

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

UNIFIED PATENTS, LLC,
Petitioner,

v.

JUSTSERVICE.NET LLC,
Patent Owner.

IPR2020-01258
Patent 10,476,868 B2

Before THOMAS L. GIANNETTI, CHRISTOPHER G. PAULRAJ, and
JULIET MITCHELL DIRBA, *Administrative Patent Judges*.

PAULRAJ, *Administrative Patent Judge*.

JUDGMENT
Final Written Decision
Determining Some Challenged Claims Unpatentable
35 U.S.C. § 318(a)

I. INTRODUCTION

This is our Final Written Decision entered pursuant to 35 U.S.C. § 318(a) and 37 C.F.R. § 42.73. For the reasons explained in our analysis below, we determine that Petitioner has demonstrated that some of the challenged claims in this proceeding are unpatentable.

Unified Patents, LLC (“Petitioner”) filed a Corrected Petition¹ requesting *inter partes* review of claims 1–6, 8, and 10–20 (the “Challenged Claims”) of U.S. Patent No. 10,476,868 B2 (Ex. 1001, “the ’868 patent”). Paper 10 (“Petition” or “Pet.”). JustService.net LLC (“Patent Owner”) filed a Preliminary Response to the Petition. Paper 12 (“Prelim. Resp.”). Pursuant to our authorization, Petitioner filed a Reply to the Preliminary Response. Paper 14 (confidential); Paper 15 (redacted). In our Institution Decision, we determined that there was a reasonable likelihood that Petitioner would prevail with respect to at least one challenged claim and instituted an *inter partes* review pursuant to 35 U.S.C. § 314 based on all challenges presented in the Petition. Paper 18 (“Institution Decision” or “Inst. Dec.”).

Following institution, Patent Owner filed a post-institution Response (Paper 23 (corrected), “PO Resp.”), and Petitioner filed a Reply (Paper 26, “Reply”). Patent Owner then filed a Sur-reply. Paper 34 (“PO Sur-Reply”).

An oral hearing was held on November 21, 2021, and a transcript of the hearing is included in the record. Paper 40 (“Tr.”).

¹ We granted Petitioner’s Unopposed Motion to Correct Typographical Errors in the original petition. Papers 9, 11.

A. Real Parties in Interest

Petitioner identifies only itself as the real party-in-interest (“RPI”). Pet 79. Patent Owner identifies only itself as the RPI. Paper 3, 1. In its Preliminary Response, Patent Owner argued that Dropbox, Inc. (“Dropbox”) is the RPI for the challenges presented in the Petition, and that the Petition should have been denied because “Petitioner has not carried its burden of showing that one or more of its members, possibly including Dropbox, is not an unnamed RPI.” Prelim. Resp. 54–62.

We declined to decide whether Dropbox should have been named an RPI in the Petition in the Institution Decision. Inst. Dec. 2–4. Patent Owner did not raise the RPI issue in its post-institution Response. We agree with Petitioner that Patent Owner has thus forfeited any RPI arguments. Reply at 24 (citing *Unified Patents, LLC v. Mobility Workx, LLC*, IPR2018-00150, Paper 26 at 3 (PTAB Dec. 2, 2019) (RPI arguments waived if not in Response)). Therefore, we need not address this issue further.

B. Related Matters

Petitioner and Patent Owner both indicate that the ’868 patent is the subject of the following litigation: *Justservice.net LLC v. Dropbox, Inc.*, 6:20-cv-00070-ADA (W.D. Tex. 2020). Pet. 79; Paper 3.

C. The ’868 Patent

The ’868 patent, titled “Data Backup and Transfer System, Method and Computer Program Product,” discloses a system for copying data between account user computers and a system computer connected via the Internet. Ex. 1001, codes (54), (57). The ’868 patent issued from Appl. No. 15/639,127, which is a continuation of Appl. No. 13/406,021 (issued as Pat. No. 9,722,993), which was a continuation of Appl. No. 11/408,728, filed

Apr. 21, 2006, which in turn claimed priority from Provisional Appl. No. 60/673,751 filed Apr. 21, 2005. *Id.* at codes (60), (63).

According to the specification “conventional file backup systems typically involve hardware and software that copy all files on a computer.” *Id.* at 1:44–45. The specification explains that conventional back-up and restoring processes are time-consuming, easily-interrupted, and tedious. *Id.* at 1:45–57. The specification states that “[u]nlike prior art backup systems, no hardware or software need be installed on the account user computer beyond a conventional, Java-compatible web browser.” *Id.* at 3:53–57. Using “conventional Internet tools” solves compatibility problems “allowing the system of the invention to function regardless of different hardware platforms and operating systems.” *Id.* at 3:57–60.

The specification discloses an embodiment of the backup system including one or more account user computers connected to a system computer over the Internet. *Id.* at 5:31–34. Account user computers include any type of computer, including personal and notebook computers. *Id.* at 5:34–40. The system computer hosts the software that operates the backup system and functions as a “virtual network server.” *Id.* at 5:65–67; 6:40–41. “Because all of the software to operate the system is resident on the system computer, account users are spared the inconvenience and burden of loading or downloading specialized software onto their computers.” *Id.* at 5:66–6:3.

To access the system computer (virtual server), the account user navigates to a system website with the account user computer. *Id.* at 6:7–11. The account user clicks a login button so that the system computer generates a login screen on the user display. *Id.* at 6:11–14. The user enters a username and password for verification by the system computer. *Id.* at

6:14–17. “Other verification means can be used in lieu of or in addition to the user name and password.” *Id.* at 6:19–20.

After successful login, the system computer displays a base screen to the user. *Id.* at 6:24–26. Base screen 40 is shown in Figure 4, reproduced below.

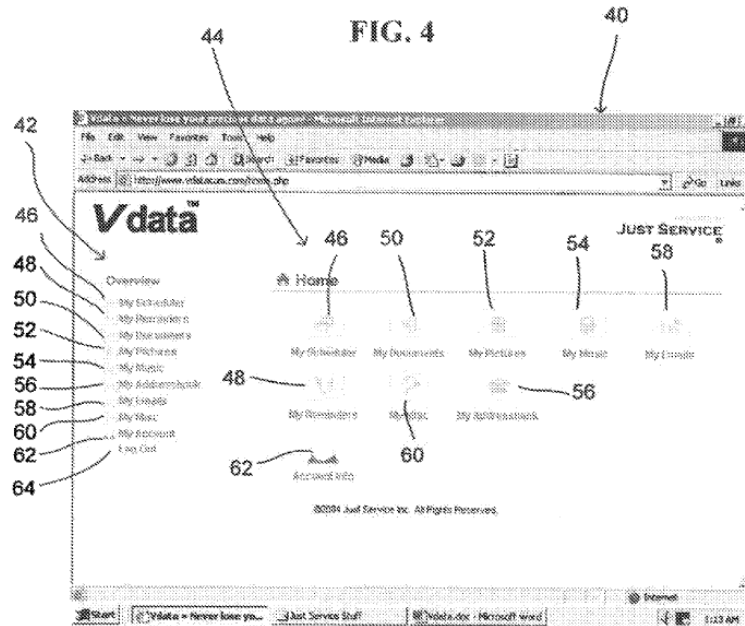


Figure 4 illustrates a base screen or main menu page display of the data transfer system. *Id.* at 2:42–43. The base screen in Figure 4 depicts two representations of the system functions: a list view on the left, and an icon view on the right. *Id.* at 6:26–30. Both representations present links to the functions, including “a scheduler link 46, a reminder system link 48, a document transfer system link 50, a picture transfer system link 52, a music transfer system link 54, a contact storage link 56, an email storage link 58, a miscellaneous storage link 60, and an account manager link 62.” *Id.* at 6:30–35.

Base screen displays system functions in list view 42 or icon view 44. *Id.* at 6:26–30. The system function representations include one or more of

scheduler link 46, reminder system link 48, document transfer system link 50, picture transfer system link 52, music transfer system link 54, contact storage link 56, email storage link 58, and miscellaneous storage link 60. *Id.* at 6:30–35. “Clicking any of the above links initiates a routine corresponding to the function associated with the selected link.” *Id.* at 6:38–40.

The specification further discloses a document transfer system as shown in Figure 6, reproduced below.

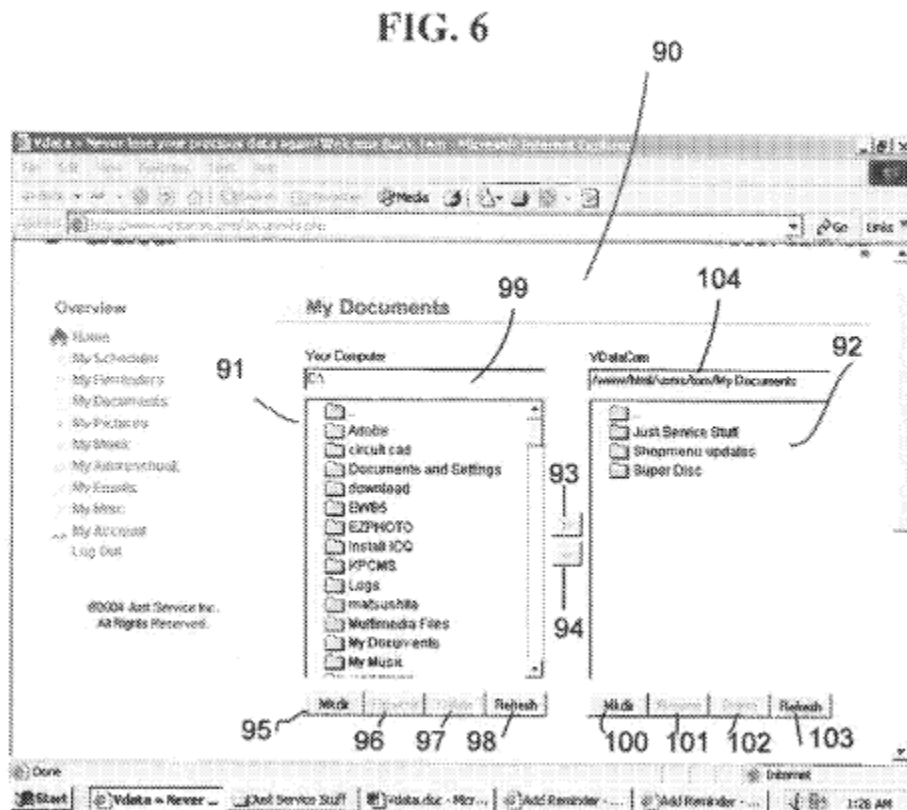


Figure 6 illustrates a display of a document transfer function of the data transfer system. *Id.* at 2:46–47. A user accesses document transfer system 90, as shown above, through document transfer function link 50. *Id.* at 6:58–59. The system computer then generates virtual representations of account user storage device 91 and the system storage device to retrieve

previous stored user account data 92. *Id.* at 6:59–66; 7:7. “To copy data from account user storage device 18 to [] system storage device 20, the user selects one or more files . . . to be transferred on [] first virtual representation 91 and a destination location on [] second virtual representation 92 and clicks on [] first file transfer button 93.” *Id.* at 7:4–9. “Preferably, transfer buttons 93, 94 include arrows to show the direction of file transfer. In operation the system copies the data from the source to the target regardless of data file format of file, for example, encrypted files will be transferred as is.” *Id.* at 7:14–19.

