ordinary skill in the art "to extend the 'electronic document' authentication process of Houser to also include authenticating web pages, as taught by Yoshiura, in view of the fact that both references are motivated by the same concern. . . . " *Id.* at 72 (citing Ex. 1005, 6:49–7:8 (Yoshiura describing the problem of fraudulent copying of a logo mark of a credit card company to a web page of an illegal user); Ex. 1004, 1:65–2:15 (Houser describing the problem of fraudulent copying of a digital signature to another document)). Mr. Schneier testified that Yoshiura and Houser each are in the same field of

endeavor as the '191 patent—authentication of information, particularly information in document form. Ex. 1008 ¶ 97.

Further relying on testimony of Mr. Schneier, Petitioner contends that both Houser and Yoshiura "solved the problem using the same basic approach of applying a visual indicator to the electronic document to indicate to its recipient/viewer that the information has been authenticated or verified." *Id.* (citing Ex. 1008 ¶ 98). Petitioner concludes, with support from its declarant Mr. Schneier, that "[i]t would have been obvious to one of ordinary skill in the art to extend the 'electronic document' authentication process of Houser to also include authenticating web pages, as taught by Yoshiura, . . . to extend the usefulness of Houser's 'electronic security application' to include an increasingly popular form of electronic document, *i.e.*, a web page." *Id.* (citing Ex. 1008 ¶ 98).

Patent Owner contends that Petitioner failed to demonstrate a motivation to combine Houser and Yoshiura because the references are not "motivated by the same concern as alleged by Petitioner." PO Resp. 54. Patent Owner relies on Dr. Katz's testimony that "one of ordinary skill in the art would not have been motivated to apply Yoshiura's teachings of determining the identity of a person who improperly copied a web page to a system that detects whether an electronic document has been altered after it was signed, like the system of Houser." *Id.* (quoting Ex. 2008 ¶ 145).

Weighing the evidence offered by each party, we credit Mr. Schneier's testimony over Dr. Katz's testimony, because Mr. Schneier's testimony better comports with the evidence of the references themselves.

See, e.g., Ex. 1005, 6:49–7:8 (Yoshiura describing the problem of fraudulent copying of a logo mark of a credit card company to a web page of an illegal user); Ex. 1004, 1:65–2:15 (Houser describing the problem of fraudulent copying of a digital signature to another document); Pet. 72 (citing those same portions of Yoshiura and Houser).

Furthermore, we give relatively little weight to Dr. Katz's conclusory testimony that Petitioner's combination of Houser and Yoshiura "would not yield the particular result of verifying an authenticity key on a web page as required in claims 1 and 2 of the '191 patent with a reasonable expectation of success, if Houser were somehow modified based on select portions of Yoshiura's system of determining the identity of a person who improperly copied digital content." PO Resp. 54 (mistakenly citing Ex. 2008 ¶ 45); *see* Ex. 2008 ¶ 50. Dr. Katz does not provide further facts or analysis to support his testimony that one of ordinary skill in the art would not have had a reasonable expectation of success. 37 C.F.R. § 42.65(a) ("Expert testimony that does not disclose the underlying facts or data on which the opinion is based is entitled to little or no weight.").

Moreover, Patent Owner's contentions seem to suggest bodily incorporation from one disclosed system to another is required. PO Resp. 54 (questioning the result "if Houser were somehow modified based on select portions of Yoshiura's system of determining the identity of a person who improperly copied digital content"). A determination of obviousness is based not on bodily incorporation of parts from one disclosed system into another, but what the combined teachings would have suggested to one with

ordinary skill in the art. *In re Mouttet*, 686 F.3d 1322, 1332 (Fed. Cir. 2012). It is not necessary that the particular structures of the references be physically combinable, unchanged, to render obvious the claimed invention. *In re Sneed*, 710 F.2d 1544, 1550 (Fed. Cir. 1983).

For these reasons, we determine that Petitioner has demonstrated by a preponderance of the evidence that the combination of Houser and Yoshiura would have conveyed to one of ordinary skill in the art the limitations recited in claim 2. We also determine that Petitioner has articulated sufficient reasoning with some rational underpinning to support the legal conclusion that the subject matter of claim 2 would have been obvious to one of ordinary skill in the art in view of the teachings of Houser and Yoshiura as combined in the manner proposed by Petitioner. *See KSR*, 550 U.S. at 418.

4. Dependent Claim 4

Claim 4 additionally recites "displaying the formatted data in response to the verification of the authenticity key." Regarding claim 4, Petitioner relies on Yoshiura's description that its web page is not displayed until the web page has been authenticated. Pet. 72 (citing Ex. 1005, 29:8–13, 32:11–17). Petitioner, with support from its declarant, contends that a person of ordinary skill in the art would have combined Houser with Yoshiura to "facilitate the viewer's ability to detect that the document has not been authenticated." Pet. 73 (citing Ex. 1008 ¶ 100).

