

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

COSTAR REALTY INFORMATION, INC. and DUOLINGO, INC.,
Petitioner,

v.

CLANTECH, INC.,
Patent Owner.

IPR2022-00799
Patent 9,886,421 B1

Before JO-ANNE M. KOKOSKI, CHRISTOPHER M. KAISER, and
JON M. JURGOVAN, *Administrative Patent Judges*.

KOKOSKI, *Administrative Patent Judge*.

JUDGMENT
Final Written Decision
Determining All Challenged Claims Unpatentable
35 U.S.C. § 318(a)
Denying Patent Owner's Motion to Exclude
37 C.F.R. § 42.64

I. INTRODUCTION

We have jurisdiction to conduct this *inter partes* review under 35 U.S.C. § 6, and issue this Final Written Decision pursuant to 35 U.S.C. § 318(a). For the reasons that follow, we determine that CoStar Realty Information, Inc. and Duolingo, Inc. (collectively, “Petitioner”) has shown by a preponderance of the evidence that claims 1–17 (“the challenged claims”) of U.S. Patent No. 9,886,421 B1 (“the ’421 patent,” Ex. 1001) are unpatentable.

A. Procedural Background

Petitioner filed a Petition to institute an *inter partes* review of claims 1–17 of the ’421 patent. Paper 3 (“Pet.”). Clantech, Inc. (“Patent Owner”) filed a Preliminary Response. Paper 8. With Board authorization (Paper 9), Petitioner filed a Preliminary Reply (Paper 10), and Patent Owner filed a Preliminary Sur-reply (Paper 11). Pursuant to 35 U.S.C. § 314(a), we instituted an *inter partes* review of claims 1–17 on the grounds advanced in the Petition. Paper 14 (“Institution Decision” or “Dec.”), 6–7, 26.

After institution of trial, Patent Owner filed a Patent Owner Response (“PO Resp.,” Paper 27), Petitioner filed a Reply (“Pet. Reply,” Paper 58), and Patent Owner filed a Sur-Reply (“PO Sur-Reply,” Paper 65). Patent Owner filed a Motion to Exclude a number of Petitioner’s exhibits, and numerous paragraphs in the expert declarations submitted by Petitioner, as well as the portions of Petitioner’s Reply that rely thereon. Paper 66. Petitioner filed an Opposition (Paper 67), and Patent Owner filed a Reply (Paper 68).

We held an oral hearing on August 29, 2023, and a transcript is included in the record. Paper 76.

B. Related Matters

The parties identify *Duolingo, Inc. v. Modern Font Applications, LLC*, No. 3:21-cv-06132 (N.D. Cal.) and *CoStar Realty Information, Inc. v. Modern Font Applications, LLC*, No. 3:21-cv-07521 (N.D. Cal.) as related matters. Pet. 80; Paper 12, 2. Patent Owner additionally identifies *Modern Font Applications LLC v. Alaska Airlines, Inc.*, No. 2:19-cv-00561 (D. Utah) as a related current proceeding involving the '421 patent. Paper 50, 2.

C. The '421 Patent

The '421 patent “relates to methods, systems and computer program products for allowing characters of fonts that are not standard to an operating system of a computer to be displayed and/or otherwise used by the operating system of the computer.” Ex. 1001, 1:26–30. The '421 patent teaches that “electronic documents requested by a reader are displayed on the reader’s computer using only the fonts that are currently loaded onto the reader’s computer.” *Id.* at 1:58–60. If the reader’s computer does not contain the fonts the author used when creating the electronic document, the operating system of the readers computer will replace the unknown fonts with known fonts, and the document is displayed on the reader’s computer in a different form than that created by the author. *Id.* at 1:60–64.

The '421 patent addresses this problem by providing methods and structures “for allowing an operating system to have access to characters of non-standard fonts included in a network document.” Ex. 1001, 2:63–66. The '421 patent teaches that “the term ‘network document’ is intended to mean any form of an electronic file that can have a display character embedded therein, attached thereto, referenced therein, such as through a link, or can otherwise be associated therewith.” *Id.* at 7:37–41. The '421 patent describes “non-standard fonts” as “fonts that are not loaded on the

requesting computer and thus the corresponding characters cannot be displayed or otherwise used by the operating system thereof.” *Id.* at 3:5–9.

In one embodiment, the ’421 patent describes a network environment that includes a developer computer (on which the network document is created) and a browsing computer (which is used to access and read the network document). Ex. 1001, 7:9–12, 7:35–36. The developer computer is loaded with a developer application program that includes a document builder that can generate a network document. *Id.* at 8:45–51. The developer application program also includes a character packager that generates a font package that is incorporated into, or linked to, the network document. *Id.* at 8:52–55. The font package includes the formatting information necessary for the browsing computer to generate one or more, generally non-standard display characters when the browsing computer downloads and displays the network document. *Id.* at 8:55–60. The font package can be embedded within the network document, or can be stored in a different directory or server than the network document. *Id.* at 11:17–21.

In addition to the font package, the character packager also creates an instruction code that is also either referenced by or embedded in the network document. Ex. 1001, 11:31–34. The instruction code comprises computer executable instructions to facilitate downloading an installation module onto the browsing computer. *Id.* at 11:34–36. The installation module “comprises computer-executable instructions for automatically installing” the font package on the browsing computer when the browsing computer requests the network document. *Id.* at 11:36–41.

The ’421 patent teaches that, in response to a request, the network document is downloaded onto the browsing computer, along with the instruction code and the font package. Ex. 1001, 12:20–27. The browsing

computer then begins processing the computer executable instructions within the network document and requests the installation module, which is subsequently downloaded to and installed on the browsing computer. *Id.* at 12:28–37. Once installed, the installation module communicates with the browser computer’s operating system, “thereby accessing all the wealth of resource offered by the operating system,” and the formatting information within the font package “is either permanently installed or temporarily exposed to” the operating system. *Id.* at 13:20–28. The operating system then uses the font files to display the network document in the same form as which it was created, and the characters within the font files “can be used the same way as any of the font characters originally loaded on” the browsing computer. *Id.* at 14:20–27.

D. Challenged Claims

Petitioner challenges claims 1–17 of the ’421 patent, of which claims 1, 6, and 11 are independent. Independent claim 1 is illustrative of the claimed subject matter, and is reproduced below.

1. A non-transitory computer-readable medium adapted for use with a computer coupled to a network such that select information on the non-transitory computer-readable medium is accessible by a hand-held device having an operating system coupled to the network, the non-transitory computer-readable medium including:

an electronic file package including a plurality of display characters and computer executable instructions for identifying the plurality of display characters for display and for identifying one or more external fonts used to render at least one of the plurality of display characters;

a font package comprising one or more external font files that include formatting information necessary for the hand-held device to render the at least one of the plurality of display characters using the one or more identified

external fonts, the font package separate from the computer executable instructions for identifying the plurality of display characters for display; and

an exposure module for installation of the one or more external font files in a temporary font directory on the hand-held device, the one or more external font files being received from the computer responsive to the computer receiving a request for the font package from the hand-held device so that the hand-held device can render the at least one of the plurality of display characters using the one or more external font files, whereby when the plurality of display characters are displayed by a program module of the operating system using the one or more external font files, wherein in response to the one or more external files being installed, a system font table of the hand-held device is updated to reflect an availability of the external font files.

Ex. 1001, 15:65–16:32.

E. Evidence

Petitioner relies on the references listed below (Pet. 1–2).

Reference	Date	Exhibit No.
US 5,781,714 (“Collins”)	July 14, 1998	1005
US 6,347,398 B1 (“Parthasarathy”)	Feb. 12, 2002	1006
US 7,028,305 B2 (“Schaefer”)	Apr. 11, 2006	1009
US 7,127,493 B1 (“Gautier”)	Oct. 24, 2006	1008
US 7,537,167 B1 (“Miller”)	May 26, 2009	1010

Petitioner relies on the First and Second Declarations of Erez Zadok, Ph.D. (“Zadok Declaration,” Ex. 1003; “Zadok Reply Declaration,” Ex. 1071).

Patent Owner relies on the Declaration of Mac Newbold, M.S.C.S.

Ex. 2075.

F. Asserted Grounds

Petitioner asserts that claims 1–17 would have been unpatentable on the following grounds:

Claim(s) Challenged	35 U.S.C. §	Reference(s)/Basis
1–9	103 ¹	Collins, Gautier, Schaefer
1–5, 11–17	103	Collins, Gautier, Schaefer, Parthasarathy
10	103	Collins, Gautier, Schaefer, Miller

Pet. 2.

II. ANALYSIS

A. Level of Ordinary Skill in the Art

Petitioner contends that a person having ordinary skill in the art (“POSITA”) would have had “a Bachelor of Science degree from an accredited institution in computer science, computer engineering, or an equivalent, and 2–3 years of experience in Web design, data communications, and general Information Technology system administration.” Pet. 5 (citing Ex. 1003 ¶ 77). Petitioner also contends that “[a]dditional education could substitute for experience and significant work experience could substitute for formal education.” *Id.* Patent Owner neither addresses Petitioner’s proposed definition, nor proposes a different level of skill in the art. *See* PO Resp.

We adopt Petitioner’s proposed definition, which is undisputed on this record, and is consistent with the level of skill in the art at the time of the invention as reflected in the prior art in this proceeding.

¹ The Leahy-Smith America Invents Act (“AIA”), Pub. L. No. 112–29, 125 Stat. 284 (2011), revised 35 U.S.C. §§ 102 and 103 effective March 16, 2013. Because the ’421 patent claims priority to an application filed on July 15, 2001 (Ex. 1001, code (63)), we refer to the pre-AIA versions of Sections 102 and 103.

B. Claim Construction

We construe each claim “in accordance with the ordinary and customary meaning of such claim as understood by one of ordinary skill in the art and the prosecution history pertaining to the patent.” 37 C.F.R. § 42.100(b). Under this standard, claim terms are generally given their plain and ordinary meaning as would have been understood by a person of ordinary skill in the art at the time of the invention and in the context of the entire patent disclosure. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1313 (Fed. Cir. 2005) (en banc). Only those terms in controversy need to be construed, and only to the extent necessary to resolve the controversy. *See Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co.*, 868 F.3d 1013, 1017 (Fed. Cir. 2017).

Petitioner states that it “do[es] not believe that any claims require construction to resolve the patentability disputes here,” and, as a result, Petitioner “appl[ies] the plain and ordinary meaning for each claim term.” Pet. 5. Patent Owner addresses the construction of the term “temporary fonts directory” recited in independent claims 1, 6, and 11. PO Resp. 63–67. Based on the full record now before us, we determine that it is necessary to address the construction of “temporary fonts directory.”

1. “installation of the one or more external font files in a temporary fonts directory on the hand-held device”

As described below (Section II.D.6, *infra*), Petitioner argues that Collins’ disclosure of a “PfrCache” that includes a list of “PFR file names” is a “temporary fonts directory” that “install[s] . . . one or more external font files . . . on the hand-held device.” *See* Pet. 28–34. Patent Owner argues that, “[i]n response to the assertion that Collins’ ‘cache’ renders obvious the claim[ed] ‘temporary fonts directory’ and . . . ‘install[ation], it is necessary

to properly construed the term ‘directory’ and consider whether a POSITA would have understood Collins’ ‘cache’ to teach or suggest a directory or installation.” PO Resp. 62. In that regard, Patent Owner argues that “[t]he ’421 patent does not ever use the term ‘cache’, and does not suggest anywhere that a ‘cache’ can be a directory.” *Id.* at 64. Instead, Patent Owner argues, the ’421 patent states that font files can be copied into hidden temporary files, which are then accessed by virtual memory mapped files, and can also be copied to virtual memory files. *Id.* (citing Ex. 1001, 13:49–62). According to Patent Owner, “[a] POSITA would have understood, at the time, that ‘virtual memory mapped files’ related to files that were associated with a source file on a disk” and “that ‘virtual memory’ is a block of space on a disk,” not in a cache. *Id.* (citing Ex. 2075, 24).