D. Illustrative Claim

Petitioner challenges claims 1–6, 8, and 10–20 of the ’868 patent, of which claims 1, 10, and 15 are independent. Claim 1 is representative of the independent claims and recites:

1. A data storage system comprising:
 - a virtual server connected to a communications network, the virtual server configured to:
 - [1] verify first user access information for a particular user storage account of one or more user storage accounts maintained by the virtual server;
 - [2] connect to a client device associated with the verified first user access information over the communications network;
 - [3] transmit to the client device for display, information identifying first system functions of the virtual server;
 - [4] transmit to the client device for display, information relating to one or more files associated with the particular user storage account; and
 - [5] upload a first user-selected file selected from the one or more files associated with the particular user storage account by accessing a particular system function of the

system functions of the virtual server that initiates a transfer of the first user-selected file from the client device to the virtual server.

Ex. 1001, 11:40–60 (bracketed numbering added). Claims 10 and 15 respectively recite a method and computer-readable medium with limitations that are substantially similar to the limitations in claim 1. *Id.* at 12:48–67, 13:27–14:6. Our analysis of claim 1 therefore applies equally to claims 10 and 15.

E. Prior Art and Asserted Grounds

Petitioner asserts that 1–6, 8, and 10–20 would have been unpatentable based on the following three grounds. Pet. 8.

Claim(s) Challenged	35 U.S.C. §	Reference(s)/Basis
1–5, 8, 10–20	103	Prust, ² Walker ³
6	103	Prust, Walker, Broomhall ⁴
1–6, 8, 10, 12–16, 19, 20	103	Chu ⁵

To support its contentions, Petitioner submits declarations by its expert Darrell D. E. Long, Ph.D. (Ex. 1008; Ex. 1033). To support its arguments in this proceeding, Patent Owner relies on a declaration submitted by the inventor, Thomas Fiducci (Ex. 2001), a declaration submitted by

² Prust, US 6,735,623 B1, issued May 11, 2004 (Ex. 1004) (“Prust”).

³ Walker et al., US 2002/0065848 A1, published May 30, 2002 (Ex. 1005) (“Walker”).

⁴ Broomhall et al., US 6,292,904 B1, issued September 18, 2001 (Ex. 1006) (“Broomhall”).

⁵ Chu et al., US 2002/0049853 A1, published April 25, 2002 (Ex. 1007) (“Chu”).

Robert Akl, D.Sc. in the related district court proceeding (Ex. 2009), and an expert declaration submitted by Michael C. Brogioli, Ph.D. (Ex. 2022).⁶

II. ANALYSIS

A. *Level of Ordinary Skill in the Art*

Petitioner proposes that a person of ordinary skill in the art (“POSITA”) “would have been a person having, as of April 21, 2005: (1) at least an undergraduate degree in computer science or closely-related field, or similar advanced post-graduate education; and (2) two or more years of experience with remote data storage or backup.” Pet. 5 (citing Ex. 1008 ¶¶ 28–30). In its Preliminary Response, Patent Owner proposed that a POSITA would have had “a bachelor's degree in electrical engineering, computer engineering, computer science, or a related field, and two to three years of experience in the design or development of computer systems and networking, or the equivalent.” Prelim. Resp. 3–4 (citing Ex. 2009 ¶ 9). Patent Owner did not address the level of ordinary skill in the art in its post-institution response.

In our Institution Decision, we adopted Patent Owner’s definition as being consistent with the level of skill in the art reflected by the prior art. Dec. 10–11; *see Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001) (explaining that specific findings regarding ordinary skill level are not required “where the prior art itself reflects an appropriate level and a need for testimony is not shown” (quoting *Litton Indus. Prods., Inc. v. Solid State*

⁶ Patent Owner also submitted a supplemental declaration by Dr. Brogioli (Ex. 2031) with its Sur-Reply. We expunged that document from the record along with certain other exhibits (Exs. 2023–2030) as untimely presented under 37 C.F.R. § 42.23(b). Paper 37. Therefore, we do not take those documents into consideration for our analysis in this Decision.

Sys. Corp., 755 F.2d 158, 163 (Fed. Cir. 1985))). We continue to apply that same definition for our analysis in this Final Written Decision. We note, however, that there does not appear to be a significant difference between the parties’ respective definitions, so our analysis would not substantially differ under Petitioner’s definition.

As their qualifications are undisputed, we also determine that the parties’ experts are qualified to opine on the issues in this proceeding from the perspective of a person of ordinary skill in the art. Ex. 1008 ¶¶ 3–11 (Dr. Long’s qualifications); Ex. 2022 ¶¶ 31–12 (Dr. Brogioli’s qualifications); *see Kyocera Senco Indus. Tools Inc. v. Int’l Trade Comm’n*, 22 F.4th 1369 (Fed. Cir. 2022) (“To offer expert testimony from the perspective of a skilled artisan in a patent case . . . a witness must at least have ordinary skill in the art.”).

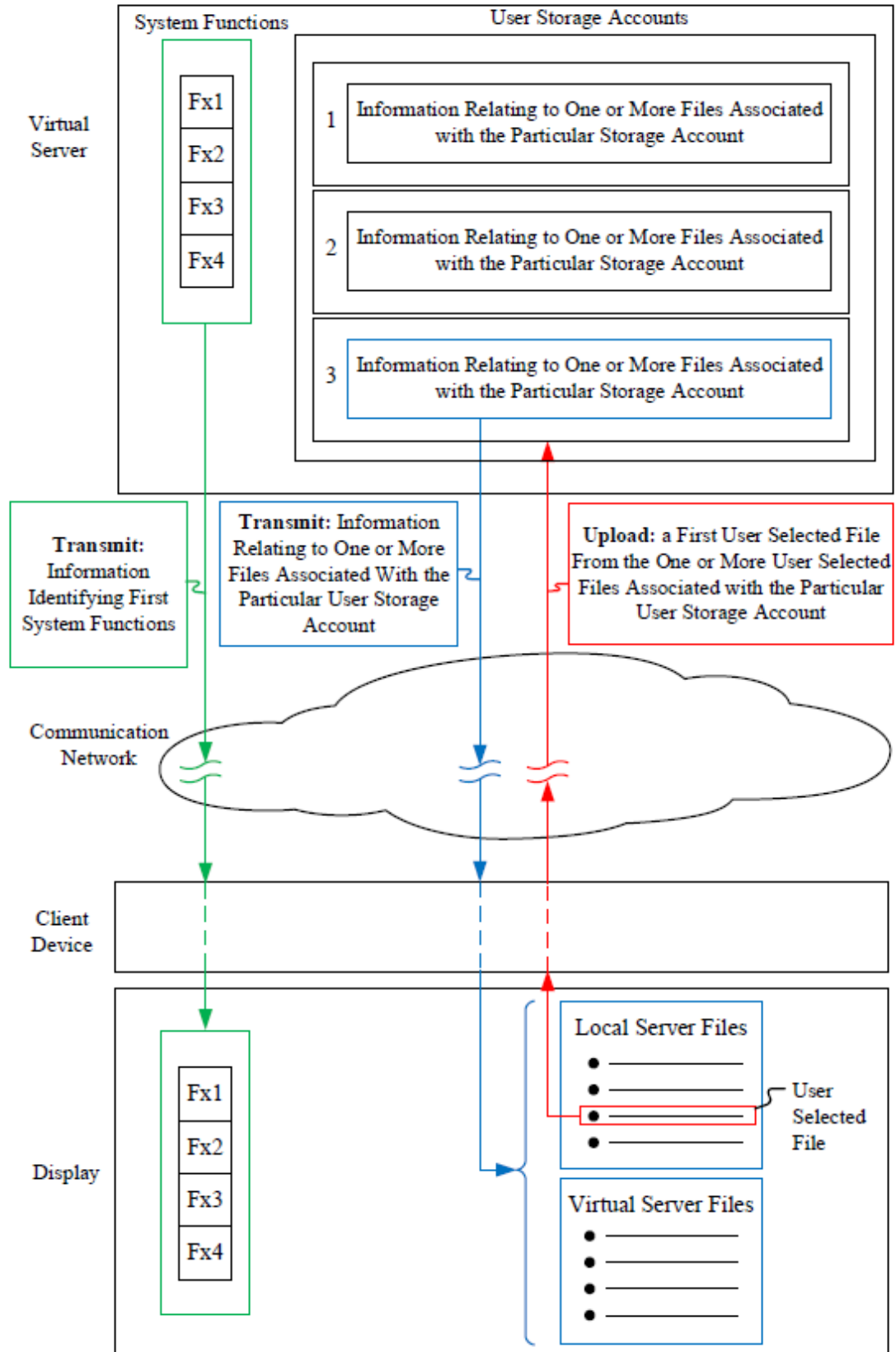
B. Claim Construction

We interpret a claim “using the same claim construction standard that would be used to construe the claim in a civil action under 35 U.S.C. 282(b).” 37 C.F.R. § 42.100(b) (2019). This standard requires that we construe claims “in accordance with the ordinary and customary meaning of such claim[s] as understood by one of ordinary skill in the art and the prosecution history pertaining to the patent.” *Id.*

In their pre-institution briefing, neither Petitioner nor Patent Owner proposed a construction for any claim term apart from the plain and customary meaning. Pet. 5–6; Prelim. Resp. 4. Accordingly, we did not expressly construe any claim terms in our Institution Decision. Paper 18, 11–12. In its post-institution Response, however, Patent Owner argues that the Board adopted “an interpretation of independent claims 1, 10 and 15 that

is erroneous.” PO Resp. 3. In particular, Patent Owner contends that the claims must be construed to require that the “one or more files associated with the particular user storage account” as recited in the second “transmit” limitation (i.e., the fourth element of each independent claim) must include the locally stored files that are transferred from the client device to the virtual server as recited in the “upload” limitation (i.e., the fifth element of each independent claim). *Id.* at 7. Patent Owner argues that “Petitioner has incorrectly disassociated the fourth and the fifth elements of claim 1 and addressed them as independent and distinct claim elements.” *Id.* at 10.