Regarding claim 4, Patent Owner does not challenge that Yoshiura would have conveyed to one of ordinary skill in the art "displaying the

formatted data in response to the verification of the authenticity key," additionally recited in claim 4. *See* PO Resp. 57–58. Patent Owner contends that Petitioner "failed to demonstrate the required motivation to combine the teachings of the prior art references to achieve the invention of claim 4." PO Resp. 57–58. Specifically, Patent Owner argues:

> Moreover, as explained by Dr. Katz, "the document [in Houser] can be displayed with the electronic chop (e.g., handwritten initials) removed even if the electronic document is changed (i.e., even if the embedded security object is not verified)." And the Petitioner failed to explain why a person of ordinary skill in the art would have been motivated to change Houser to display formatted data in response to authentication of an authenticity key in light of Yoshiura's teachings of determining the identify of a person who improperly copied a web page.

Id. (citing Ex. 2008 ¶ 54; Pet. 71–73).

Weighing the evidence and arguments, we determine that Petitioner has demonstrated, by a preponderance of the evidence, that the combination of Houser and Yoshiura would have conveyed to one of ordinary skill in the art the limitations recited in claim 4. "[T]he test for obviousness is what the combined teachings of the references would have suggested to those having ordinary skill in the art." *In re Mouttet*, 686 F.3d at 1333 (citing *In re Keller*, 642 F.2d 413, 425 (CCPA 1981)). We agree with Petitioner that Yoshiura's description that its web page is not displayed until the web page has been authenticated would have conveyed to one of ordinary skill in the art "displaying the formatted data in response to the verification of the authenticity key," additionally recited in claim 4. Patent Owner's attack on

Houser does not address what Yoshiura would have conveyed to one of ordinary skill in the art.

We credit Mr. Schneier's testimony regarding a reason why one of ordinary skill in the art would have combined the references—to "facilitate the viewer's ability to detect that the document has not been authenticated." Pet. 73 (citing Ex. 1008 ¶ 100). Thus, we determine that Petitioner has articulated sufficient reasoning with some rational underpinning to support the legal conclusion that the subject matter of claim 4 would have been obvious to one of ordinary skill in the art in view of the teachings of Houser and Yoshiura as combined in the manner proposed by Petitioner. *See KSR*, 550 U.S. at 418.

5. Conclusion Regarding Obviousness

We have resolved the question of obviousness based on factual determinations of (1) the scope and content of the prior art; (2) differences between the subject matter of the challenged claims and the teachings of the prior art; and (3) the level of ordinary skill in the art. *Graham*, 383 U.S. at 17–18. Patent Owner did not put forth any objective evidence of nonobviousness.

For the foregoing reasons, we determine that Petitioner has established, by a preponderance of the evidence, that the subject matter recited in claims 2 and 4 of the '191 patent as a whole would have been obvious to one of ordinary skill in the art in view of the teachings of Houser and Yoshiura. *See* 35 U.S.C. § 103(a).

G. Patent Owner's Motion for Observation Regarding Cross-Examination Testimony

Patent Owner's observations are directed to the cross-examination testimony of Mr. Román obtained on January 6, 2016 and concerning his declaration (Ex. 1016), which was provided in support of Petitioner's Reply. Paper 20; Ex. 2010 (Deposition Transcript). We have considered Patent Owner's observations and Petitioner's responses (Paper 27, "Obs. Resp.") in rendering our decision, and have accorded the testimony appropriate weight. *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"); *In re Am. Acad. of Sci. Tech Ctr*., 367 F.3d 1359, 1368 (Fed. Cir. 2004) ("[T]he Board is entitled to weigh the declarations and conclude that the lack of factual corroboration warrants discounting the opinions expressed in the declarations.").

III. CONCLUSION

Petitioner has proven by a preponderance of the evidence that claims 1, 3, 5, 16, and 29–32 of the '191 patent are anticipated by Houser and that the subject matter of claims 2 and 4 of the '191 patent would have been obvious to a person of ordinary skill in the art in view of the teachings of Houser and Yoshiura.

Patent Owner's Motion to Exclude is denied.

IV. ORDER

Accordingly, it is hereby

ORDERED that, based on a preponderance of the evidence, claims 1–5, 16, and 29–32 of U.S. Patent No. 7,631,191 B2 are held unpatentable;

FURTHER ORDERED that Patent Owner's Motion to Exclude is denied; and

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

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