Patent Owner further argues that “[t]he extrinsic evidence clarifies that a POSITA would not have considered ‘directory’ to include a ‘cache,’” citing dictionary definitions to support the proposition that “[a] directory was ‘on a disk’ and required an operating system to command access.” PO Resp. 64 (citing Ex. 2071, 6; Ex. 2073, 7–8; Ex. 2075, 23). In particular, Patent Owner argues that dictionary definitions show that a cache was not on a disk, because a cache is a high-speed storage mechanism that can either be a reserved section of main memory or an independent storage device, and is “always faster” than RAM or disk. *Id.* at 65 (citing Ex. 2073, 4, 9; Ex. 2071, 3, 14; Ex. 2075, 23); *see also id.* at 66 (arguing that the Zadok Declaration confirms caches are faster than disks). According to Patent Owner, “[a] POSITA would not have understood the ’421 patent claim elements regarding ‘install[ation]’ in ‘a temporary fonts directors’ to encompass placing data in a cache for high-speed access” because “[t]he two terms meant entirely different things to the POSITA,” and, therefore, “directory”

cannot be construed to encompass “cache.” *Id.* at 66–67 (citing Ex. 2075, 24).

Petitioner responds that “directory” should be given its plain meaning, which is “a catalog for filenames.” Pet. Reply 2 (citing Ex. 2071 ¶¶ 8–30). Petitioner argues that the ’421 patent specification supports this definition by “indicating that storage includes ‘any . . . medium’ that can store the ‘computer-executable instructions or data structures,’ including both disk and non-disk storage,” and “font files can be copied into ‘hidden temporary files’ that may be stored in RAM.” *Id.* (citing Ex. 1001, 4:14–5:3, 5:48–6:34, 13:49–62; Ex. 1071 ¶¶ 10–13; Ex. 2075 ¶ 62). Petitioner also points to extrinsic evidence that Petitioner contends shows that there is no requirement that a directory be stored on a disk. *Id.* (citing Ex. 2071, 142; Ex. 2073, 158–159; Ex. 1068, 138; Ex. 1069, 158; Ex. 1071 ¶¶ 14–26). Petitioner then argues that the definitions relied on by Patent Owner and Petitioner “make clear that a directory is both ‘a catalog for filenames’ and ‘a catalog for . . . other directories stored on a disk’,” and “POSITAs understood directories were stored on disks, ‘main memory’ (such as RAM disk), networks, and other storage mediums.” *Id.* at 3 (citing Ex. 1071 ¶¶ 17–26; Ex. 1070, 403–404, Fig. 11.9).

Patent Owner does not substantively respond to Petitioner’s arguments, instead arguing that “Petitioner’s reply, supporting declaration, and exhibits should be excluded violating 37 C.F.R. § 42.23 (‘A reply may only respond to arguments raised in the corresponding . . . response . . .’).” PO Sur-reply 3–5. For the reasons set forth in our analysis of Patent Owner’s Motion to Exclude (Section III, *infra*), we decline to exclude Petitioner’s Reply and supporting evidence, and consider both for purposes of this Decision.

Having reviewed the parties' arguments and the supporting evidence, we determine that a storage in a cache is within the scope of the claimed "temporary fonts directory." In particular, we disagree that a directory must be stored on a disk. The '421 patent specification teaches that "[t]o facilitate temporary exposure [of the font files to the operating system], character objects 603 and font files 312 are copied into a temporary fonts directory 507. Temporary fonts directory 507 may be located so as not to be directly accessible by a user." Ex. 1001, 13:49–52. As examples, the '421 patent specification teaches that character objects 603 and font files 312 can be copied into virtual memory files (*id.* at 13:56–57), or into hidden temporary files that are accessed by the operating system using virtual memory mapped files (*id.* at 13:52–56). Dr. Zadok agrees with Mr. Newbold that virtual memory can "be a block of space on a disk and possibly RAM, often organized using a file called a 'swap file' in Windows systems." Ex. 2075 ¶ 62; Ex. 1071 ¶ 12. We see nothing in the '421 patent, however, that defines "temporary font directory" by the medium on which it is stored.

We are also not persuaded, on this record, that the dictionary definitions cited by the parties limit a "directory" to being stored on a disk. In that regard, we note that, while the cited definitions seem to agree that a "directory" is at least a list of filenames, most do not mention the storage medium, let alone require storage on a disk. *Compare* Ex. 1068, 138; Ex. 1069, 158; Ex. 2073, 158–159 (definitions that do not require storage on a disk) *with* Ex. 2071, 142 (defining "directory" as "[a] catalog for filenames and other directories stored on a disk").

We decline to impose a restriction on the scope of the claimed "temporary fonts directory" that is not supported by the evidence of record.

Accordingly, we do not construe “temporary fonts directory” to exclude storage in a cache.

C. Whether Schaefer is Prior Art

Petitioner contends that Schaefer, which was filed on May 16, 2001, is prior art under 35 U.S.C. § 102(e). Pet. 1; *see* Ex. 1009, code (22). This is several months before the ’421 patent’s earliest priority date of July 16, 2001. Ex. 1001, code (63). But Patent Owner contends that the named inventor, Robert G. Adamson III, conceived and reduced to practice, or conceived and exercised reasonable diligence to later reduce to practice, the invention claimed in the ’421 patent prior to May 16, 2001. *See* PO Resp. 11–54. Therefore, Patent Owner contends that Schaefer is not prior art to the ’421 patent. *See id.*

1. Legal Standards

“An inventor can antedate a reference by showing that the invention was conceived before the effective date of the reference, with diligence to actual or constructive reduction to practice.” *In re Steed*, 802 F.3d 1311, 1320 (Fed. Cir. 2015) (citing 37 C.F.R. § 1.131). In an *inter partes* review, “a patent challenger has the burden of producing evidence to support a conclusion of unpatentability under § 102 or § 103,” but a patentee that “affirmatively seek[s] to establish a proposition not relied on by the patent challenger and not a necessary predicate for the unpatentability claim asserted,” such as establishing the benefit of an earlier priority date, bears the burden with respect to establishing that proposition. *In re Magnum Oil Tools Int’l, Ltd.*, 829 F.3d 1364, 1375–76 (Fed. Cir. 2016) (citing *Dynamic Drinkware, LLC v. Nat’l Graphics, Inc.*, 800 F.3d 1375, 1379 (Fed. Cir. 2015)).

“To antedate (or establish priority) of an invention, a party must show either an earlier reduction to practice, or an earlier conception followed by a diligent reduction to practice.” *Purdue Pharma L.P. v. Boehringer Ingelheim GmbH*, 237 F.3d 1359, 1365 (Fed. Cir. 2001). “The filing of a patent application serves as conception and constructive reduction to practice of the subject matter described in the application.” *Hyatt v. Boone*, 146 F.3d 1348, 1352 (Fed. Cir. 1998); *Frazer v. Schlegel*, 498 F.3d 1283, 1288 (Fed. Cir. 2007). “In order to establish an actual reduction to practice, the inventor must prove that: (1) he constructed an embodiment or performed a process that met all the limitations of the [claimed invention]; and (2) he determined that the invention would work for its intended purpose.” *Cooper v. Goldfarb*, 154 F.3d 1321, 1327 (Fed. Cir. 1998)). “Reasonable diligence must be shown throughout the entire critical period, which begins just prior to the competing reference’s effective date and ends on the date of the invention’s reduction to practice.” *Arctic Cat Inc. v. GEP Power Prods., Inc.*, 919 F.3d 1320, 1331 (2019). However, the “diligence need not be perfectly continuous—only reasonably continuous.” *Id.*

2. Conception and Actual Reduction to Practice

Patent Owner argues that, “[b]y January 2001, Adamson had conceived of, and achieved actual reduction to practice of, at least one embodiment of the inventions claimed in the ’421 patent.” PO Resp. 4. For corroboration, Patent Owner identifies declaration testimony from Mr. Adamson (Ex. 2053, 4–5), his son Robert G. Adamson IV (Ex. 2056, 10–11), and his daughter Natalie Gildersleeve (Ex. 2057, 4). PO Resp. 16. Patent Owner further argues that,

because the invention had an actual reduction to practice in software at that time, the Release Notes for the software

(Ex2052, Ex2100, Ex2101) and further documentation of the software (Ex2055) demonstrate that Adamson conceived of the invention by January 30, 2001. These documents were further dated by an independent witness (Ex2036-15-17) and a forensics expert. Ex2077.

PO Resp. 16.

Patent Owner also points to Exhibit 2033, which Patent Owner asserts “was emailed to patent attorneys on March 28, 2001,” and states that “[b]oth attorneys confirmed having the document by April 3, 2001.” PO Resp. 16 (citing Ex. 2029, 5–6; Ex. 2035, 3–4; Ex. 2053, 56). Patent Owner provides a claim chart in which “the disclosure of Ex2033 is compared to every element of the claims, to demonstrate conception of every challenged claim.” *Id.*; *see id.* at 18–51. Patent Owner asserts that the claim chart also compares “the disclosure of Ex2052 and Ex2055 (and some supporting documents) . . . to every element of claims 1–3 and 5–17 to demonstrate conception of every challenged claim.” *Id.* at 17–51.

Petitioner responds that Patent Owner does not adequately explain the significance of the evidence, and has not provided contemporary corroboration. Pet. Reply 15–16.

Although Petitioner has the ultimate burden of persuasion on the issue of unpatentability, Patent Owner has the initial burden of production to show that Schaefer is “not prior art because the asserted claims in the [’421 patent] are entitled to the benefit of a filing date (constructive or otherwise) prior to” Schaefer’s filing date. *Dynamic Drinkware*, 800 F.3d at 1380; *see also Parus Holdings, Inc. v. Google LLC*, 70 F.4th 1365, 1371 (Fed. Cir. 2023) (“[W]hen a patent owner attempts to antedate an asserted prior art reference, the patent owner assumes a temporary burden of production.”). To meet that burden, Patent Owner is required to provide “a detailed explanation of the

significance of the evidence including material facts” that support its contention that the ’421 patent is entitled to the benefit of a priority date that pre-dates Schaefer.² 37 C.F.R. § 42.22(a)(2).

Here, Patent Owner cites a number of documents, but does not sufficiently explain the significance of the evidence in its Response. *See, e.g.*, PO Resp. 8–9 (citing at least fifteen different exhibits). For example, Patent Owner contends that the software documentation demonstrates conception and an actual reduction to practice in January 2001, citing Exhibits 2052, 2055, 2100, and 2101, and that those documents were dated by a forensics expert, citing Exhibit 2077 (Declaration of Michael Gutierrez, “Gutierrez Declaration”). *Id.* at 16. But Patent Owner does not explain how or why the cited evidence supports this contention. In particular, Patent Owner does not explain how the cited documents pre-date Schaefer. Patent Owner cites to the Gutierrez Declaration in its entirety as evidence of the dates of the documents, but the Gutierrez Declaration does not map any dates to specific exhibits. *See* Ex. 2077 ¶¶ 27–48.³ The Gutierrez Declaration also points to Exhibits 2078–2089, which are indexes of files received from Patent Owner “that have metadata showing a Modified

² Patent Owner asserts that it “does not even need to prove prior invention; Patent Owner merely needs to cast doubt on Petitioner’s assertions.” PO Resp. 12. We disagree. As the Federal Circuit recently confirmed, “[o]nce [the patent owner] chose to submit a response and assume that burden, it bore the responsibilities that came with it—including submitting a response that complied with the rules and regulations of the USPTO.” *Parus*, 70 F.4th at 1371.

³ We recognize that the Gutierrez Declaration provides dates for a number of specifically-named files. Ex. 2077 ¶¶ 41–48. However, those named files are not correlated to any specific exhibits, nor are we provided with any explanation as to what these files contain or how they relate to Mr. Adamson’s conception of the invention claimed in the ’421 patent.

timestamp (reflecting the last modified date) in 2001.” *Id.* ¶¶ 27–40. There are approximately 75,000 files listed across the twelve indexes. *Id.* ¶¶ 28–40. Patent Owner, however, does not correlate the listed files to any specific exhibit on which it relies to show prior conception and actual reduction to practice, and it is not reasonable for Patent Owner to expect the Board to search through the cited evidence to find relevant facts. *See Parus*, 70 F.4th at 1371–1372 (“The burden of production cannot be met by throwing mountains of evidence at the Board without explanation or identification of the relevant portions of that evidence. One cannot reasonably expect the Board to sift through hundreds of documents, thousands of pages, to find the relevant facts.”).

Instead, Patent Owner directs us to the claim chart in which “the disclosure of Ex2052 and Ex2055 (and some supporting documents) is compared to every element of claims 1–3 and 5–17.” PO Resp. 17. And while the claim chart does include specific citations to certain exhibits, it also fails to explain how and why that evidence corroborates prior conception of the invention claimed in the ’421 patent. *See id.* at 18–51; *see also REG Synthetic Fuels, LLC v. Neste Oil Oyj*, 841 F.3d 954, 962 (Fed. Cir. 2016) (“Conception must be proved by corroborating evidence which shows that the inventor disclosed to others his completed thought expressed in such clear terms as to enable those skilled in the art to make the invention.” (internal quotation marks omitted)).