Patent Owner provides the following block diagram illustrating its interpretation of the claims.

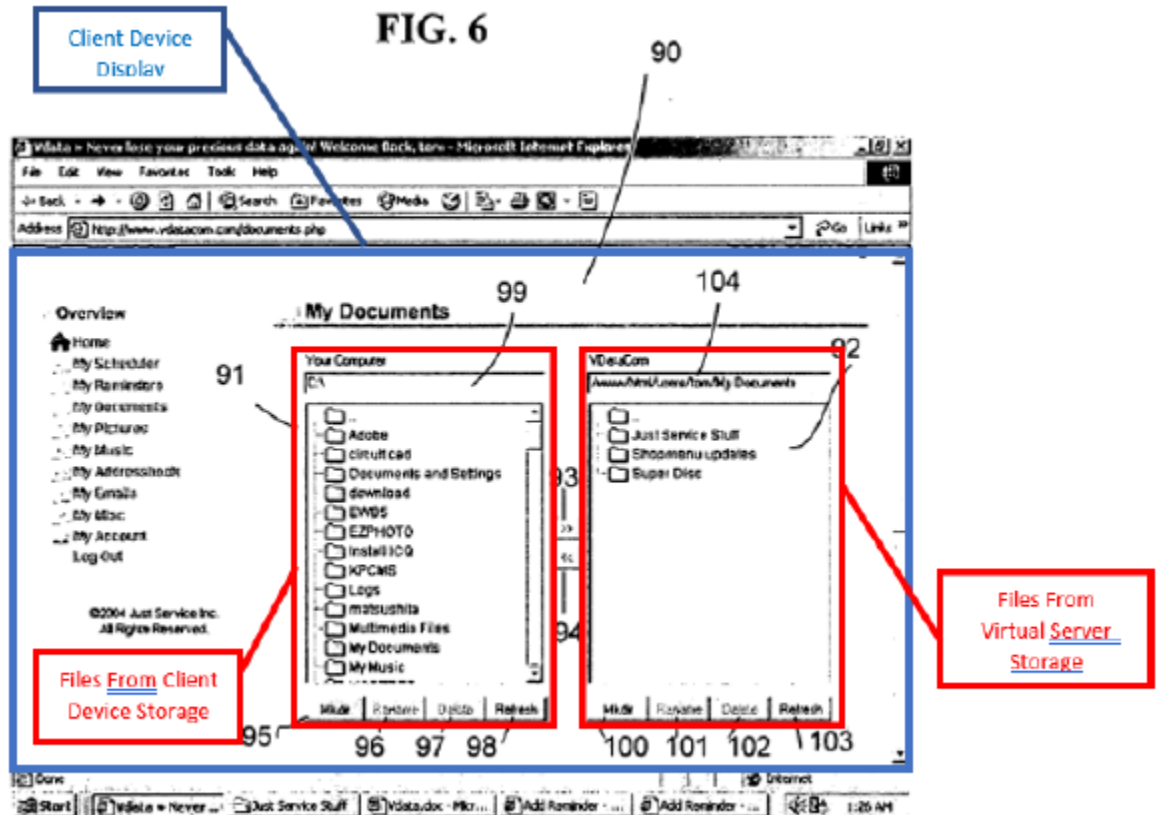


Id. at 6. As shown above, the first transmit step (third claim element) is highlighted with a green arrow showing system functions (Fx1, Fx2, Fx3, and Fx4) being transmitted to the client device. The second transmit step (fourth claim element) is highlighted with a blue arrow above showing information relating to both “Local Server Files” and “Virtual Server Files” being transmitted to the client device. The upload step (fifth claim element) is highlighted with a red arrow above showing a particular “User Selected File” from among the previously transmitted Local Server Files being uploaded from the client device back to the virtual server. *Id.* at 9.

Patent Owner bases this interpretation on the fact that “*the one or more files associated with the particular user storage account*” as recited in the fifth element finds antecedent basis in the fourth element, which recites transmitting “information relating to *one or more files associated with the particular user storage account.*” *Id.* at 7, 9. As noted by Patent Owner, “[t]he use of the definite article ‘the’ in modifying the claim element *one or more files associated with the particular user* can only refer back to the same claim element in the fourth limitation.” *Id.* at 9 (citing *Baldwin Graphic Systems, Inc. v. Siebert, Inc.*, 512 F.3d 1338, 1342-43 (Fed. Cir. 2008)); *see also* Sur-Reply 2–3 (noting that “the two recitations are directly tied together by use of the definite article ‘the’”) (citing *Wi-Lan, Inc. v. Apple, Inc.*, 811 F.3d 455, 462 (Fed. Cir. 2016); *Warner-Lambert Co. v. Apotex Corp.*, 316 F.3d 1348, 1356 (Fed. Cir. 2003)). Patent Owner further contends that its “interpretation is confirmed by claim 2 of the ’868 Patent, which addresses the reverse transfer where the virtual server is further configured to *download* a second user selected file associated with the

particular user account from the virtual server to the client device.” PO Resp. 7.

As further support of its interpretation, Patent Owner also points to the embodiment shown in Figure 6 of the Specification, which is reproduced below with Patent Owner’s annotations:



Id. at 8. As shown above, Patent Owner points to a client device display showing both files from the client device storage (on the left) and files from the virtual server storage (on the right). *Id.* With reference to Figure 6, Patent Owner notes that “the system computer (the virtual server of claim 1) scans both the user (local client device) and system (virtual server) storage devices to retrieve information and displays a virtual representation of information from both the client device and the virtual server on a client

device.” *Id.* at 8–9 (citing Ex. 1001, 6:58–66). Patent Owner further notes that “[o]ne or more files stored on the client device may be uploaded to the system storage device using the virtual server system functions also displayed on the client device.” *Id.* at 9 (citing Ex. 1001, 6:38–40 and 7:4–9).

Petitioner responds that, in our Institution Decision, “[t]he Board properly interpreted element 1.1.4 and element 1.1.5 as distinct limitations.” Reply 2. Petitioner argues that we should reject Patent Owner’s suggestion “that element 1.1.4, which is agnostic as to file location or type, should be interpreted as being limited to displaying only [] local files because a separate, later element refers to uploading a subset of those files (*a user-selected file* on the client device).” *Id.* Petitioner contends that Patent Owner’s “reading would improperly import concepts from element 1.1.5 into element 1.1.4,” and the fact “[t]hat element 1.1.5 refers to a subset of files of 1.1.4 does not change the broader meaning of element 1.1.4.” *Id.* at 3. Petitioner also notes that Patent Owner does not propose any actual construction, but instead “frames what it perceives (incorrectly) to be a mapping issue as a claim construction issue.” *Id.*

Certain aspects of Petitioner’s claim construction position are less than clear. For instance, Petitioner contends that elements 1.1.4 and 1.1.5 “are distinct and recite two different file limitations,” but also contends that “element 1.1.5 refers to a subset of files of 1.1.4.” Reply 2–3. Petitioner does not articulate how the two elements can be “distinct,” while at the same time have one element be a “subset” of the other. Petitioner also inaccurately characterizes Patent Owner’s position as being that “one or more files associated with the particular user storage account (1.1.4) is

limited **only** to files local to the client device.” *Id.* at 2 (emphasis in original). That is not how we understand Patent Owner’s claim construction position. Rather, as depicted in Patent Owner’s block diagram that is reproduced above, Patent Owner appears to take the position that the fourth claim element requires transmitting information about *both* virtual server files and local server files.

That said, having considered the arguments and evidence of record, we are not persuaded by Patent Owner’s claim construction position that the claims require the virtual server to transmit information about files locally stored on the client device (in addition to virtual server files) as part of the fourth claim element.

With regard to the claim language, we agree with Patent Owner that “the one or more files associated with the particular user storage account” recited in the fifth claim element finds antecedent basis in the prior recitation of “information relating to one or more files associated with the particular user storage account” in the fourth claim element. By its plain language, what this means is that at least some of the “information” that is transmitted from the virtual server under the fourth element must be related to the “user-selected file” that is subsequently uploaded from the client device under the fifth element. *Cf. Yamaha Corp. v. ESS Tech., Inc.*, 82 F.3d 435, 1996 WL 146499, *3 (Fed. Cir. 1996) (“By using a definite article ‘the’ to describe ‘output’ in the last phrase, Yamaha raises the inference that the term refers to the same value as in the first step.”). Thus, contrary to Petitioner’s arguments, we are not of the view that files referenced in the fourth and fifth elements are completely “distinct.” But this does not necessarily imply, as Patent Owner suggests, that the virtual server must already be in possession

of information relating to locally stored files at the point of the transmitting step of the fourth element and prior to the uploading step of the fifth element. Indeed, there is nothing recited in the claims to suggest how the virtual server would come to know about files stored on the client device.

Rather, consistent with the antecedent basis language, claim 1 can be read to encompass the situation where, after information about a virtually stored file is transmitted to the client device (in element 1.1.4), the user downloads that file to the client device and then uploads that file (after any further modifications) back to the virtual server (in element 1.1.5). Patent Owner's counsel acknowledged that this scenario would meet the claim requirements when asked about it with reference to Patent Owner's block diagram during oral argument:

[BOARD]: Okay. So this graphic is useful to kind of illustrate my point perhaps. So, you know, let's assume a situation where the virtual server only transmits for display information about the virtual server files. I'm saying that's not what your claim construction is, but let's assume that the virtual server only has this information about the virtual server files in the lower blue box in the graphic here. Then let's assume that the user selects one of those virtual server files, downloads it to the client device, and then decides to upload it back to the virtual server. Why isn't that -- in that instance, it is the same files that the user has selected from the virtual server file that then becomes a local server file for upload in that last limitation. Isn't that meet that limitation, with that necessarily requiring that the virtual server transmits the local server file information in addition to the virtual server file information?