The same is true of Patent Owner’s comparison of the disclosure of Exhibit 2033 “to every element of the claims, to demonstrate conception of every challenged claim.” PO Resp. 16, 18–51. For example, claim 1 of the ’421 patent recites, in relevant part, that “select information on the non-transitory computer-readable medium is accessible by a hand-held device

having an operating system and coupled to the network.” *See id.* at 18. In the claim chart, Patent Owner states: “Hand-held devices included browsers for downloading Internet webpages. Ex2075-13, Ex1003-32-33 (Palm Pilot and Pocket PC: well-known; Internet-connected). Ex2091-4 confirms conception of using Palm Pilot.” *Id.* The cited portions of Exhibits 1003 and 2075 are the testimony of Dr. Zadok and Mr. Newbolt, respectively, regarding the availability of hand-held devices and their abilities to connect to the internet. *See* Ex. 1003, 32–33; Ex. 2075, 13. Exhibit 2091 is a Business Review for ClearSand Corporation,⁴ dated February, 2001. Ex. 2091, 1. The only reference to Palm Pilot on the page cited by Patent Owner is in a bullet point under the heading “Technology Development Priorities” that reads “Support for other distribution mediums/platforms (Mac, Palm Pilot, etc.).” *Id.* at 4. Notably, Patent Owner does not explain how this expert testimony and reference to future goals regarding the use of a Palm Pilot demonstrates Mr. Adamson’s conception of “a non-transitory computer-readable medium adapted for use with a computer coupled to a network such that select information in the non-transitory computer-readable medium is accessible by a hand-held device” as recited in claim 1. PO Resp. 18. Without explanation from Patent Owner, we cannot say that this allegedly corroborating evidence shows that Mr. Adamson “disclosed to others his completed thought expressed in such clear terms as to enable those skilled in the art to make the invention” for use by a hand-held

⁴ Mr. Adamson testifies that he and a colleague founded ClearSand Corporation in 1997 “to market MediaForge (and related) software.” Ex. 2053 § 12.

device.⁵ *REG Synthetic Fuels*, 841 F.3d at 962; *see also Invitrogen Corp. v. Clontech Labs., Inc.*, 429 F.3d 1052, 1063 (Fed. Cir. 2005) (“An idea is sufficiently definite and permanent for conception if it provides one skilled in the art with enough guidance to ‘understand the invention,’ that is, ‘when the inventor has a specific, settled idea, a particular solution to the problem at hand, not just a general goal or research plan he hopes to pursue.’” (quoting *Burroughs Wellcome Co. v. Barr Labs., Inc.*, 40 F.3d 1223, 1228 (Fed. Cir. 1994))).

Having reviewed the complete record, we determine that Patent Owner does not provide “a detailed explanation of the significance of the evidence including material facts” to support its contention that Mr. Adamson conceived of, and reduced to practice, the invention claimed in the ’421 patent before Schaefer’s May 16, 2001 filing date. *See* 37 C.F.R. § 42.22(a)(2). Instead, Patent Owner presents evidence with little or no explanation, which is insufficient to meet Patent Owner’s burden of production to show the ’421 patent’s entitlement to the benefit of an earlier priority date. As the Federal Circuit recently found, “the burden of production cannot be met without some combination of citing the relevant record evidence with specificity and explaining the significance of the produced material in briefs.” *Parus*, 70 F.4th at 1372. Accordingly, we are not persuaded that Patent Owner sufficiently establishes the prior conception and reduction to practice of the invention claimed in the ’421 patent prior to Schaefer’s May 16, 2001 filing date.

⁵ Independent claims 6 and 11 also require a hand-held device. Ex. 1001, 16:59–61 (“A computer implemented method, comprising: requesting, by a hand-held device with an operating system . . .”), 17:48 (“A hand-held device coupleable to a network . . .”).

3. *Reasonable Diligence*

Patent Owner argues that, “if the Board does not credit the actual reduction to practice in the software, the evidence need only show reasonable diligence from just before Schaefer’s priority date (May 16, 2011) through the constructive reduction to practice on July 16, 2001.” PO Resp. 52. Patent Owner contends that “[t]housands of documents and multiple corroborating independent witnesses support Adamson’s testimony that he satisfied the legal requirement of reasonably continuous diligence toward reduction to practice through his own work, through the work of his patent attorneys, and through the work of those employed with his company, ClearSand.” *Id.* at 52–53.

For the reasons set forth above, we are not persuaded that Patent Owner sufficiently establishes prior conception of the invention claimed in the ’421 patent. Section II.D.2, *supra*. In particular, Patent Owner does not provide “a detailed explanation of the significance of the evidence including material facts” to support its contention that Mr. Adamson conceived of using a hand-held device as claimed prior to May 16, 2001. *See* 37 C.F.R. § 42.22(a)(2). Accordingly, we do not address Patent Owner’s arguments regarding reasonable diligence.

4. *Conclusion*

Based on the present record, we determine that Patent Owner has not established a date of invention of the challenged claims before Schaefer’s May 16, 2001 filing date. Accordingly, Schaefer is available as prior art to the challenged claims of the ’421 patent.

D. Asserted Obviousness over Collins, Gautier, and Schaefer

Petitioner contends that claims 1–9 would have been obvious over the combined teachings of Collins, Gautier, and Schaefer. Pet. 5–57.

1. Overview of Collins

Collins is directed to “the computer technology of representing and generating the shapes of alphanumeric characters and other images used with text.” Ex. 1005, 1:12–15. Collins teaches that “not all computers have the same font descriptions or the ability to interpret the same font languages,” which “creates a problem if an electronic document is created on a first computer using one or more given fonts and is then transferred to a second computer which does not have those fonts [and] cannot interpret them.” *Id.* at 3:4–9. Collins explains that “[o]ne solution to the problem of making fonted text portable is to send a copy of all fonts and font interpreters needed to properly render the characters of a document along with it,” but this approach “has many problems.” *Id.* at 3:21–24. Collins explains that “finding out what fonts and interpreters need to be sent with each such document would be labor intensive,” and “may present legal problems” because “both the code and sequence of outline segments contained in font descriptions have been considered by many to be copyrightable, and thus cannot be installed in a new machine without legal permission.” *Id.* at 3:24–33. This results in the document shown or printed on the second computer having different fonts than intended, which “can cause the document to have a very different, and often undesired appearance, and can disrupt its spacing and pagination.” *Id.* at 3:9–13. Collins, therefore, seeks to provide an apparatus and method for creating and playing back portable documents, “in which text with a variety of different fonts can be accurately played back by a machine which does not previously have font descriptions and font interpreters for all of that document’s fonts.” *Id.* at 5:23–28.

Figure 1 of Collins is reproduced below.

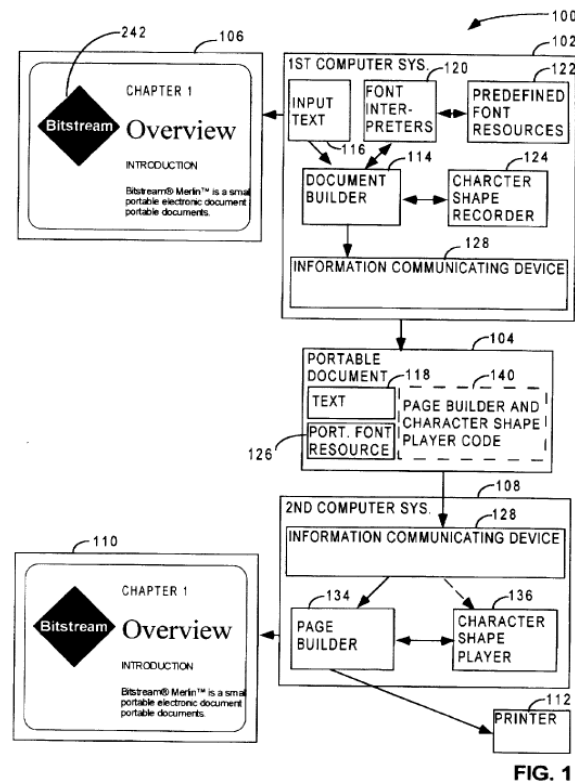


Figure 1 is a high level block diagram of one embodiment described in Collins, “in which a first computer converts an input text written using a plurality of pre-defined font descriptions into a portable document have new font descriptions,” and “a second computer receives the portable document and renders an image using the new font descriptions it contains.” Ex. 1005, 6:19–25. System 100 includes first computer 102 that creates portable document 104, and second computer system 108 in which the portable document can be played back. *Id.* at 8:56–62. First computer 102 includes document builder 114, which has means for receiving fonted input text 116. *Id.* at 9:4–6. Document builder 114 places codes corresponding to each of the input text’s successive font names, text characters, and position codes into text 118 of portable document 104. *Id.* at 9:16–19. “[F]or each unique combination of character and font name in the input text,” document

builder 114 also “creates a new font description for the shape described in its corresponding pre-defined font description.” *Id.* at 9:19–22.

Second computer 108 includes page builder 134 and character shape player (“CSP”) 136. Ex. 1005, 9:55–56. Page builder 134 creates a rendered image from the portable document by first reading the successive font, character, and position codes from text 118 of portable document 104. *Id.* at 9:56–60. Page builder 134 then uses the font codes to determine the font associated with each character and the position codes to position the characters, and asks CSP 136 to generate a shape for the character given its associated font code. *Id.* at 9:60–65. CSP 136 “generates this shape from the new font description indexed under that character and font in the Portable Font Resource 126,” and “delivers this shape to the page builder which places it at the proper location in the rendered image.” *Id.* at 9:65–10:2.

Collins explains that this system “allows a fonted document created with font interpreters and pre-defined font resources of the first computer . . . to be communicated to, and visually rendered with virtually the exact same appearance by a second computer which does not have those font interpreters and resources” “without copying the copyrightable shape-independent aspects of the first computer’s pre-defined font descriptions.” Ex. 1005, 10:5–14. According to Collins, “[w]ith these features, it can be seen that the invention enable virtually any document created with virtually any font to be accurately reproduced on another computer which does not contain the original font descriptions from which it was created.” *Id.* at 10:40–44.

2. *Overview of Gautier*

Gautier is directed to “delivering content in client-server networks,” and more particularly, to the “delivery of such content in response to optimization criteria.” Ex. 1008, 1:10–14. Gautier explains “a web site may be accessed by many different types of clients, from conventional full size computers with large screen displays (e.g., 13” to 17”) and full color capabilities (16 M colors) to small handheld computers with small screens (e.g., 4” to 6”) and limited color capabilities (256 colors), to cellular telephones with very small screens (1”–2”) and virtually no color capabilities (2–8 colors monochrome).” *Id.* at 1:32–39. The problem identified by Gautier is that “[a] web page with many images that is designed to be viewed on a full size, full color monitor will not appear at all properly on a cellular telephone display with only monochrome output.” *Id.* at 1:39–42.

The optimization constraints also are dependent on characteristics of the client device. Ex. 1008, 2:27–28. Observable characteristics of the client device requesting the content include “device type, browser type, operating system, processor, memory, user preferences, software installed on the client, and language type for the requested content.” *Id.* at 2:64–3:5.

Figure 1 of Gautier is reproduced below.

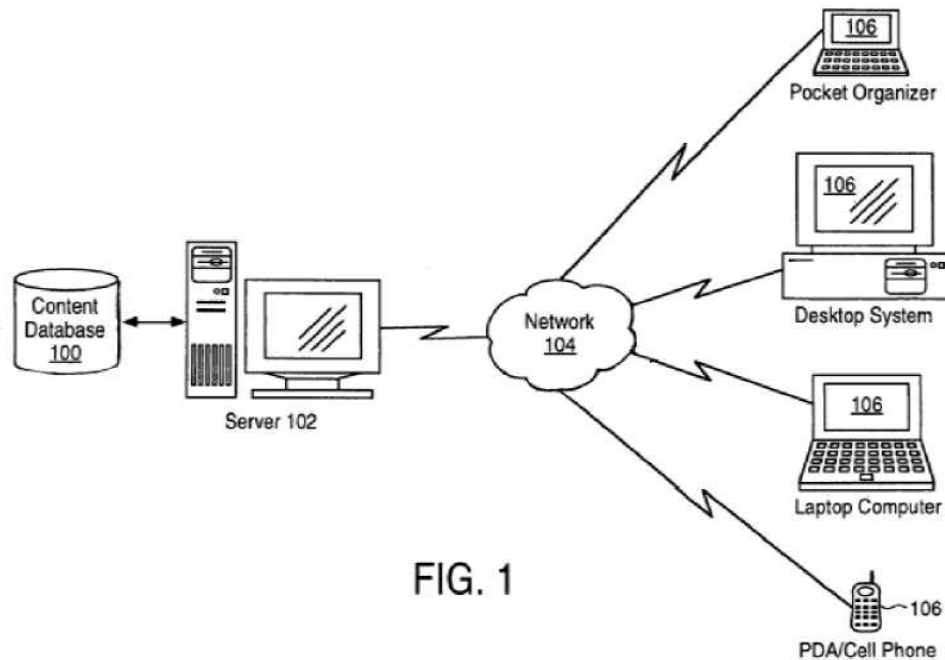


FIG. 1

Figure 1 illustrates a system with a content database and a server.

Ex. 1008, 4:39–41. Referring to Figure 1, Gautier’s web server 102 delivers content from the content database 100 to “client devices having varying bandwidth, display, and other performance characteristics.” *Id.* at 2:6–9.

Gautier’s system communicates with various types of client devices including “desktop and laptop computers, pocket organizers, personal digital assistants, cellular telephones, and any other type of communication device adapted for Internet or Web based communications (i.e., HTTP).” *Id.* at 5:31–35.

Content from content database 100 that is stored “in a suitable format, such as a markup language, ASCII, and the like.” Ex. 1008, 4:47–52. A new tag (e.g., <OPT>) “demarcates a group of one or more content items that may be optionally included in the content to be delivered.” *Id.* at 2:22–24. The server “select[s] which of the optional items of content are to be

delivered to the client device based on” a set of selection rules including an optimization constraint. *Id.* at 3:6–8. For example, HTML on a T1 connection may have a lower constraint compared to a HTML on a wireless PDA. *Id.* at 6:39–55.

In operation, the server 102 receives “a request for a content item from the database 100.” Ex. 1008, 5:39–41, Fig. 2. The server determines an optimization constraint associated with the requesting client device and compiles the requested content item according to the optimization constraint. *Id.* at 5:43–47. The server transmits the compiled content item to the client. 5:47–49.

3. *Overview of Schaefer*

Schaefer explains that “[i]n many environments, but particularly in environments where an application is delivered via a network, the most important feature is an ability to run applications on the fly, without a complex installation.” Ex. 1009, 1:9–12. Prior art approaches either modified the program to appear as if an application was installed or installed it, backing them out to restore the original configuration. *Id.* at 1:12–16. The prior art problems included the creation of “conflicts between an application and the computer’s current configuration.” *Id.* at 1:16–24.

Figure 1 of Schaefer is reproduced below.

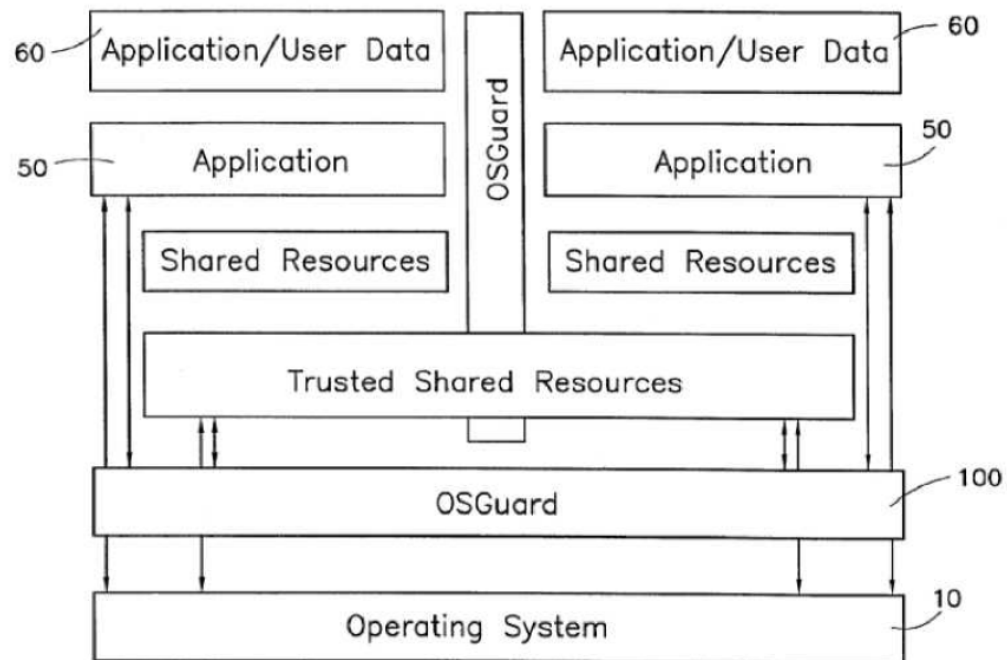


Fig. 1

Figure 1 is a block diagram schematic showing the relative relationship of an operating system and a software application.

Ex. 1009, 2:35–38. As shown in Figure 1, Schaefer provides an operating system abstraction and protection layer called the “Operating System Guard” interposed between a running software application and the operating system. *Id.* at 1:28–33.

Figure 4 of Schaefer is reproduced below.

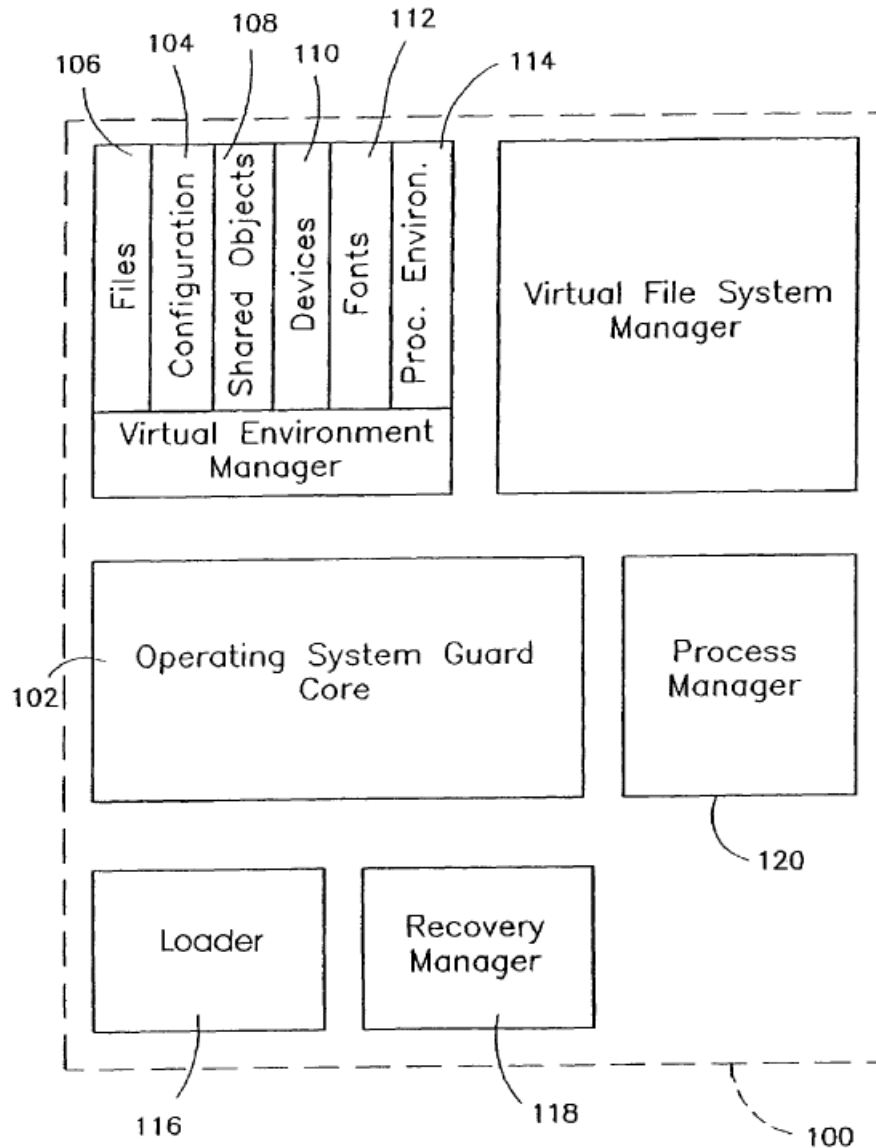


Fig. 4

Figure 4 is a block diagram schematic showing an operating system guard and subsystems.

Ex. 1009, 2:29–30. As shown in Figure 4, the Operating System Guard 110 includes a font manager 112 and a file manager 106. *Id.* at 4:15–21.

Different operating systems may have different fonts. *Id.* at 8:63–67.

“Some applications require fonts to be installed in order to perform correctly.” *Id.* at 9:1–2. The Operating System Guard “will enable these fonts prior to running the application and if necessary remove them afterwards.” *Id.* at 9:3–5.

4. *Disavowal of Claim Scope*

Patent Owner argues that “[t]he ’421 patent disavows the proprietary font format combined with ‘character shape player’ and ‘character shape recorder’ set forth in Collins.” PO Resp. 55. First, Patent Owner argues:

The ’421 patent disavows Collins’ solution in its description of the relevant technology, pointing out the perceived problems with solutions that include the creation of “new font descriptions” with a “character shape recorder” that are then placed in a document, delivered, then interpreted by a “character shape player” that may itself be downloaded. Ex1001 2:21–54. This disavowed solution is precisely the solution described by Collins. E.g., Ex1005 5:58–6:11, 9:24–40, 9:55–57.

Id. at 56. Next, Patent Owner argues:

During prosecution, Adamson explicitly disavowed the teaching “that applets provided by the server to the client via download are used to output and/or display fonts. . . instead of using regular font reading and outputting programs of the client.” Ex2069-183. As the same time, Adamson amended the relevant claim (claim 29 which matured into ’421 patent claim 1) to include the limitation that “a program module of the operating system” uses “external font files” to display the characters. Ex2069-174.

Id. at 57. According to Patent Owner, “[t]hese statements clearly disavow using separately downloaded computer programs for font rendering rather than the operating system’s font rendering capabilities,” which “is plainly what Collins teaches by requiring ‘character shape player’ software to

translate the ‘new font descriptions’ into something useable.” *Id.* (citing Ex. 1005, 46:9–13).

Finally, Patent Owner argues “[t]he ’421 patent also disavows the Collins solution by limiting the invention to features not present in Collins.” PO Resp. 58. In particular, Patent Owner points to the statement in the ’421 patent’s specification that “[o]ne of the unique benefits of the present invention is that once font files 312 are enabled on browsing computer 204, the characters within font files 312 can used the same as any of the font characters originally loaded on the browsing computer 204.” *Id.* (quoting Ex. 1001, 14:23–27). Patent Owner argues that “[t]his is not possible with Collins” because “Collins’ ‘new font descriptions’ are not ‘used the same as any of the font characters originally loaded on the browsing computer . . .’ as required by the ’421 patent.” *Id.* In particular, Patent Owner argues that “Collins’ font files must be translated before being used,” which “is anathema to the ’421 patent’s invention.” *Id.* at 59.

Petitioner responds that “[t]he two specification statements [Patent Owner] contends disavow Collins’ teachings . . . focus on unclaimed features—the ability to copy rendered fonts for use in other applications.” Pet. Reply 9 (citing Ex. 1001, 2:42–48, 14:23–27; PO Resp. 55–59). Petitioner contends that the statements in the ’421 patent’s specification “are ambiguous, at best, and cannot support a clear and unmistakable disclaimer.” *Id.* at 10. Petitioner further contends that “[t]he fact that the specification criticizes prior art character shape players as inefficient is irrelevant,” because “[m]ere criticism of a particular embodiment . . . is not sufficient to rise to the level of clear disavowal.” *Id.* (quoting *Thorner v. Sony Comput. Ent. Am. LLC*, 669 F.3d 1362, 1366 (Fed. Cir. 2012)).