[PATENT OWNER'S COUNSEL]: I think it does satisfy the limitation because I think the user has altered the file in some fashion and now you have a new file that is resident on the client device and when you upload it to the --

[BOARD]: Did you say it does not? I'm sorry, did you say you think it does upload?

[PATENT OWNER’S COUNSEL]: Pardon me, sorry. I agree with you. I think it does meet the requirements of the claim because in your scenario the user has modified the file once it has downloaded it from the virtual server. It's not in the local client device. They've modified it. It's now different from what is on the virtual server and now when you're uploading it it's a file that is resident on the local device. It's different. By definition it's now a new file. It may have the same name and in saving it I'm going to upgrade or, excuse me, uploading revised version of that document on to the virtual server but I think you're satisfying the claim language when you are modifying the document before uploading it back to the virtual server and it is resident on the client device.

Tr. 40:7–41:15. As such, Patent Owner conceded during oral argument that uploading a modified or revised version of a file that was downloaded from the virtual server satisfies the claim language, even though the modified file may be a “new file” that is “different from what is on the virtual server.” *Id.*

We have also considered, but are not persuaded by, Patent Owner’s contention that dependent claim 2 supports its interpretation of the independent claims. Claim 2 recites that “the virtual server is further configured to download a second user-selected file associated with the particular user account from the virtual server to the client device.” Ex. 1001, 11:61–64. But this does not provide insight as to the construction of “one or more files associated with the particular user storage account.” There is no limiting language in Claim 2 that suggests the files transmitted in accordance with the fourth element of claim 1 must include locally stored files.

Additionally, we are not persuaded by Patent Owner’s reliance on the embodiment of Figure 6 to support its construction. “It is well established that claims are not limited to preferred embodiments, unless the specification clearly indicates otherwise.” *WesternGeco LLC v. ION Geophysical Corp.*,

889 F.3d 1308, 1323–24 (Fed. Cir. 2018). With regard to the Figure 6 embodiment, the Specification notes that “[t]he system computer then scans the account user storage device 18, and generates a first virtual representation 91 of at least a portion of the account user storage device 18.” Ex. 1001, 6:59–62. Patent Owner equates the “system computer” described here with the claimed virtual server. But unlike that system computer, there is nothing in the claim language suggesting that the virtual server “scans” the files stored on the local client device before transmitting information in accordance with the fourth claim element. We decline to impose such a scanning limitation in the absence of any textual support in the claim language. *See SuperGuide Corp. v. DirecTV Enters., Inc.*, 358 F.3d 870, 875 (Fed. Cir. 2004) (“Though understanding the claim language may be aided by the explanations contained in the written description, it is important not to import into a claim limitations that are not a part of the claim.”).

Patent Owner does not point to any prosecution history or other intrinsic or extrinsic evidence that supports its construction. Accordingly, we determine that the claims should be interpreted in such a manner as to *not* require that “information relating to one or more files associated with the particular user storage account” recited in the fourth element must include information about locally stored files. We apply this interpretation in our analysis of the patentability grounds at issue in this proceeding.

C. Ground 1: Obviousness of Claims 1–5, 8, and 10–20 in view of Prust and Walker

Petitioner asserts that claims 1–5, 8, and 10–20 would have been obvious in view of Prust and Walker. Pet. 8.

1. Overview of Prust (Ex. 1004)

Prust is a U.S. patent that issued on May 11, 2004 from an application filed on February 9, 2000. Ex. 1004, codes (21), (22), (45). Thus, on its face, Prust qualifies as prior art under pre-AIA 35 U.S.C. §§ 102(a) and (e).

Prust is directed to a data storage system that provides access to a remote storage area. *Id.* at 1:6–8. The data storage system includes a plurality of storage servers coupled to storage devices which provide virtual storage areas assigned to users. *Id.* at 1:28–34.

An embodiment of Prust's data storage system is shown in Figure 2, reproduced below.

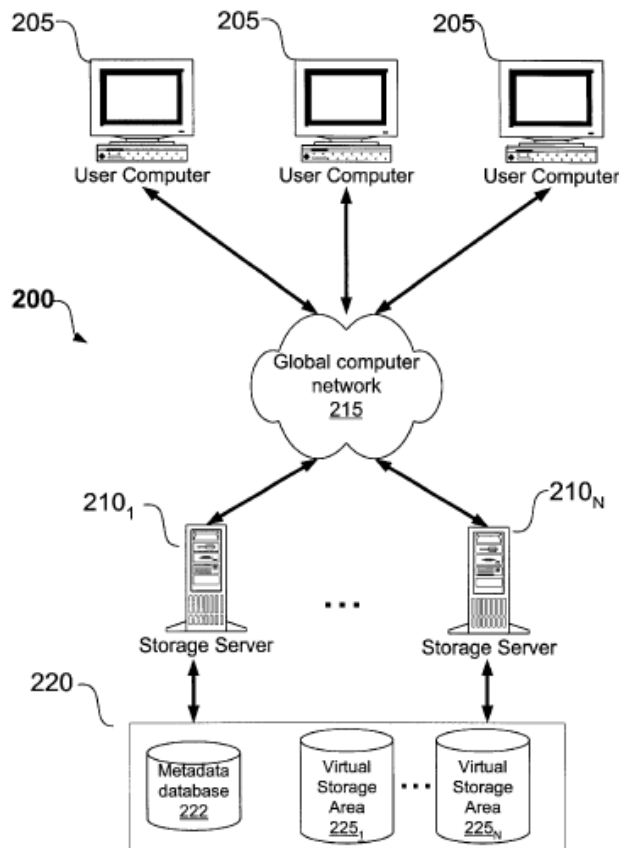
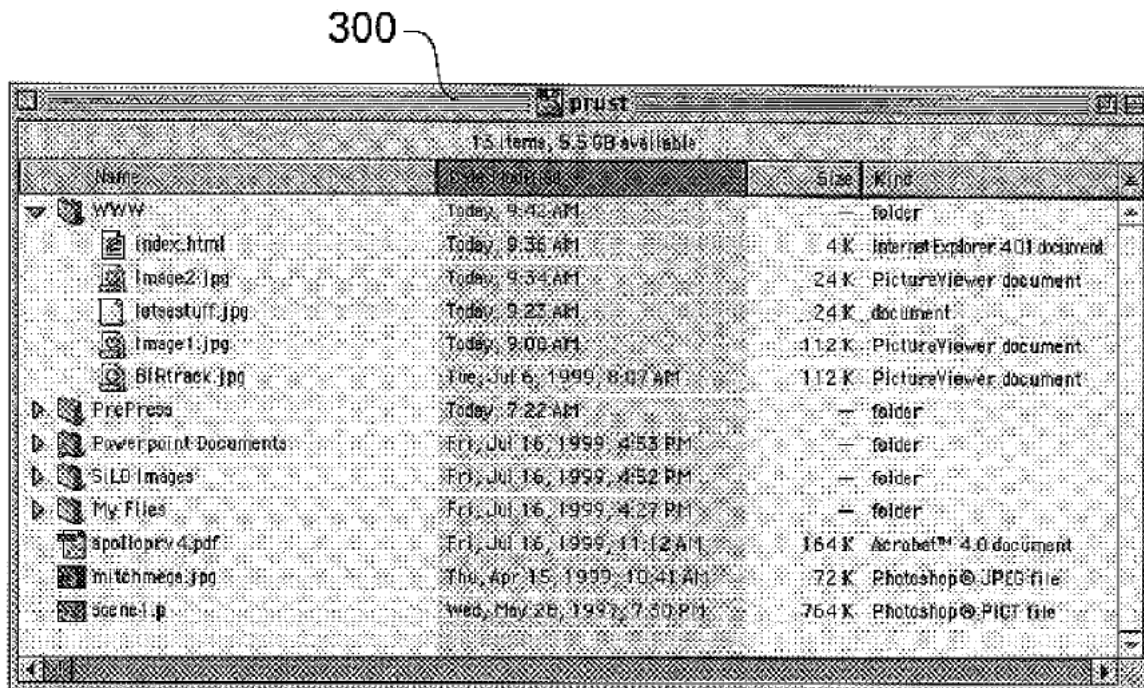


FIG. 2

Id., Fig. 2. Figure 2 illustrates “a computing system in which a storage server provides seamless access to remote storage areas.” *Id.* at 1:61–63. The system includes user or “client computers 205 communicatively coupled to remote storage network 220 via storage servers 210 and global computer network 215 such as the Internet. Storage network 220 represents one or more interconnected storage devices . . . for storing data files.” *Id.* at 4:32–39. Client computers access virtual storage areas 225 using interfaces provided by a set of communication software applications executed on storage servers 210. *Id.* at 4:53–57. Users can access the respective storage areas by providing necessary access information, such as a password. *Id.* at 8:43–48.

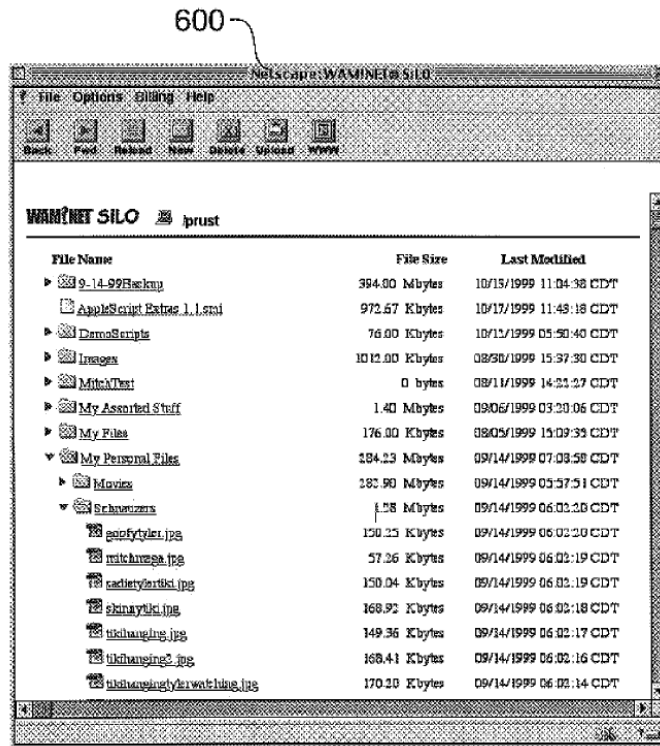
In one embodiment (the “operating system embodiment” or “OS embodiment”), a user can directly access a virtual storage area 225 via an operating system 135 or software application 136 executed on the client computer 205. *Id.* at 4:59–67. In another embodiment (the “web browser embodiment”), “the user can access virtual storage area 225 by invoking [] communications application 136 such as a web browser.” *Id.* at 6:9–10.

In the OS embodiment, the user interacts with an operating system provided interface to manage the virtual storage area “as if it were a local storage volume.” *Id.* at 5:22–28. “For example, by interacting with operating system 135 the user can perform all common file management tasks including coping files between hard disk 120 and remote storage area 225, as well as renaming and deleting data files.” *Id.* at 5:28–32. The OS embodiment is illustrated in Figure 3, reproduced below:



Id., Fig. 3. As shown above, Figure 3 “illustrates a user interface displayed by one embodiment of an operating system for directly accessing a remote storage area using standard file management routines provided by the operating system.” *Id.* at 1:64–67.

In the web browser embodiment, “the communication software application 136 handles all communications with storage servers 210. The file management routines of operating system 135 are not invoked.” *Id.* at 6:20–33. The web browser embodiment is illustrated in Figure 6, reproduced below:



Id., Fig. 6. As shown above, Figure 6 “illustrates a window displayed by a conventional web browser when a user accesses a virtual storage area.” *Id.* at 2:9–10. Storage servers 210 select and display an appropriate icon as a f[u]nction of the file and creator information stored within virtual storage area 225.” *Id.* at 6:39–41. “Using the browser, the user can browse the directories within virtual storage area 225 and can perform many common file management operations including uploading, downloading and deleting files, as well as creating and removing directories.” *Id.* at 6:43–47.

2. Overview of Walker (Ex. 1005)

Walker is U.S. patent application publication that was published on May 30, 2002. Ex. 1005, code (43). Thus, on its face Walker qualifies as prior art under pre-AIA 35 U.S.C. § 102(b).

Walker is directed to a system for storing and editing of documents by multiple users. *Id.* ¶ 1. Walker describes known “virtual hard drive” online

services wherein subscribers may upload shared documents through a web-based interface to a remote storage server. *Id.* ¶ 9. Walker describes users accessing workspace servers using client software executed on client computers. *Id.* ¶ 11. Users log into the system to access documents stored in the workspace servers. *Id.* ¶¶ 12, 13.

Walker describes the login screen as including a web page that may be accessed by a user using a web browser operating on a client computer. *Id.* ¶ 232. On the login screen, the user enters a name and password, which is compared to a single record in a user database. *Id.* ¶¶ 232–233. The system may be accessed through a client executed within a web browser installed on the client computer. *Id.* ¶ 237.

Walker describes a method of editing documents by a user. Users log into the system to access a workspace used to aggregate related documents. *Id.* ¶ 22. Users with access to the workspace may lock document stored in a container and then download and edit the document. *Id.* ¶ 27. “The edited document may then be uploaded and stored within [a] data buffer and the lock may be released.” *Id.*

3. *Analysis*

Petitioner contends that claims 1–5, 8, and 10–20 would have been obvious over the combination of Prust and Walker. Pet. 9–45. Petitioner argues that Prust combined with Walker “teaches a system in which multiple users may access, and safely edit, remotely stored documents from anywhere with access in the web.” Pet. 12 (citing Ex. 1008 ¶61).

Petitioner provides a detailed analysis of how each claim element is expressly or inherently described by the prior art. *Id.* at 9–45. Petitioner relies on the declaration of Dr. Long to support this challenge. *See id.*

We address the similar limitations of independent claims 1, 10, and 15 (and their corresponding dependent claims) together as the parties' contentions are the same for those limitations.

Claims 1, 10, 15

Claim 1 is directed to a “data storage system,” claim 10 is directed to a “data storage method,” and claim 15 is directed to a “non-transitory computer-readable medium encoded with instructions for data storage, the instructions executable by a processor.” Ex. 1001, 11:40, 12:48, and 13:27–29.

Petitioner contends that “[t]o the extent they are limiting, Prust teaches, or at least renders obvious, the preambles” of each independent claim. Pet. 12. Petitioner argues that Prust teaches that “[t]he present invention is directed to a **data storage system and method** capable of providing a variety of access methods.” *Id.* (quoting Ex. 1004, 1:28-30). Petitioner contends that Prust “discloses that the virtual server is implemented on processing devices that contain memory for storing said instructions.” *Id.* (citing Ex. 1004, 4:37-52).

Patent Owner does not present any specific arguments with regard to the preambles of the independent claims. To the extent they are limiting, we determine that Prust discloses the requirements of the preambles based on the foregoing teachings.⁷

Claim 1 recites “a virtual server connected to a communications network.” Ex. 1001, 11:41. Independent claims 10 and 15 similarly require

⁷ Because the preambles are disclosed by the references, we do not decide whether they are limiting.

a virtual server to perform at least some of the recited steps. *Id.* at 12:49, 13:32.

Petitioner contends that “Prust’s data storage system includes storage servers and a storage network that comprise ‘virtual storage areas’ (i.e., *a virtual server*) for users.” Pet. 13–14 (citing Ex. 1004, 1:28–37, 1:46–49, Fig. 2). Petitioner asserts that Prust allows users to “access the virtual storage area via a conventional browser or an application integrated with the client computer’s operating system.” *Id.* at 14–15 (citing Ex. 1004, 4:59–5:7, 5:8–17, 5:8–17, 6:20–27).

Patent Owner does not present any specific arguments with regard to this limitation. Based on the foregoing teachings, we determine that Prust discloses the requirement of a virtual server connected to a communications network.

The first element common to all independent claims (limitation 1.1.1, 10.1, and 15.1) requires that the virtual server “verify user access information for a particular user storage account of one or more user storage accounts maintained by the virtual server.” Ex. 1001, 11:43–45, 12:49–52, 13:30–32.

Petitioner contends that “Prust discloses that the storage server and network system verifies *first user access information*, such as a username and password, for a user’s particular storage area.” Pet. 15 (citing Ex. 1004, 7:35–48). Petitioner argues that “Prust discloses that the virtual server is *implemented on a processing device*.” *Id.* at 1 (citing Ex. 1004, 4:50–52).

Patent Owner does not present any specific arguments with regard to this limitation. Based on the foregoing teachings, we determine that Prust

discloses the requirement of verifying user access information for a particular user storage maintained by a virtual server.

The second element common to all independent claims (limitation 1.1.2, 10.2, 15.2) requires that the virtual server “connect to a client device associated with the verified first user access information over the communications network.” Ex. 1001, 11:46–48, 12:53–55, 13:33–35.

Petitioner contends that “Prust discloses that the storage servers and network (i.e., the virtual server) connect client devices to the associated user account’s virtual storage areas using verified access information . . . over a global communications network.” Pet. 17–18 (citing Ex. 1004, 4:34–37, 7:43–48, Figs. 2 and 8).

Patent Owner does not present any specific arguments with regard to this limitation. Based on the foregoing teachings, we determine that Prust discloses the requirement of connecting to a client device associated with the verified user access information over a communications network.

The third element common to all independent claims (limitation 1.1.3, 10.3, 15.3) requires that the virtual server “transmit to the client device for display, information identifying first system functions of the virtual server.” Ex. 1001, 11:49–51, 12:56–58, 13:36–37.

Petitioner contends that “Prust discloses that the storage servers and network comprising a virtual storage area (i.e., *virtual server*) may transmit to the user computers (i.e., *the client device*) for display, *information identifying first system functions* of the system.” Pet. 19. Petitioner argues that Prust allows the user to “access the functions virtual storage area via an OS application. . . [and] a conventional web browser.” *Id.* at 19-20 (citing Ex. 1004, 5:23–34, 5:67–6:5, 5:38–6:5, 6:20–32, 6:33–74, Figs. 3 and 4).

Petitioner contends that a POSITA would recognize that “since the storage servers and network possess the information displayed at the user’s client computer, then the servers necessarily *transmit* this information for display to the client computer over the network.” *Id.* at 20 (citing Ex. 1008 ¶ 50).

Patent Owner does not present any specific arguments with regard to these limitations. Based on the foregoing teachings, we determine that Prust discloses the requirement of transmitting to the client device for display, information identifying system functions of the virtual server.

The fourth limitation common to all independent claims (limitation 1.1.4, 10.4, 15.4) requires that the virtual server “transmit to the client device for display, information relating to one or more files associated with the particular user storage account.” Ex. 1001, 11:52–54, 12:59–61, 13:38–40.

With respect to this limitation, Petitioner relies primarily on Prust’s teaching that the storage servers and network may transmit stored-file information to a user computer for display. Pet. 22–23. Petitioner contends that Prust’s web-browser embodiment discloses that storage servers transmit information “about a particular user’s files, such as file size or date modified, for display to a user via a browser interface.” *Id.* (citing Ex. 1004, 6:37–41, Fig. 6). Additionally, Petitioner contends that Prust’s OS embodiment discloses similar display of “file type/kind.” *Id.* at 23 (citing Ex. 1004, Fig. 3). Petitioner contends that “[a] POSITA would have recognized that since the storage servers and network possess this information and it is subsequently displayed at the user’s client computer (e.g., via a browser), then the servers necessarily transmit this information

for display to the client computer over the communications network.” *Id.* at 23–24 (citing Ex. 1004, 6:35–41; Ex. 1008 ¶ 50).

Patent Owner contends that “the passages of Prust relied upon by Petitioner fail to disclose the fourth element of claim 1, as that element is properly construed.” PO Resp. 10. Specifically, Patent Owner contends that “[t]he passages and figures in Prust relied upon by Petitioner **only show** the virtual server transmitting information relating to one or more files **located on the virtual storage device.**” *Id.* at 11. According to Patent Owner, “[b]ecause transmitting information relating to files stored on Prust’s virtual server cannot and does not meet the antecedent basis requirement for the fifth limitation of claim 1, Prust does not disclose or suggest the fourth limitation of claim 1.” *Id.* at 12. As explained by Patent Owner, “[a] user cannot select a file from one or more of the files located on the virtual server, as in Fig. 6 of Prust, and cause that file to be uploaded to the virtual server because the file is already on the virtual server,” and “[t]here is no technical or logical justification for a user to transfer a file from the client device to the virtual server if the file is already located on the virtual server.” *Id.*

In its Reply, Petitioner contends that even under Patent Owner’s construction, Prust discloses displaying information about local files in two ways. Reply 4. First, Petitioner points to Figure 6 of Prust as illustrating an “upload” button in a “conventional web browser,” and asserts that “a POSITA would have appreciated that ‘the upload function allows a user to view files on local storage that can be uploaded upon a user’s selection.’” *Id.* (citing Pet. 25, 45; Ex. 1008 ¶¶ 46, 55). Second, Petitioner points to the OS embodiment of Prust, noting that Patent Owner admits that “Prust in Fig.