Petitioner also contends that “the inventor’s claim amendments adding the term ‘program module’ to independent claims 1, 6, and 11 do not exclude the use of a separately downloaded computer program for font rendering,” but instead “require using a program module of the operating system to display characters, which (like the challenged claims) Petitioner shows Collins teaches.” Pet. Reply 11 (citing Ex. 2069, 174; Ex. 1003 ¶¶ 197, 236; Ex. 1005, 41:29–31, 42:7–11). Thus, according to Petitioner, Patent Owner’s “purported disclaimer based on these amendments would not encompass Collins.” *Id.*

“To disavow claim scope, the specification must contain ‘expressions of manifest exclusion or restriction, representing a clear disavowal of claim scope.’” *Retractable Techs., Inc. v. Becton, Dickinson and Co.*, 653 F.3d 1296, 1306 (Fed. Cir. 2011) (quoting *Epistar Corp. v. Int’l Trade Comm’n*, 566 F.3d 1321, 1335 (Fed. Cir. 2009)). “In general, statements about the difficulties and failures in the prior art, without more, do not act to disclaim claim scope.” *Id.* (citing *Spine Solutions, Inc. v. Medtronic Sofamor Danek USA, Inc.*, 620 F.3d 1305, 1315 (Fed. Cir. 2010) (concluding that statement that a prior art two-piece implant was “particularly difficult” to achieve did not disclaim two-piece implants)). Although a disavowal must be clear, it need not be explicit. *Techtronic Indus. v. Int’l Trade Comm’n*, 944 F.3d 901, 907 (Fed. Cir. 2019); *see also Aventis Pharma S.A. v. Hospira, Inc.*, 675 F.3d 1324, 1330 (Fed. Cir. 2012) (Disavowal “may be inferred from clear limiting descriptions of the invention in the specification or prosecution history.”).

Having reviewed the parties’ arguments and supporting evidence, we disagree with Patent Owner that there is a clear disavowal of claim scope in the ’421 patent specification.

When read in context, the sections of the '421 patent specification upon which Patent Owner relies do not represent a clear disavowal of claim scope. The statements in the “Relevant Technology” section Patent Owner identifies describe one “attempted to solution” to the problem of ensuring “that electronic documents made with non-standard fonts are displayed on a reader’s computer in the same form, i.e., same font(s), as created by the author.” Ex. 1001, 2:1–4, 2:21–36. The '421 patent specification characterizes this solution, which “requires the use of a character shape player by every reader’s computer,” as an improvement on the state of the art, but also notes that “[m]any applications may not be configured to access the services of a character shape player.” *Id.* at 2:37–44. As a result, the '421 patent specification states, “this solution does not allow the fonts represented by the proprietary vector font description to be freely copied and pasted into or otherwise used” by applications that cannot access the character shape player, and, “even if an application had access to the object player mechanism, the fonts cannot be rendered as efficiently as they could if the operating system itself was capable of interpreting the fonts,” and “operations such as scrolling of the fonts is sluggish.” *Id.* at 2:44–53. These statements point out the difficulties of the prior art, and do not rise to the level of an “expression of manifest exclusion or restriction” required to disavow claim scope. *See Epistar*, 566 F.3d at 1335 (“A patentee’s discussion of the shortcomings of certain techniques is not a disavowal of the use of those techniques in a manner consistent with the claimed invention.”).

Patent Owner also points to the '421 patent specification’s statement that “[o]ne of the unique benefits of the present invention is that once font files 312 are enabled on browsing computer 204, the characters within font

files 312 can used the same as any of the font characters originally loaded on the browsing computer 204.” Ex. 1001, 14:23–27. This statement was made in relation to the description of Figure 5, which “is a flowchart showing one method of operation of the” invention described in the ’421 patent. *Id.* at 3:50–51, 14:20–23. It is unclear, however, whether the described benefit of the “present invention” refers only to the embodiment described in Figure 5, or to the invention generally. Moreover, Patent Owner does not identify what in the ’421 patent claims is limited by the alleged disavowal. For example, Patent Owner does not point us to where the ’421 patent claims require that the characters within the font files can be used the same as any of the font characters originally loaded on the browsing computer. *See* Ex. 1001, 15:65–17:57.

We also disagree with Patent Owner that this statement “disavows the Collins solution in the manner approved by” the Federal Circuit in *Techtronic*. PO Resp. 58. In *Techtronic*, the Court determined that the patent at issue disavowed coverage of a garage door opener without a passive infrared detector “because the specification, in each of its sections, discloses as its invention a garage door opener improved by moving the passive infrared detector from the head unit to the wall console.” *Techtronic*, 944 F.3d at 907. Patent Owner does not point us to any statements in the ’421 patent specification in which the invention is consistently described in a way that would exclude the “Collins solution” from within the scope of the claims. The one statement about a “unique benefit” of one method of operation of the invention highlighted by Patent Owner is not a consistent representation of the invention adequate to disavow claim scope. *See id.* at 908 (“The ’319 patent, by consistently

representing the invention as the placement of the detector in the wall console, has thus effected a disavowal of alternative locations.”).

Patent Owner also identifies a statement in the prosecution history of the ’421 patent that it contends disavows the teaching in a prior art reference (Funyu) “that applets provided by the server to the client via download are used to output and/or display fonts. . . instead of using regular font reading and outputting programs of the client.” PO Resp. 57 (quoting Ex. 2069, 183). The identified statement was made in the context of the applicant’s argument that the combination of Funyu with a second reference (Ying) “fails to render obvious using a program module of the operating system to display characters, let alone ‘the plurality of display characters are displayed by a program module of the operating system using the one or more external font files’” because the “combination would frustrate the purpose of Funyu.” Ex. 2069, 183. The applicant points out that Funyu describes downloading the applets from the server (which can then be deleted after use) so that “the operating environment of each end user terminal . . . is provided and controlled by the server.” *Id.* According to the applicant, “any teaching or suggestion in Ying of using a ‘program module of the operating system’ of a client to display characters, rather than applets downloaded by a server, would frustrate Funyu’s purpose of providing and controlling the operating environment of each client using the server.” *Id.*

Patent Owner, however, does not explain how this argument is a clear and unmistakable disavowal of using “separately downloaded computer programs for font rendering rather than the operating system’s font rendering capabilities.” PO Resp. 57. As we understand it, the applicant is arguing that there would be no reason to modify the use of server downloads to provide and control the operating environment of the client using the

server described in Funyu to include a program module because doing so would thwart Funyu's intended purpose. At best, the statements made during prosecution are too ambiguous to support a disavowal of claim scope. *See Avid Tech., Inc. v. Harmonic, Inc.*, 812 F.3d 1040, 1045 (Fed. Cir. 2016) ("Where the alleged disavowal is ambiguous, or even 'amenable to multiple reasonable interpretations,' we have declined to find prosecution disclaimer." (internal citation omitted)); *see also Omega Eng'g, Inc. v. Raytek Corp.*, 334 F.3d 1314, 1325 (Fed. Cir. 2003) ("To balance the importance of public notice and the right of patentees to seek broad patent coverage, we have thus consistently rejected prosecution statements too vague or ambiguous to qualify as a disavowal of claim scope.").

5. *Whether Collins Teaches Away From the '421 Patent*

Patent Owner argues that Collins teaches away from the use of original fonts because Collins states "that doing so 'has many problems', 'would present legal problems', and was 'unacceptable in many applications.'" PO Resp. 59. Patent Owner argues that "[a] POSITA would not be motivated by Collins to pursue a solution that Collins described as illegal, unacceptable, or having 'many' problems." *Id.* at 60 (citing Ex. 2075, 23). According to Patent Owner, Collins teaches away "from sending a 'copy of all fonts' or 'predefined font descriptions'" and teaches "toward sending 'new font descriptions' and a proprietary interpreter," and "a POSITA would not have been motivated to go against Collins' 'new font description' invention and would be discouraged against doing so. Such a person would not reach the '421 patent's exact opposite solution in view of Collins." *Id.* at 62; PO Sur-reply 15. Patent Owner also argues that "the Board has already held that Collins criticizes the solutions in the '421 patent claims" in the Institution Decision. *Id.* (citing Dec. 11).

Petitioner responds that “Collins does not teach away from the claimed invention because the single paragraph [Patent Owner] cites is not ‘commensurate in scope with the ultimate claims at issue.’” Pet. Reply 12 (citing *Idemitsu Kosan Co. v. SFC Co.*, 870 F.3d 1376, 1381–82 (Fed. Cir. 2017)). Petitioner contends that “the ’421 patent claims require a ‘font package,’ including ‘one or more external font files’ or rendering ‘at least one display character using the font.’” *Id.* (citing Ex. 1001, 14:51–55, 15:10–14, 16:10–11, claims 1–17, Figs. 7 and 8; Ex. 1071 ¶¶ 67–71) (emphasis omitted). Petitioner further contends that the ’421 patent specification “teaches that each font file can include formatting information ‘for only one character,’ ‘a group of characters,’ or ‘a complete font,’ where the group of characters selected is ‘typically less than the entire font [file].” *Id.* (citing Ex. 1001, 10:23–29, claims 1–17; Ex. 1071 ¶ 70) (emphasis omitted). Therefore, according to Petitioner, “Collins’ tangential discussion of sending all fonts (which neither Collins nor the ’421 patent do) does not correspond to what the ’421 patent claims.” *Id.* (citing Ex. 1071 ¶¶ 67–73). Petitioner also contends that Patent Owner “premises its teaching away arguments on a single paragraph in Collins’ Background section, not Collins as a whole.” *Id.* at 13.

“Under a proper legal standard, a reference will teach away when it suggests that the developments flowing from its disclosure are unlikely to produce the objective of the [patented] invention.” *Syntex (U.S.A.) LLC v. Apotex, Inc.*, 407 F.3d 1371, 1380 (Fed. Cir. 2005) (citing *In re Gurley*, 27 F.3d 551, 553 (Fed. Cir. 1994)). A reference does not teach away if it merely expresses a general preference for an alternative invention but does not criticize, discredit, or otherwise discourage investigation into the invention claimed. *In re Fulton*, 391 F.3d 1195, 1201 (Fed. Cir. 2004).

Patent Owner's teaching away argument is premised on the following passage in the Background section of Collins:

One solution to the problem of making fonted text portable is to send a copy of all fonts and font interpreters needed to properly render the characters of a document along with it. Unfortunately, this has many problems. First, finding out what fonts and interpreters need to be sent with each such document and installing them on the viewing machine would be labor intensive. Furthermore, it would present legal problems because, even though the actual shape of fonts have long been held not to be copyrightable, both the code and the sequence of outline segments contained in font descriptions have been considered by many to be copyrightable, and thus cannot be installed on a new machine without legal permission.

Ex. 1005, 3:21–33. Patent Owner argues that Collins repeatedly confirms “that Collins’ alleged invention was to ‘create’ the ‘new font descriptions,’” and that this is “the exact opposite solution” to the ’421 patent’s claimed invention that requires the use of “original fonts.” PO Resp. 59–62. But Patent Owner does not identify how the ’421 patent claims the use of “original fonts,” or explain how and why Collins’ description of the problems associated with sending “all fonts and font interpreters” with the document would discourage a POSITA “from the path set out in” Collins, or “would be led in a direction divergent from the path that was taken” in the ’421 patent. *See Ricoh Co., Ltd. v. Quanta Computer Inc.*, 550 F.3d 1325, 1332 (Fed. Cir. 2008); *see also Idemitsu*, 870 F.3d at 1381 (“Evidence concerning whether the prior art teaches away from a given invention must relate to and be commensurate in scope with the ultimate claims at issue.”).

Patent Owner also argues that “Collins expressly discourages transferring the predefined font descriptions.” PO Resp. 61. However, Dr. Zadok credibly explains, with supporting record evidence, that the ’421

patent's claimed invention does not require transferring predefined font descriptions. Ex. 1071 ¶ 73. In that regard, we credit Dr. Zadok's testimony that the '421 patent does not describe sending "original fonts" because the '421 patent states that "as part of the installation process, installation module 501 first decompresses, if previously compressed, and deciphers, if previously encrypted, character objects 603 and font files 312 along with header information contained within font package 304." *Id.* (citing Ex. 1001, 13:28–32). Therefore, Dr. Zadok concludes, "the files themselves are changed into a format that can be used by the client computer," and Collins and the '421 patent "each convert external font files into a form which the operating system can use, while preserving the logical formatting information, and then install the external font files in the second computer." *Id.* (citing Ex. 1005, 5:58–63, 42:7–16; Ex. 1001, 13:28–32).

Finally, we disagree with Patent Owner that in the Institution Decision, "the Board found [that] Collins used all three criticisms to discourage the '421 patent's invention." PO Resp. 60. In the "Overview of Collins" section of the Institution Decision, we stated:

Collins explains that "[o]ne solution to the problem of making fonted text portable is to send a copy of all fonts and font interpreters needed to properly render the characters of a document along with it," but this approach "has many problems." [Ex. 1005], 3:21–24. Collins criticizes this approach by explaining that "finding out what fonts and interpreters need to be sent with each such document would be labor intensive," and "may present legal problems" because "both the code and sequence of outline segments contained in font descriptions have been considered by many to be copyrightable, and thus cannot be installed in a new machine without legal permission." *Id.* at 3:24–33.