4 does disclose displaying files and directories from both the local and virtual storage areas.” *Id.* at 5 (citing PO Resp. 12–13 n.2). Alternatively, Petitioner contends that Prust renders the fourth and fifth elements obvious based on an automated upload of documents, in both the OS and browser embodiments. *Id.* at 5–6.

Having considered the arguments and evidence of record, we find that a preponderance of the evidence supports Petitioner’s contention that Prust discloses the claimed feature of transmitting to the client device for display, information relating to one or more files associated with the particular user storage account. For example, Prust satisfies this limitation in the OS embodiment by teaching that “the user can directly access a virtual storage area 225 via the operating system’s user interface,” and that “[s]oftware applications 136 executing on client computer 205 can access the corresponding virtual storage area 225 through operating system 135 by calling standing file management routines provided by operating system 135.” Ex. 1004, 4:61–67; *see also id.*, Fig. 3 (illustrating window displayed in an Apple Macintosh operating system that lists directories and files of virtual storage area). We also find that Prust satisfies this limitation in the web browser embodiment by teaching that “[t]he web browser displays window 600 that lists each directory within virtual storage area 225,” wherein “[s]torage servers 210 maintain a set of image icons for representing the stored data file according to file and creator type information” and the “[s]torage servers 210 select and display an appropriate icon as a function of the file and creator information stored within virtual storage area 225.” *Id.* at 6:35–41; *see also id.*, Fig. 6 (illustrating window displayed by a conventional web browser when a user accesses a virtual storage area).

We are not persuaded by Patent Owner’s arguments regarding the fourth claim element. As discussed above in our claim construction analysis, we do not interpret the claims to require that “information relating to one or more files associated with the particular user storage account” recited in the fourth element must include information about locally stored files. As such, we find that Prust’s teachings regarding the virtual server transmitting information relating to one or more files located on the virtual storage device is sufficient to meet the requirements of this limitation. *Cf.* PO Resp. 10–11 (arguing that Prust fails to disclose the fourth element because “the cited passages of Prust relate solely to the transmitting and display of information relating to files stored on the virtual server”). In view of this finding, we need not address Petitioner’s alternative arguments as to why Prust either teaches or otherwise suggests the fourth element under Patent Owner’s claim construction.

The fifth limitation common to all independent claims (limitation 1.1.5, 10.5, 15.5) requires that the virtual server “upload a first user-selected file selected from the one or more files associated with the particular user storage account by accessing a particular system function of the system functions of the virtual server that initiates a transfer of the first user-selected file from the client device to the virtual server.” Ex. 1001, 11:55–60, 12:62–67, 14:1–6.

For this limitation, Petitioner relies on Prust, either alone or in combination with Walker. Pet. 24–30. Petitioner contends that Prust discloses uploading a “first user-selected file associated with the user’s account by accessing a particular system function (e.g., an ‘upload’ function) of the aforementioned system functions via” either the web browser or OS

interfaces. *Id.* at 25 (citing Ex. 1004, 6:13–19, 6:39–47, Figs. 3–6).

Petitioner cites to Prust’s teaching that “[u]sing the browser, the user can browse the directories within virtual storage area 225 and can perform many common file management operations including **uploading**.” *Id.* (quoting Ex. 6:43–47). Petitioner clarifies that these functions are only available once the system verifies the user. *Id.* (citing Ex. 1004, 7:43–48). Petitioner contends that “a POSITA would have appreciated, the upload function allows a user to view files on local storage that can be uploaded upon a user’s selection; therefore, uploading the files *initiates a transfer of the first user-selected file from the client device* to the user’s virtual storage area.” *Id.* at 25 (citing Ex. 1008, ¶ 46).

Petitioner also relies upon Prust’s disclosure of an automatic backup feature in which the system “scan[s] and cop[ies] files from a user’s computer to a corresponding folder at the virtual storage area.” *Id.* at 25–26 (citing Ex. 1004, 6:9–12, 6:20–25, 9:40–47, 10:1–7, Figure 5). Petitioner contends that Prust’s OS embodiment would include scripts that “typically require the user to designate files for uploading (i.e., be *user-selected*).” *Id.* (citing Ex. 1008, ¶ 52).

To the extent that Prust itself does not disclose the fifth limitation, Petitioner contends that Walker also discloses the feature of uploading user-selected files as claimed. *Id.* at 26–27. Petitioner points to Walker’s disclosure that users may edit a document locally and then upload the edited document to a workspace server for others to access. *Id.* (citing Ex. 1005, ¶¶ 5–7, 16–18, 20, 27–28). Petitioner further asserts that Walker teaches “[w]hen a user downloads a document or container (i.e., *a user-selected file*) to their client device for editing, the system will indicate that the file is

locked by that user (i.e., *associated with the particular user storage account*).” *Id.* at 27. Petitioner also notes that after the user finishes editing, the file is uploaded to the user’s account and stored within the workspace server. *Id.* (citing Ex. 1005 ¶¶ 27, 28).

According to Petitioner, a POSITA would have been motivated to incorporate Walker’s teachings related to associating files with a user account by indicating that they are “locked” for editing by the user and then allowing the user to transfer the file to the server by uploading them for at least two reasons. First, Petitioner contends that Walker describes the need for and convenience of simultaneous multi-user editing systems to allow collaboration for shared documents, and that Prust already discusses the applicability of known file-collaboration systems. *Id.* at 28 (citing Ex. 1004, 5:62–65; Ex. 1005 ¶¶ 2, 4, 10; Ex. 1008 ¶ 65). Second, Petitioner contends that “both Walker and Prust disclose systems with similar goals (e.g., remote file storage allowing easy access to many users),” and that implementing Walker’s teachings of allowing multiple users to access the same workspace . . . , would have involved the application of known file storage and sharing techniques to improve Prust’s similar remote file storage system . . . in the same way.” *Id.* at 28–29 (citing Ex. 1008 ¶ 66). Petitioner contends that a POSITA would have reasonably expected success in incorporating Walker’s teachings into Prust’s system given the similarity of the technology in these references, whereby “implementing Walker’s teachings into Prust’s system would have required at most minor modifications in software, such as associating multiple users to a given virtual storage area of the storage network using known database technology.” *Id.* at 29–30 (citing Ex. 1008 ¶ 67).

Patent Owner argues that the fifth limitation is similarly missing from Prust because “[t]hat limitation requires that the user *select* one of more files *from* the file information transmitted from the virtual server to the client device as part of the fourth limitation,” wherein upon selection by the user, “*the virtual server is configured to upload* the selected file from the client device to the virtual server.” PO Resp. 13. Patent Owner contends that Prust does not teach or suggest the fifth limitation’s requirements of “information displayed on the client device relating to files that may be uploaded to the virtual storage area” or “that the upload operation is handled by the virtual server” as opposed to the local computer’s operating system. *Id.* at 13–14. Patent Owner dismisses Petitioner’s contentions relying upon that the upload function taught by Prust as neither being what is claimed nor making technical sense given that a user would have no reason to “upload a file to a virtual server where that file already resides on the virtual server.” *Id.* at 14. Patent Owner contends that the passages cited by Petitioner with regard to the upload function only “identify the operating system of the local computer as handling the upload operation . . . or that the upload is handled by a web browser executing on a client computer.” *Id.* Patent Owner also dismisses Petitioner’s reliance on the automatic uploading and back-up features taught by Prust as again not meeting the requirements of the fifth limitation insofar as “Prust’s web browser embodiment does not disclose that the virtual server transmits and display information relating to files stored on at least the local storage area (on the client device).” *Id.* at 15. Patent Owner questions the basis for Dr. Long’s assertion that “a POSITA would have been familiar with the fact that the scripts disclosed by Prust as to the operating system embodiment would also have been available to

automatically upload and catalogue files submitted through a browser interface.” *Id.* (citing Ex. 1008 ¶ 52). Patent Owner asserts that the operating system level functionality and web browser functionality are described as separate, mutually exclusive embodiments in Prust, and Prust does not teach that these independent and distinct embodiments are combinable. *Id.* at 15–16; *see also* Sur-Reply 8–11.

With regard to Petitioner’s reliance on Walker’s teaching to satisfy the fifth limitation, Patent Owner acknowledges that “Walker does disclose uploading files from a client device to a virtual server” but argues that Walker does not disclose that the uploaded files were “*selected from the one or more files associated with the particular user storage account that was transmitted by the virtual server to and displayed on the client device.*” PO Resp. 17. Patent Owner further argues that Walker is not enabled, and that a POSITA would not have a reasonable expectation of success in combining Prust and Walker. *Id.* at 26–38. In this regard, Patent Owner asserts that Dr. Long ignores challenges associated with multi-user simultaneous user environments. *Id.* at 27. Relying upon its expert Dr. Brogioli, Patent Owner contends that Walker is not enabled for the generically disclosed features of “locking,” “synchronization,” “sharing memory,” “threading,” “semaphores,” and other related features. *Id.* at 31–38 (citing Ex. 2022 ¶¶ 55–74).

In its Reply, Petitioner contends that, contrary to Patent Owner’s arguments about which component “handles” an upload operation, there is nothing in the specification or the claims implying that the virtual server must take control over the client computer’s operating system to perform the upload. Reply 7. Petitioner also argues that even if the claims required the

virtual server to handle the upload of files from the client to the virtual server, such a capability would still be obvious over Prust's disclosures. *Id.* at 8. In this regard, Petitioner points to Dr. Long's testimony that "there is nothing non-obvious about structuring an exchange as a push versus a pull, as there are a finite number of predictable ways to perform such interactions in software" and "[b]y 2005, the source of an initiation of a transaction was a matter of design choice," not a non-obvious invention. *Id.* (citing Ex. 1008 ¶¶ 45–46). Additionally, Petitioner responds that Patent Owner's arguments regarding whether Walker's disclosures are enabling are inapplicable because they deal with unclaimed subject matter. *Id.* at 11. Petitioner argues that Dr. Brogioli applies the wrong legal standard by opining on whether Walker enables certain aspects of its own invention rather than whether the proposed combination is enabled as to the challenged claims. *Id.* 11–12.

Having considered the arguments and evidence of record, we find that a preponderance of the evidence supports Petitioner's contention that Prust in combination with Walker suggests the claimed feature of uploading a first user-selected file selected from the one or more files associated with the particular user storage account by accessing a particular system function of the system functions of the virtual server that initiates a transfer of the first user-selected file from the client device to the virtual server. For example, in the OS embodiment, we find that Prust teaches that "the user can associate metadata with each data file as the data file is uploaded to remote storage areas 225 in order to facilitate the quick cataloging and quick retrieval of the data file." Ex. 1004, 6:13–16. Additionally, Prust teaches that "[u]sing the browser, the user can browse the directories within virtual

storage area 225 and can perform many common file management operations including uploading” Ex. 1004, 6:43–46; *see also id.*, Fig. 6 (depicting “Upload” load function in web browser interface).

Prust plainly teaches a system that would allow for the transfer of user-selected files from the client device to the virtual storage area, i.e., uploading, in both the OS and web browser embodiments. Moreover, insofar as Prust already discusses the applicability of known file-collaboration systems, like WebDAV, to its system, we find that a POSITA would have been motivated, with a reasonable expectation of success, to incorporate the editing features of Walker into Prust’s system in order to allow for increased collaboration of shared documents stored on the virtual server. Ex. 1004, 5:62–65; Ex. 1005 ¶¶ 2, 4, 10; Ex. 1008 ¶¶ 65–67. As such, we determine that Prust combined with Walker renders obvious a system with the capability for the user to download a file from the virtual storage area, edit or otherwise modify that downloaded file, and thereafter upload the modified file back to the virtual server. Patent Owner acknowledges that this scenario would meet the claim requirements even though the modified file may be a “new file” that is “different from what is on the virtual server.” Tr. 40:6–41:14.

We are not persuaded by Patent Owner’s arguments regarding the fifth element as they again impose requirements not recited in the claims. To the extent Patent Owner argues that Prust does not disclose that the files to be uploaded were themselves previously transmitted from the virtual server to the client device, we do not find that to be a requirement of the claims. We have rejected Patent Owner’s interpretation of the claims to require that the virtual server transmit information about files locally stored

on the client device (in addition to virtual server files) as part of the fourth claim element. Rather, our claim interpretation encompasses the scenario in which, after information about a virtually stored file is transmitted to the client device (in accordance with the fourth element), the user downloads that file to the client device, edits or modifies the file, and then uploads that file after any modifications back to the virtual server (in accordance with the fifth element).

We are also unpersuaded by Patent Owner's contention that Prust fails to teach that the upload operation is "handled" by the virtual server as opposed to the local computer's operating system. We agree with Petitioner that "nothing in the specification or claims implies that the virtual server must take control over the client computer's operating system to display information or perform an upload, and, like the prior art, it discloses displaying information in a web browser." Reply 7. In this regard, we credit Dr. Long's testimony that "there is no practical difference between uploading a document to B from A versus downloading a document from A to B," and that "when I download a file from a server to my computer, the operation from the perspective of the server is an upload to my computer." Ex. 1008 ¶ 45. We also agree with and credit Dr. Long's testimony that nothing in the claims requires a specific device to request an upload (i.e., a "push") versus a download (i.e., a "pull"), and that by 2005 the source of an initiation of a transaction was a matter of design choice. *Id.* ¶ 46. Thus, regardless of whether the system of Prust utilizes a "push" or "pull" functionality, we find that Prust teaches or suggests the claimed feature of uploading using system functions that initiate a transfer of a first user-selected file from the client device to the virtual server. *See, e.g.*, Ex. 1004,

6:43–46 (teaching that the user “can perform many common file management operations including uploading”).

Additionally, we are not persuaded by Patent Owner’s argument that Walker is not enabled, or that a POSITA would not have a reasonable expectation of success in combining Prust with Walker, because those arguments focus on features not required by the challenged claims of the ’868 patent. *See Raytheon Tech. Corp. v. General Electric Co.*, 993 F.3d 1374 (Fed. Cir. 2021) (“In general, a prior art reference asserted under § 103 does not necessarily have to enable its own disclosure, i.e., be ‘self-enabling,’ to be relevant to the obviousness inquiry.”). Dr. Brogioli acknowledged that he never even analyzed whether the features of Walker that he argues are not enabling are required in the claims of the ’868 patent. Ex. 1032, 84:1-85:22 (testifying that he did not recall performing an analysis about whether the claims of the ’868 patent required allowing users to edit different parts of the same file at the same time, user collaboration, concurrency among user actions and editing, or locking a document). Moreover, other than pointing to the allegedly deficient teachings of Walker itself, Dr. Brogioli cites to no evidence of record in support of his testimony that a POSITA would not have a reasonable expectation of success in implementing Walker. *See* Ex. 2022 ¶¶ 66–74. But Walker itself is presumed to be enabling for what it teaches. *See In re Antor Media Corp.*, 689 F.3d 1282, 1288 (Fed. Cir. 2012) (“[A] prior art printed publication . . . is presumptively enabling barring any showing to the contrary by [the] patentee.”). Rather than the unsupported testimony of Dr. Brogioli, we credit the testimony of Dr. Long, which is corroborated by other prior art, that the concepts disclosed in Walker, such as indicating that downloaded

files are currently locked and unavailable to other users and multi-user editing, would have been familiar to programming students before 2005, and a POSITA would have been able to apply these well-known techniques with a reasonable expectation of success. Ex. 1008 ¶¶ 36–40, 67 (citing Ex. 1011–1017); Ex. 1033 ¶¶ 4–5.

Patent Owner does not present any evidence of objective indicia of non-obviousness.

In sum, having considered the evidence and arguments of record, we determine that Prust combined with Walker renders obvious each of independent claims 1, 10, and 15.

Claims 2, 16

Dependent claims 2 and 16 each require that the user must be able to download a second file to the client device. Ex. 1001, 11:61–64, 14:7–10. Petitioner contends that Prust discloses or otherwise renders this limitation obvious because “the storage servers and network comprising the virtual storage area . . . downloads any of multiple files selected by the user . . . stored within the user’s virtual storage area . . . to a device on which the user has been verified.” Pet. 30–31 (citing Ex. 1004, 4:43–49, 6:43–47, 7:43–48, Figs. 6 and 8). Petitioner also points to Prust’s teaching that the user may copy (i.e., download) multiple files stored in the virtual storage area using software running on a client’s computer. *Id.* at 31 (citing Ex. 1004, 5:43–47; Ex. 1008 ¶¶ 46, 49). Petitioner additionally contends that Walker confirms that existing storage systems allowed users to download and upload different documents to and from their client devices over a communications network. *Id.* (citing Ex. 1005 ¶¶ 9, 27).

Patent Owner does not present any separate arguments for these dependent claims. Having considered the evidence and arguments of record, we find that a preponderance of the evidence supports Petitioner's contention that Prust combined with Walker renders obvious each of dependent claims 2 and 16.

Claims 3, 13, 19

Dependent claim 3 requires that the virtual server a) “generate a third party user account,” b) “associate the second user-selected file with the third party user account,” c) “enable communication, using the communications network, between the virtual server with a second client device corresponding to the third party user account,” d) “verify the third party user account,” and e) “upload the second user selected file from the virtual server to the second client device corresponding to the third party user account.” Ex. 1001, 11:65–12:9. Dependent claims 13 and 19 recite similar limitations. *Id.* at 13:11–22, 14:22–33. With regard to these claims, Petitioner contends that Walker discloses that a master server “regulates the registration of users” and generates accounts for new individuals accessing a workspace. Pet. 32 (citing Ex. 1005 ¶¶ 22, 67, 286–287). Petitioner further contends that a POSITA would have been motivated to incorporate Walker's teachings of allowing multiple user accounts, including third party user accounts, to access a workspace into Prust's system because allowing third parties at least limited access to files would promote sharing for individuals who may need to view files, but are not already registered. *Id.* (citing Ex. 1008 ¶ 62). Additionally, Petitioner contends that modifying Prust's system to accommodate shared virtual storage areas would have had the desirable effect of enabling users to access files without the hassle of space-limited

email, and that this would have furthered Prust's goal of allowing users to access documents from anywhere. *Id.* at 33 (citing Ex. 1008 ¶ 63).

Petitioner contends that a POSITA would have reasonably expected success in implementing Walker's teachings into Prust's data storage system given the similarity of the technology and known file storage techniques. *Id.* at 33–34 (citing Ex. 1008 ¶ 64).

Patent Owner does not present any separate arguments for these dependent claims. Having considered the evidence and arguments of record, we find that a preponderance of the evidence supports Petitioner's contention that Prust combined with Walker renders obvious each of dependent claims 3, 13, and 19.

Claim 4

Dependent claim 4 requires that both the first and second users are account holders. Ex. 1001, 12:10–11. With regard to this claim, Petitioner contends that Walker discloses the first user, such as an owner, is an account holder, and that additional members (i.e., a second user), may also be account holders already registered with the system. Pet. 39 (citing Ex. 1005 ¶ 67). Petitioner further contends that, for the same reasons discussed regarding Claim 3, a POSITA would have been motivated to incorporate, and would have reasonably expected success in incorporating, Walker's teachings related to multi-user spaces into Prust's system. *Id.* at 40 (citing Ex. 1008 ¶¶ 61–64).

Patent Owner does not present any separate arguments for these dependent claims. Having considered the evidence and arguments of record, we find that a preponderance of the evidence supports Petitioner's

contention that Prust combined with Walker renders obvious dependent claim 4.

Claim 5

Dependent claim 5 requires that the first user is an account holder, and the second user is a third party. Ex. 1001, 12:12–13. Petitioner contends that this claim is obvious over Prust in view of Walker for the same reasons as claim 3, discussed above. Pet. 40. Namely, Petitioner points out that Walker discloses that a first user, such as a workspace owner, is a registered party, and a second user may be a third party invited by email to register. *Id.*

Patent Owner does not present any separate arguments for these dependent claims. Having considered the evidence and arguments of record, we find that a preponderance of the evidence supports Petitioner’s contention that Prust combined with Walker renders obvious dependent claim 5.