Dec. 11. We made no findings in this section of the Institution Decision, nor did we reference the '421 patent's invention. *Id.* at 11–14. Accordingly, we did not find that “Collins used all three criticisms to discourage the '421 patent's invention” in the Institution Decision as Patent Owner contends.

For these reasons, we are not convinced that the record establishes that Collins teaches away from the invention described in the '421 patent.

6. Independent Claim 1

Petitioner relies on Collins as teaching or suggesting most of the limitations of independent claim 1, but relies on Gautier as disclosing a hand-held device that uses an operating system. Pet. 18–38; Ex. 1003 ¶¶ 115–206. To the extent that Collins does not disclose or suggest a system font table, Petitioner relies on Schaefer's disclosures regarding font manager behavior. Pet. 37–38; Ex. 1003 ¶¶ 203–206. Patent Owner responds that neither Collins nor Schaefer teaches or suggests the “installation” and “temporary fonts directory” elements of claim 1. PO Resp. 62–74; Ex. 2075 §§ 61–67.

- a) “an exposure module for installation of the one or more external font files in a temporary fonts directory on the hand-held device”*

(1) Collins and Gautier

Petitioner contends that Collins discloses the recited “external font files” because it “introduces portable font resources (“PFRs”) containing font descriptions for a document” that “are used by the hand-held computer to render the HTML document's text.” Pet. 23 (citing Ex. 1005, 24:10–14), 25 (citing Ex. 1005, 35:48–53); *see id.* at 25 (“Collins uses PFR tags to ‘[i]dentify a PFR file containing font descriptions necessary for the display of fonts contained in the document.’” (citing Ex. 1005, 29:45–50)).

Petitioner contends that “[e]ach PFR file in Collins is an ‘external font file’ and a set of PFRs in an HTML document is ‘a font package’” as recited in claim 1. *Id.* (citing Ex. 1003 ¶ 151); *see also id.* at 26 (“A POSITA would understand that PFR file(s) for an individual HTML file (web page) are a ‘font package’ for that HTML file, whereas the global PFR file is a separate ‘font package’ for the entire web site.” (citing Ex. 1003 ¶¶ 152–153)).

Petitioner contends that Collins teaches the recited “exposure module for installation of the one or more external font files” because it “provides a browser extension” that “includes functions (e.g., AccessNewDoc, GetAndDisplayPFRs, InstallPFRs) that perform installation of the PFR file(s).” Pet. 28–29 (citing Ex. 1005, 27:11–16, 37:12–44:51, Figures 33–39; Ex. 1003 §§ 170–171, 185). Petitioner asserts that, after receiving the PFR file(s), Collins’ extended browser executes the GetAndDisplayPFRs function, which “loads the new PFR into the PFRCache” and “makes an entry for it in the PFRCacheTable” that includes a list of PFR file names. *Id.* at 30–31 (citing Ex. 1005, 40:19–25). Petitioner contends that “[a] cache is a ‘special memory subsystem in which frequently used data values are duplicated for quick access,’” and Collins’ PFRCache is “a temporary location for storing fonts on the browsing computer because caches have limited room—older items must be removed to make room for items.” *Id.* at 31 (citing Ex. 1011, 70; Ex. 1003 § 178). Petitioner contends that “Collins’ PFRCache is a ‘font directory’ because it contains a catalog listing PFR files by name (i.e., font files).” *Id.* at 31–32 (citing Ex. 1003 ¶ 178 (citing Ex. 1011, 507)).

Petitioner further contends that “[l]oading the PFR file into the PFRCache ‘installs’ that PFR file because downloading and storing sets the PFR in place for further operation with the extended browser.” Pet. 32

(citing Ex. 1003 ¶ 179). According to Petitioner, “[w]hen the GetAndDisplayPFRs function processing is complete, the browsing computer calls the InstallPFRs function (step 840) which ‘causes all of the fonts contained in the current HTML file’s PFRs to be installed in the operating system of the browser’s computer, enabling them to be rendered more quickly.’” *Id.* (citing Ex. 1005, 39:37–40, Fig. 38). Petitioner contends that “[t]he Collins and Gautier⁶ combination therefore discloses functions in Collins’s extended browser (e.g., GetAndDisplayPfrs and InstallPfr functions) that install “the one or more external font files in a temporary fonts directory on the handheld device.” Pet. 32 (citing Ex. 1003 ¶¶ 176–182).

Patent Owner argues that Collins does not teach or suggest a “temporary fonts directory” because “directory” cannot be construed to encompass a “cache,” and “a POSITA would not have found any suggestion or motivation in the cited portions of Collins to use a ‘temporary fonts directory’ rather than Collins’ ‘cache.’” PO Resp. 67–69. We do not reach Patent Owner’s arguments that are based on a claim construction we do not adopt.

Patent Owner also argues that the challenged claims require “the same file or formatting information initially and later installed on the client, whereas Collins changes the files or formatting information.” PO Resp. 69. In particular, Patent Owner argues:

Collins’ ‘InstallPfrs’ function changes the formatting information, meaning that the files installed by ‘InstallPfrs’ are

⁶ Petitioner contends that Gautier discloses “a hand-held device” “such as a pocket organizer, personal digital assistant, cellular telephone, or small laptop computer” that uses an operating system. Pet. 18 (citing Ex. 1008, 5:30–35, 5:49–55, 8:51–55; Ex. 1003 ¶¶ 54–57).

not the same files as were stored on the server for download: Collins starts with “PFR” formatting information and then converts that into different formatting information before installing; the files are different on the server than they are on the client computer. . . . Thus, two requirements are missing from Collins: first, the PFRs on the server didn’t have the required formatting information; second, Collins installs different files than were on the server, even though the ’421 patent claims require the same files through use of antecedent basis in the claim language.

Id. at 70 (citing Ex. 1005, 37:64–38:3,⁷ 8:34–44).

Claim 1 recites, in relevant part, “a font package comprising one or more external font files that include formatting information necessary for the hand-held device to render the at least one of the plurality of display characters using the one or more identified external fonts,” “an exposure module for installation of the one or more external font files in a temporary fonts directory on the hand-held device,” and “the plurality of display characters are displayed by a program module of the operating system using the one or more external font files.” Ex. 1001, 16:10–32. We are persuaded that Petitioner sufficiently establishes that Collins discloses or suggest “one or more external font files” as recited by claim 1.

Collins teaches that when a new URL is entered on the user’s computer, the “GetAndDisplayPfrs” function “requests transmission over the net of all of PFRs listed in the current document’s PFR tags which are not currently in the browser’s PFR cache 805.” Ex. 1005, 37:48–51. Collins also teaches that the PFR contains “the data contained in the physical font

⁷ Patent Owner’s cite to Collins (Ex. 1005) as it appears in the Patent Owner Response is “37:64–55.” PO Resp. 70. We recognize this as an obvious typographical error. The parenthetical Patent Owner provides with the cite is congruent with the text at 37:65–38:3.

records” of a document, and includes, among other things, “a logical font directory, one or more logical font records, and one or more physical font records.” *Id.* at 24:4–14. After receiving the request, the server sends the PFR file “back over the net,” and once it is received, the browser “tests to see if the PfrCache has enough space for the new PFR,” and, if not “seeks to make room for the new PFR by deleting one or more PFRs listed in PfrCacheTable which are not used in the current HTML file, and which have the oldest LastUsed-Time.” *Id.* at 40:15–23.

Collins teaches that the new PFR is then loaded into the browser’s PfrCache, and an entry is made for it in the PfrCacheTable. *Id.* at 40:23–25. Collins further teaches that the browser’s “InstallPfrs” function “causes the current document’s PFR’s font description to be converted into a font language and format which can be used by the client computer’s operating system and then installs these converted fonts 656A into the operating system’s font manager 658A so that they can be rendered more quickly by making calls to the operating system.” *Id.* at 37:64–38:3; *see also id.* at 39:35–40 (The InstallPfrs functions causes “all of the fonts contained in the current HTML files’ PFRs to be installed in the operating system of the browser’s computer, enabling them to be rendered more quickly.”). Once all of the current document’s “files’ corresponding PFR fonts have all been installed, the entire HTML document can be rendered by calls to the operating system’s font manager.” *Id.* at 41:29–31.

These disclosures in Collins indicate that the PFR sent by the server is the same PFR that is loaded into the PfrCache in the browser, and then installed on the operating system. They also indicate that the PFR includes “formatting information necessary” to render display characters using the font files in the PFR, because the operating system is able to quickly render

the document using the descriptions in the PFR, even where the language and format of the PFR is converted to ensure compatibility with the operating system. To that end, Dr. Zadok testifies that

Collins's PFR files on both the server and the client device contain the same logical formatting information for faithfully rendering the fonts. The "InstallPfrs" function merely converts the data in the PFR files "into a form which the operating system can use." (Ex. 1005, Collins, 42:7–16.) Such conversion does not change or destroy the logical formatting information included in the PFR files, as evident from the fact that the fonts described in the PFRs are rendered faithfully on the client device, shown in, *e.g.*, Figure 28 of Collins. (Ex. 1005, Collins, Fig. 28).

Ex. 1071 ¶ 62.

Patent Owner argues that the '421 patent claims "use antecedent basis in claiming font files or formatting information that are the same from beginning to end," but does not cite to anything in the claims or the '421 patent specification in support of this argument. *See* PO Resp. 69–71. In any event, we are persuaded that Petitioner establishes that Collins' PFR files meet the "one or more external font files that include formatting information necessary for the hand-held device to render the at least one of the plurality of display characters." In particular, we credit Dr. Zadok's unrebutted testimony, supported by the disclosures in Collins, that converting the files into a form compatible with the operating system does not change or destroy the logical formatting information the operating system uses to render the document text. *See* Ex. 1071 ¶¶ 62–63. Because Collins teaches that the external font can be faithfully rendered by the operating system after the PFR is installed thereon, and the logical formatting information in the PFR is the same on the server and the operating system, we are persuaded that Collins' PFR discloses an external

font file that “includes the formatting necessary for the hand-held device to render” at least one character using at least one external font required by claim 1.

Finally, Patent Owner argues that “Petitioner’s suggestion that the Board should consider invalidity without Schaefer is procedurally improper.” PO Sur-reply 15–16. In particular, Patent Owner argues that Petitioner’s argument that the challenged claims would have been obvious over Collins and Gautier is a new ground, and “[t]he grounds cannot be changed after a party’s last opportunity to present evidence.” *Id.* at 16.

We disagree that Collins and Gautier without Schaefer is a new ground presented for the first time in the Reply. *See* PO Sur-reply 15–21. In the Petition, Petitioner states that “[t]he Collins and Gautier combination therefore discloses functions in Collins’s extended browser (e.g., GetAndDisplayPfrs and InstallPfr functions) that install ‘the one or more extended font files in a temporary fonts directory on the handheld device.’” Pet. 32 (citing Ex. 1003 ¶¶ 176–182). Immediately after this statement, Petitioner states that “Schaefer *also* discloses this limitation.” *Id.* (emphasis added). Then, after presenting arguments to that effect, Petitioner states “[t]he Collins, Gautier, and Schaefer combination therefore *also* discloses the installation of ‘the one or more extended font files in a temporary fonts directory on the handheld device.’” *Id.* at 33 (citing Ex. 1003 ¶ 183) (emphasis added). Thus, the Petition is explicit that, with respect to this limitation, Petitioner is relying on the Collins and Gautier combination *and* the Collins, Gautier, and Schaefer combination.

And Patent Owner acknowledged this alternative pleading in the Patent Owner Response: “Finally, both the Petition (pp. 32–33) and the Board (Paper 14 p. 22) rely on Schaefer’s disclosure *if Collins fails*.” PO

Resp. 72 (emphasis added). Patent Owner then goes on to argue that “Schaefer does not disclose the claimed ‘install[ation]’ nor the claimed ‘temporary fonts directory,’” demonstrating that Patent Owner had the opportunity to address both arguments *before* its last opportunity to offer evidence in this proceeding. *Id.* at 72–74. It is disingenuous of Patent Owner to argue in the Sur-reply that Collins and Gautier alone is a new ground after acknowledging in the Patent Owner Response that Petitioner relied on Schaefer if Collins alone did not meet the limitation.

Having reviewed the parties’ arguments and evidence, we are persuaded that Petitioner sufficiently establishes that the combined teachings of Collins and Gautier discloses the “an exposure module for installation of the one or more external font files in a temporary fonts directory on the hand-held device” element of claim 1.

(2) *Collins, Gautier, and Schaefer*

Petitioner also contends that “the Collins, Gautier and Schaefer combination . . . also discloses the installation of “the one or more external font files in a temporary fonts directory on the handheld device.” Pet. 33 (citing Ex. 1003 ¶ 184). In particular, Petitioner contends that “[a] POSITA would have understood that font descriptions like Collins’ font descriptions are stored in [Schaefer’s] Operating System Guard’s virtual file system, and managed by the Operating System Guard’s file manager, e.g., by redirecting the file request ‘to a location specified in the Operating System Guard configuration’ if needed.” *Id.* at 32–33 (citing Ex. 1009, 7:44–45).

Petitioner contends that “Schaefer’s Operating System Guard uses its File subsystem to ‘avoid placing the actual font file in the running system’ and to ‘enable these fonts prior to running the application and if necessary remove them afterwards.’” *Id.* at 33 (citing Ex. 1009, 9:23–25, 9:3–5). According

to Petitioner, “[b]ecause the files are removed after running the application, the files are ‘temporary’ and their storage location is a ‘temporary fonts directory.’” *Id.*

Patent Owner argues in response that “Schaefer does not disclose the claimed ‘install[ation]’ nor the claimed ‘temporary fonts directory’ or “cure Collins’ deficiencies.” PO Resp. 72–74. Patent Owner argues that Schaefer’s statement that, “[o]n Windows, a font is copied to the \WINDOWS\FONTS directory,” is a system directory, not a “temporary fonts directory.” *Id.* at 73 (citing Ex. 1009, 9:11; Ex. 2075, 25–26). Patent Owner also argues that Schaefer “does not perform installation” because the Operating System Guard “prevents a running application from making changes to the client computer.” *Id.* at 73–74 (citing Ex. 1009, 1:65–2:3, 2:39–41, 3:14–28); *see also id.* at 74 (“Schaefer’s system intentionally ‘appears to be an installation environment without performing an installation . . .’” (citing Ex. 1009, 3:14–28)).

Having reviewed the parties’ arguments and evidence, we are persuaded that Petitioner sufficiently establishes Schaefer teaches “the one or more external font files in a temporary fonts directory” element of claim 1. Schaefer teaches that “[m]any applications use data files within the application to store configuration entries or other application data,” and Schaefer’s Operating System Guard “provides a virtual file system” that can “load a list of file system changes, including files to hide and files to add to the virtual environments or files to redirect to another within the virtual environment.” Ex. 1009, 7:33–39. Schaefer acknowledges that “[s]ome applications require fonts to be installed in order to perform correctly,” and teaches that required fonts “will be specified in the Operating System Guard’s configuration file,” and “[t]he Operating System Guard will enable

these fonts prior to running the application and if necessary remove them afterwards.” *Id.* at 9:1–5. Schaefer further teaches that, on the Windows operating system, “a font is copied to the \WINDOWS\FONTS directory,” but this “does not guarantee that the font is available to the running program.” *Id.* at 9:10–12. Schaefer explains:

In the preferred embodiment, if the program uses the Windows API to access fonts, the font will need to be registered with a Win32 API call such as CreateScalableFontResource/AddFontResource. This will insert the font into the system font table. Once complete, the Operating System Guard can remove the font with another appropriate API call like RemoveFontResource, then remove the file from the system.

Id. at 9:12–19.

These disclosures in Schaefer indicate that the font files can be temporarily stored in the system font table, because they are copied into the system font table prior to running the application, and can be removed from the system font table after running the application. *See* Ex. 1003

¶¶ 110, 183. This is consistent with the ’421 patent specification’s teaching that character objects and fonts files “are copied into a temporary fonts directory” in order to facilitate “temporary exposure” to the operating system. Ex. 1001, 13:49–62; *see also id.* at 14:7–19 (explaining that the temporary fonts directory can be removed in a variety of ways, including programming the installation module “to automatically delete character objects 603 and font files 312” when a predefined act, such as closing the network document or requesting another web page, is performed).

Accordingly, we are persuaded that Petitioner sufficiently establishes that the combined teachings of Collins, Gautier, and Schaefer discloses the “installation of an exposure module for installation of the one or more

external font files in a temporary fonts directory on the hand-held device” element of claim 1. *See* Ex. 1003 ¶¶ 182–185.

b) Conclusion: Claim 1

Other than the arguments discussed above, Patent Owner does not otherwise dispute Petitioner’s evidence that the combined teachings of Collins and Gautier, with or without Schaefer, disclose the limitations of claim 1. *See* PO Resp. Having considered the complete trial record, and for the reasons set forth in Sections II.D.4–6.a *supra*, we determine that Petitioner has established by a preponderance of the evidence that the combined teachings of Collins and Gautier, with or without Schaefer, account for all of the limitations recited in claim 1. Pet. 16–38; Ex. 1003 ¶¶ 115–206. We also determine, for the reasons set forth in the Petition, that Petitioner establishes by a preponderance of the evidence that a POSITA would have been motivated to combine the teachings of Collins, Gautier, and Schaefer as proposed with a reasonable likelihood of success. Pet. 13–16; Ex. 1003 ¶¶ 103–107.

7. Independent Claim 6

Petitioner contends that the combined teachings of Collins and Gautier, with or without Schaefer, teach or disclose all of the limitations of independent claim 6. Pet. 38–49; Ex. 1003 ¶¶ 208–241. Petitioner relies on the arguments it made with respect to claim 1 for many of the limitations of claim 6, including claim 6’s “installing the computer readable formatting information of the font package in a temporary fonts directory on the hand-held device” element. *See, e.g.*, Pet. 47–49. Other than the arguments described above with respect to the “an exposure module for installation of the one or more external font files in a temporary fonts directory on the hand-held device” element of claim 1, Patent Owner does not otherwise

dispute Petitioner's evidence that the combined teachings of Collins and Gautier, with or without Schaefer, disclose the limitations of claim 6. *See* PO Resp. Having considered the complete trial record, and for the reasons set forth in Sections II.D.4–6.a *supra*, we determine that Petitioner has established by a preponderance of the evidence that the combined teachings of Collins and Gautier, with or without Schaefer, account for all of the limitations recited in claim 6. Pet. 38–49; Ex. 1003 ¶¶ 208–241.

8. *Claims 2–5 and 7–9*

Petitioner contends that the combined teachings of Collins, Gautier, and Schaefer teach or disclose all of the elements of dependent claims 2–5 (which depend from claim 1) and 7–9 (which depend from claim 6). Pet. 49–57; Ex. 1003 ¶¶ 242–278. Patent Owner does not address whether the combined teachings of Collins, Gautier, and Schaefer teach the limitations of claims 2–5 and 7–9. *See* PO Resp. Having reviewed the parties' arguments and evidence, we are persuaded that Petitioner's discussion of the particular structures, systems, methods, and operations in Collins, Gautier, and Schaefer, and the explanations in the Petition and the Zadok Declaration, show, by a preponderance of the evidence, that the combined teachings of Collins and Gautier, with or without Schaefer, teach or suggest all of the limitations of claims 2–5 and 7–9. Pet. 49–57; Ex. 1003 ¶¶ 242–278.

9. *Conclusion: Claims 1–9*

We have reviewed Petitioner's contentions for all of the elements of claims 1–9 and Petitioner's contentions regarding reasons to combine the teachings of Collins, Gautier, and Schaefer as proposed, as well as Patent Owner's arguments in response. After considering Petitioner's and Patent Owner's positions, as well as the supporting evidence, we determine that

Petitioner has shown by a preponderance of the evidence that claims 1–9 would have been obvious⁸ over the combined teachings of Collins and Gautier, with or without Schaefer, and that Petitioner has established an evidence-supported rationale for combining the teachings.

E. Obviousness over Collins, Gautier, Schaefer, and Parthasarathy

Petitioner contends that claims 1–5 and 11–17 would have been obvious over the combined teachings of Collins, Gautier, and Schaefer. Pet. 57–74. Petitioner argues that “the Collins, Gautier, and Schaefer combination discloses or renders obvious every limitation of independent claims 1 and 6,” and “[c]laim 11 includes substantially overlapping limitations with claims 1–6.” *Id.* at 57–58. Petitioner relies on Parthasarathy with respect to the “install an exposure module on the hand-held device, the exposure module for automatically installing or exposing the font package to the hand-held device” element of claim 11. *Id.* at 67. In particular, Petitioner argues that “Collins extends a standard browser’s functionality to include software for handling documents with dynamic fonts” but “does not explicitly disclose how and when this extended browser functionality is added to a standard browser.” *Id.* Petitioner argues that “Parthasarathy discloses a technique for automatically adding software functionality to Web browsers ‘on demand.’” *Id.* (citing Ex. 1006, 1:11–16; Ex. 1003 ¶ 317).

Petitioner relies on its arguments with respect to the combination of Collins, Gautier, and Schaefer described above with respect to claims 2–5, and claims 12 and 13 that Petitioner asserts “recite the same subject matter

⁸ Patent Owner did not introduce any evidence of objective indicia of nonobviousness in this proceeding.

as claims 2–3.” Pet. 72. Claim 14 depends from claim 11, and additionally recites, *inter alia*, “download[ing] a second font package to the hand-held device.” Ex. 1001, 18:35–43. Petitioner argues that “Collins’ HTML file includes one or more ‘font packages,’ each including one or more PFR files,” and “[e]ach ‘font package is retrieved using a request to a server by the hand-held device.” Pet. 72. Petitioner also asserts that “[c]laims 15–17 recite similar subject matter as” two limitations of claim 1 and claim 5 “except claims 15–17 are directed to the ‘second font package.”” *Id.* at 74.

Other than the arguments addressed above with respect to the Collins, Gautier, and Schaefer combination, Patent Owner does not address whether the combined teachings of Collins, Gautier, Schaefer, and Parthasarathy teach the limitations of claims 1–5 and 11–17. *See* PO Resp.

After considering parties’ positions, as well as the supporting evidence, we are persuaded that Petitioner’s discussion of the particular structures, systems, methods, and operations in Collins, Gautier, Schaefer, and Parthasarathy, and the explanations in the Petition and the Zadok Declaration, show, by a preponderance of the evidence, that the combined teachings of Collins, Gautier, and Parthasarathy, with or without Schaefer, teach or suggest all of the limitations of claims 1–5 and 11–17. Pet. 63–74; Ex. 1003 ¶¶ 279–338. Accordingly, we determine that Petitioner has shown by a preponderance of the evidence that claims 1–5 and 11–17 would have been obvious over the combined teachings of Collins, Gautier, and Parthasarathy, with or without Schaefer, and that Petitioner has established an evidence-supported rationale for combining the teachings.

F. Obviousness over Collins, Gautier, Schaefer, and Miller

Petitioner contends that the combined teachings of Collins, Gautier, Schaefer, and Miller teach or disclose all the limitations of claim 10 (which

depends from claim 6). Pet. 74–77; Ex. 1003 ¶¶ 339–345. Petitioner argues that the “Collins, Gautier, and Schaefer combination discloses every limitation of claim 6,” but the combination does not explicitly disclose the hand-held device “disconnecting from the network” after receiving the font package and “remaining disconnected from the network until after the handheld device has rendered the at least one display character” recited in claim 10. Pet. 74. Petitioner argues that “Miller discloses the well-known technique of power-management in a portable hand-held device.” *Id.*

Other than the arguments addressed above with respect to the Collins, Gautier, and Schaefer combination, Patent Owner does not address whether the combined teachings of Collins, Gautier, Schaefer, and Miller teach the limitations of claim 10. *See* PO Resp.

After considering parties’ positions, as well as the supporting evidence, we are persuaded that Petitioner’s discussion of the particular structures, systems, methods, and operations in Collins, Gautier, and Miller, with or without Schaefer, and the explanations in the Petition and the Zadok Declaration, show, by a preponderance of the evidence, that the combined teachings of Collins, Gautier, and Miller, with or without Schaefer, teach or suggest all of the limitations of claim 10. Pet. 74–77; Ex. 1003 ¶¶ 339–345. Accordingly, we determine that Petitioner has shown by a preponderance of the evidence that claim 10 would have been obvious over the combined teachings of Collins, Gautier, and Miller, with or without Schaefer, and that Petitioner has established an evidence-supported rationale for combining the teachings.

G. Patent Owner’s Objection

In the Patent Owner Response, “Patent Owner objects to the denial of permission to present electronic files as evidence” because it violated “due

process rights and statute, which states, ‘A party is entitled to present his case or defense by oral or documentary evidence. . . .’” PO Resp. 74–75 (citing Ex. 2090; 5 U.S.C. § 556(d)). Patent Owner does not argue that the inability to file electronic files on a USB drive, CD, or DVD (*see* Ex. 2090, 1–2) prejudiced Patent Owner’s ability to present its case, and does not request any relief.

III. PATENT OWNER’S MOTION TO EXCLUDE

Patent Owner moves to exclude (1) Exhibits 1011, 1013–1016, 1018, 1020–1027, 1029–1034, 1036–1039, 1041–1053, 1064, 1065, and 1067–1070; (2) numerous paragraphs in the Zadok and Zadok Reply Declarations and portions of the Reply that rely on these exhibits or paragraphs for support; and (3) allegedly new evidence introduced in the Reply and the Zadok Reply Declaration. Paper 66, 4–17. Patent Owner, as the moving party, has the burden of proof to establish that it is entitled to the requested relief. 37 C.F.R. § 42.20(c).

A. Exhibits 1011, 1013–1016, 1018, 1020–1027, 1029–1034, 1036–1039, 1041–1053, 1064, 1065, and 1067–1070

Patent Owner moves to exclude Exhibits 1011, 1013–1016, 1018, 1020–1027, 1029–1034, 1036–1039, 1041–1053, 1064, 1065, and 1067–1070 (“the challenged exhibits”) as lacking authentication and as hearsay. Paper 66, 4–11. The exhibits include, *inter alia*, a dictionary definition of “directory” (Exs. 1011, 1068, 1069), book excerpts (Exs. 1020–1023, 1051, 1052, 1070), magazine and journal articles (Exs. 1013, 1014, 1016, 1027, 1029–1031, 1033, 1036–1039), working group papers (Exs. 1018, 1041, 1044–1047), web pages and internet archives (Exs. 1024–1026, 1032, 1034, 1042, 1048–1050, 1064), and software manuals and instructions (Exs. 1053, 1065, 1067). Patent Owner argues that Petitioner did not produce evidence

“to support a finding that these exhibits are what Petitioner’s Exhibit List or their expert claim.” Paper 66, 4. Patent Owner also argues that the two attorney declarations (“Ghrist Declaration,” Ex. 1056; “Watson Declaration,” Ex. 1075) Petitioner provided in response to Patent Owner’s objections are insufficient to authenticate the exhibits because neither: “claimed to have had knowledge of the any exhibit before 2022;” “suggested a place where any of the documents would be found;” or testified “about practices used in maintaining websites.” Paper 66, 4–5. Patent Owner also argues that the exhibits should be excluded as hearsay, because Petitioner offers the exhibits “to prove the truth of what those exhibits assert so that Petitioner[] can rely on it,” and the exhibits are not subject to any hearsay exception. *Id.* at 10.

Petitioner responds that the Ghrist and Watson Declarations confirm that the exhibits “are true and correct copies and provid[e] publication information and/or URL links to where the information can be located or accessed.” Paper 67, 1–2 (citing Ex. 1056; Ex. 1075). Petitioner also argues that Patent Owner “fails to identify evidence to suggest that these exhibits are not what they purport to be.” *Id.* at 1. Petitioner further argues that “Dr. Zadok’s identification of, analysis, and use of each Exhibit corroborates their authenticity,” and that the totality of the circumstances also demonstrates that the exhibits are authentic. *Id.* at 5–7.

Based on our consideration of the arguments and the evidence, we are not persuaded that the challenged exhibits lack authentication. Authentication is a low bar, requiring only a rational basis that the exhibits are what they are asserted to be. *See Caterpillar, Inc. v. Wirgen Am., Inc.*, IPR2018-01091, Paper 49 at 72 (PTAB Nov. 27, 2019) (quoting *United States v. Turner*, 934 F.3d 794, 798 (8th Cir. 2019)). For example,

FRE 901(b)(1) explains that testimony of a witness with knowledge “that an item is what it is claimed to be” may satisfy the authentication requirement. Fed. R. Evid. 901(b)(1). Here, in their declarations, Ms. Ghrist and Mr. Watson each attest that the facts to which they testify were known to them personally, and that each of the challenged exhibits is a true and correct copy of what it purports to be. Ex. 1056 ¶¶ 1–38; Ex. 1075 ¶¶ 1–3, 5–8. We find no reason to question the veracity of their testimony.

In addition, as Petitioner notes, despite arguing that Exhibit 1011 lacks authentication, Patent Owner “relies on the exact same dictionary (re-labeled as Ex. 2071) in its Patent Owner Response.” Paper 67, 5 (citing Ex. 1011; Ex. 2071). We have compared Exhibit 1011 with Exhibit 2071, and find that they both reproduce parts of the same dictionary. *Compare, e.g.,* Ex. 1011, 1, 3, 18 *with* Ex. 2071, 1, 2, 6. We also note that Patent Owner provided a printout of the catalog record for the dictionary from the Library of Congress, which confirms the publication information provided by Petitioner in Exhibit 1011. Ex. 2072. Also, dictionary definitions are routinely considered extrinsic evidence that may shed light on the plain and ordinary meaning of a claim term. *See, e.g., Phillips v. AWH Corp.*, 415 F.3d 1303, 1318 (Fed. Cir. 2005) (en banc).

As Patent Owner recognizes, “[t]he Petition and Reply don’t mention these exhibits (except a few ungarnished citations to 1011 and 1064–1070).” Paper 66, 4. Dr. Zadok considered the challenged exhibits, along with others, for the Zadok Declaration and the Zadok Reply Declaration, and these exhibits show the basis for the testimony in the declarations. *See* Ex. 1003 ¶ 4, App’x; Ex. 1071 ¶ 3. An expert may rely on hearsay in forming an opinion under FRE 703. To the extent the challenged exhibits are hearsay, we would limit their purpose to showing the basis for testimony.

Accordingly, we deny Patent Owner's Motion to Exclude the challenged exhibits for lack of authentication or hearsay. We also do not rely on any of Exhibits 1013–1016, 1018, 1020–1027, 1029–1034, 1036–1039, 1041–1053, 1064, 1065, and 1067–1070 to reach our determination.

B. Portions of the Zadok Declaration and the Zadok Reply Declaration

Patent Owner moves to exclude portions of the Zadok Declaration and the Zadok Reply Declaration as relying on the allegedly unauthenticated exhibits discussed above. Paper 66, 11–12. Patent Owner argues that the identified paragraphs of both declarations are not based on sufficient facts or data or the product of reliable principles and methods because the cited documents are not authenticated. *Id.* at 11 (citing Fed. R. Evid. 702).

According to Patent Owner, “[n]o reasonable expert would rely on potentially fabricated or later-created documents as alleged facts or data.” *Id.* We discern nothing in the record that indicates that any of Dr. Zadok's testimony is predicated on fabricated or later-created documents. Moreover, arguments regarding the sufficiency of the data on which Dr. Zadok relies go to the weight of the evidence, not its admissibility. We therefore deny Patent Owner's Motion to Exclude the identified portions of the Zadok Declaration (Ex. 1003) and Zadok Reply Declaration (Ex. 1071).

Patent Owner further moves to exclude paragraphs of the Zadok Declaration and Zadok Reply Declaration because Dr. Zadok's testimony “relies on ‘modern computers’ rather than 2001 computers.” Paper 66, 13–15. The Zadok Declaration makes clear at several points that the testimony is based on “how a person of ordinary skill in the art would have understood the claims of the '421 patent *at the time of the alleged invention*, which I have been asked to assume is the 2001 timeframe.” Ex. 1003 ¶ 5 (emphasis added). We do not find his reference to “modern computers” to be anything

more than imprecision in his testimony that we determine to be harmless, and we deny Patent Owner's Motion to Exclude these portions of the Zadok Declaration and the Zadok Reply Declaration.

Patent Owner further moves to exclude portions of the Zadok Declaration and Zadok Reply Declaration because "[m]any of Dr. Zadok's opinions . . . lack even an iota of support." Paper 66, 16–17. Patent Owner's arguments in this regard go to the weight of the evidence, not its admissibility, and we decline to exclude Dr. Zadok's testimony on this basis.

C. Alleged New Evidence in Reply and Zadok Reply Declaration

Patent Owner moves to exclude Petitioner's Reply and the Zadok Reply Declaration as exceeding the scope of proper reply evidence. Paper 66, 17; *see also* PO Sur-reply 3–5. In the Sur-reply, Patent Owner identifies paragraphs in the Zadok Reply Declaration that it contends contain new evidence. PO Sur-reply 3–4.

Our rules expressly allow Petitioner to "respond to arguments raised in the corresponding opposition, patent owner preliminary response, or patent owner response." 37 C.F.R. § 42.23(b); *see also* PTAB Consolidated Trial Practice Guide 74 (Nov. 2019) ("Respond,' in the context of 37 C.F.R. § 42.23(b), does not mean proceed in a new direction with a new approach as compared to the positions taken in a prior filing."). To that end, our review of the identified evidence establishes that the material Patent Owner seeks to exclude responds to the claim construction arguments Patent Owner made in its Response, and is within the proper scope of a Reply. *See* PO Sur-reply 3–4. Moreover, "[i]n most cases, the Board is capable of identifying new issues or belatedly presented evidence when weighing the evidence at the close of trial, and disregarding any new issues or belatedly presented evidence that exceeds the proper scope of reply or sur-reply."

PTAB Consolidated Trial Practice Guide 80; *see also id.* at 79 (“A motion to exclude is not a vehicle for addressing the weight to be given to the evidence . . . [n]or should a motion to exclude address arguments or evidence that a party believes exceeds the proper scope of reply or sur-reply.”).

Accordingly, we deny Patent Owner’s Motion to Exclude the Reply and Zadok Reply Declaration on this basis.

IV. CONCLUSION⁹

After reviewing the parties’ arguments and weighing the evidence offered by both parties, we determine that Petitioner has shown, by a preponderance of the evidence, that (1) claims 1–9 would have been obvious over the combined teachings of Collins and Gautier, with or without Schaefer; (2) claims 1–5 and 11–17 would have been obvious over the combined teachings of Collins, Gautier, Schaefer, and Parthasarathy, and (3) claim 10 would have been obvious over the combined teachings of Collins, Gautier, Schaefer, and Miller.

V. ORDER

In consideration of the foregoing, it is hereby:

ORDERED that, that Petitioner has shown by a preponderance of the evidence that claims 1–17 of the ’421 patent are unpatentable;

⁹ Should Patent Owner wish to pursue amendment of the challenged claims in a reissue or reexamination proceeding subsequent to the issuance of this decision, we draw Patent Owner’s attention to the April 2019 *Notice Regarding Options for Amendments by Patent Owner Through Reissue or Reexamination During a Pending AIA Trial Proceeding*. See 84 Fed. Reg. 16,654 (Apr. 22, 2019). If Patent Owner chooses to file a reissue application or a request for reexamination of the challenged patent, we remind Patent Owner of its continuing obligation to notify the Board of any such related matters in updated mandatory notices. See 37 C.F.R. § 42.8(a)(3), (b)(2).

FURTHER ORDERED that Patent Owner's Motion to Exclude (Paper 66) is *denied*; and

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

In summary:

Claim(s)	35 U.S.C. §	Reference(s)/Basis	Claims Shown Unpatentable	Claims Not shown Unpatentable
1–9	103	Collins, Gautier, Schaefer	1–9	
1–5, 11–17	103	Collins, Gautier, Schaefer, Parthasarathy	1–5, 11–17	
10	103	Collins, Gautier, Schaefer, Miller	10	
Overall Outcome			1–17	

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FOR PETITIONER:

Inge Osman
Gregory K. Sobolski
Ann Marie Wahls
Diane E. Ghrist
B. Thomas Watson
LATHAM & WATKINS LLP
inge.osman@lw.com
greg.sobolski@lw.com
annmarie.wahls@lw.com
diane.ghrist@lw.com
thomas.watson@lw.com

FOR PATENT OWNER:

Perry S. Clegg
JOHNSON & MARTIN, P.A.
pclegg@johnsonmartinlaw.com

Andrew Baca
TRASKBRITT P.C.
ajbaca@traskbritt.com

Andrew T. Oliver
AMIN, TUROCY & WATSON LLP
aoliver@atwiplaw.com