Claims 8, 14, 20

Dependent claims 8, 14, and 20 require that the virtual server generate a graphical-user interface comprising one or more selectable components that correspond to the system functions of the virtual server. Ex. 1001, 12:38–41, 13:22–25, 14:34–38. With regard to these claims, Petitioner points to Prust’s web browser embodiment, in which storage servers and network are configured to generate a graphical user interface displaying one or more selectable components, such as buttons, that correspond to system functions, such as “upload,” “download,” and “delete” documents. Pet. 41–42 (citing Ex. 1004, 6:39–47, Fig. 6; Ex. 1008 ¶ 50).

Patent Owner does not present any separate arguments for these dependent claims. Having considered the evidence and arguments of record,

we find that a preponderance of the evidence supports Petitioner's contention that Prust combined with Walker renders obvious dependent claims 8, 14, and 20.

Claims 11, 17

Dependent claims 11 and 17 depend from claims 10 and 16, respectively, and require that “the information relating to the one or more files includes a first virtual representation of files stored at the client device that is associated with the particular user storage account and a second virtual representation of files stored at the virtual server that is associated with the particular user storage account.” Ex. 1001, 13:1–7, 14:11–17. With regard to these claims, Petitioner contends that Prust discloses or otherwise suggests this limitation based on its disclosure in the OS embodiment of a file explorer window displaying files stored both locally (e.g., “My Computer” files) on the user's verified client device and remotely (e.g., “Internet Neighborhood” files) so that the user can easily transfer documents to and from the remote storage system. Pet. 43–44 (citing Ex. 1004, 5:57–65, 7:43–48, Figs. 4 and 6; Ex. 1008 ¶¶ 54–55).

Patent Owner does not present any separate arguments for these dependent claims. Nonetheless, having considered the evidence and arguments of record, we find that a preponderance of the evidence does not support Petitioner's contention that Prust combined with Walker renders obvious dependent claims 11 and 17. The “information” referenced in these dependent claims finds antecedent basis in the fourth element of the respective independent claims, which requires that such information is

transmitted from the virtual server to the client device.⁸ Petitioner, however, has not shown how either Prust or Walker teaches or suggests that the virtual server transmits to the client device information about locally stored files (i.e., the “first virtual representation”) as required by these claims. While Petitioner points to Prust’s disclosure of a file explorer window displaying “My Computer” files and “Internet Neighborhood” files, Petitioner does not point to any disclosure in Prust or Walker to suggest that the representation of the “My Computer” files were transmitted from the virtual server to the client device. Accordingly, we determine that Petitioner has not met its burden with regard to these claims.

Claims 12, 18

Dependent claims 12 and 18 depend from claims 11 and 17, respectively, and require that “the first virtual representation and the second virtual representation are displayed in a single browser window” on the client device. Ex. 1001, 13:8–11, 14:18–21. With regard to these claims, Petitioner points to Prust’s depiction of virtual representations in a single “file browser” window as shown in the Windows File Explorer of Figure 4. Pet. 45 (citing Ex. 1008 ¶ 54).

Patent Owner does not present any separate arguments for these dependent claims. Nonetheless, as discussed above with regard to dependent claims 11 and 17, Petitioner has not shown how either Prust or

⁸ Although our claim interpretation of the independent claims does not require that “information relating to one or more files associated with the particular user storage account” recited in the fourth element must include information about locally stored files, dependent claims 11 and 17 explicitly recite that such “information” includes virtual representations of both locally stored and virtually stored files.

Walker teaches or suggests that the virtual server transmits the first virtual representation of locally stored files to the client device. Accordingly, having considered the evidence and arguments of record, we find that a preponderance of the evidence does not support Petitioner's contention that Prust combined with Walker renders obvious dependent claims 12 and 18.

D. Ground 2: Obviousness of Claim 6 in view of Prust, Walker, and Broomhall

Petitioner asserts that dependent claim 6 would have been obvious in view of Prust, Walker, and Broomhall. Pet. 8.

1. Overview of Broomhall (Ex. 1006)

Broomhall is a U.S. patent that issued on September 18, 2001. Ex. 1006, codes (21), (22), (45). Thus, on its face, Broomhall qualifies as prior art under pre-AIA 35 U.S.C. § 102(b).

Broomhall is directed to “a system that provides secure account management and content protection in a networking environment where both internal and external users have access to an organization's internal databases.” *Id.* at 1:42–46. For example, the system prevents unauthorized access to data residing on servers accessed using the World Wide Web. *Id.* at 1:31–42, 2:59–65.

Broomhall discloses a “front end” Web application accessible to external database users via a Web browser. *Id.* at 3:21–42. The Web application includes a server web home page that allows a user to request a web account, change a password, and request database access. *Id.* The system stores user IDs and passwords for different types of users in various system databases. *Id.* Internal users may create accounts for external users by entering external user information, including name, company, internet address, database to be accessed, and access level. *Id.* at 4:59–10.

2. *Analysis*

Dependent claim 6 recites that the virtual server is further configured to “allow at least one subaccount to be associated with the particular user storage account,” “verify second user access information for the at least one subaccount,” “connect to a second client device associated with the verified second user access information,” “transmit to the second client device for display, information relating to one or more files associated with the at least one subaccount,” and “transmit to the second client device for display, information identifying second system functions of the virtual server, the second system functions different from the first system functions.” Ex. 1001, 12:14–28. Petitioner separately challenges this claim based on the additional teachings of Broomhall, in combination with the teachings of Prust and Walker as discussed above.

In addition to the teachings of Prust and Walker relied upon for independent claim 1, Petitioner points to Broomhall’s disclosure of a server system (i.e., a virtual server) that also makes files stored on servers available to anyone with web access. Pet. 49 (citing Ex. 1006, Abstract, 1:28–36, 2:59–64).

With respect to the requirement of “allow[ing] at least one subaccount to be associated with the particular user storage account,” Petitioner contends Walker discloses that “owners” of workspaces may control the membership of others in the workplace. *Id.* (citing Ex. 1005, ¶¶ 4, 22, 23). Petitioner further contends that Broomhall discloses how the user accounts may be related in two ways. *Id.* at 49–55. First, Petitioner contends Broomhall discloses that an organization’s system administrator manages the server system. *Id.* at 49 (citing Ex. 1006, 8:61–64). Employees must

create an internal user account within the organization to access the database. *Id.* at 49–52 (citing Ex. 1006, 3:21–4:56, 5:43–48, 7:4–12, 8:61–64, Figs. 3, 4, 7, 8). Second, Petitioner contends the server system also allows external user accounts to be sponsored by internal users. *Id.* at 52–53 (citing Ex. 1006, 1:35–41, 3:2–23, 4:59–66, 7:65–8:2, 8:53–60, Figs. 2, 5, 6, 9–12). Petitioner contends a POSITA would have appreciated that the internal employee and external user accounts are “sub-accounts” of the company-level storage account managed by the system administrator, *id.* at 53 (citing Ex. 1008, ¶ 71), and that external accounts are sub-accounts to the internal sponsoring account, *id.* at 53–54 (citing Ex. 1006, Fig. 11). Petitioner further contends that a POSITA would have been motivated to incorporate Broomhall’s account teachings with Prust’s data storage system as modified by Walker to make business more efficient and to enable collaboration. *Id.* at 54–55 (citing Ex. 1005, ¶ 22; Ex. 1006, 1:34–41, 4:59–63, 8:53–60; Ex. 1008, ¶¶ 74, 75). Petitioner also contends that a POSITA would have had a reasonable expectation of success in incorporating Broomhall’s teachings because it would have required well-known techniques and only minor modifications in software and would have yielded predictable results. *Id.* at 55 (citing Ex. 1008, ¶ 77).

With respect to the requirement of “verify[ing] second user access information for the at least one subaccount,” Petitioner contends, in addition to its arguments for Prust and Walker as to claim 1, that Broomhall’s system verifies users using an ID and password before permitting access. *Id.* at 55–56 (citing Ex. 1006, 5:48–57, Fig. 7). Petitioner further contends, as it did for the previous limitation, that a POSITA would have found it obvious to

incorporate this teaching from Broomhall into Prust's system as modified by Walker. *Id.* at 56–57 (citing Ex. 1008, ¶¶ 73–77).

With respect to the requirement of “connect[ing] to a second client device associated with the verified second user access information,” Petitioner contends, in addition to its arguments for Prust and Walker as to claim 1, that Broomhall discloses that users only access the servers via computers that have been verified. *Id.* at 57 (citing Ex. 1006, 1:28–34, 2:61–65, 5:49–57). Petitioner further contends, as it did for the previous limitations, that a POSITA would have found it obvious to incorporate this teaching from Broomhall into Prust's system as modified by Walker. *Id.* (citing Ex. 1008, ¶¶ 73–77).

With respect to the requirement of “transmit[ing] to the second client device for display, information relating to one or more files associated with the at least one subaccount,” Petitioner reiterates its contentions for Prust as to claim 1, namely that Prust discloses that the storage servers and network transmit information relating to the files to a verified user with access to the files. *Id.* 57–58. Petitioner further contends, as it did for the previous limitations, that a POSITA would have found it obvious to incorporate this teaching from Broomhall into Prust's system as modified by Walker. *Id.* at 58 (citing Ex. 1008, ¶¶ 73–77).

With respect to “transmit[ing] to the second client device for display, information identifying second system functions of the virtual server, the second system functions different from the first system functions,” Petitioner reiterates its contentions for Prust as to claim 1, namely that Prust discloses that the storage servers and network transmit information identifying system functions to the client device. *Id.* at 58. Petitioner further contends Walker

discloses different functions available based on the user's title (owner, worker, or viewer). *Id.* at 58–59 (citing Ex. 1005, ¶¶ 23, 191, 241, 298, Fig. 12). Petitioner further contends that Broomhall discloses that database owners may control access to the databases, while internal users have fewer privileges over databases and documents. *Id.* at 59 (citing Ex. 1006, 5:8–10, 7:4–12).

Petitioner contends a POSITA would have combined Prust with Walker and Broomhall. Pet. 59–60. According to Petitioner, a POSITA would have been motivated to modify Prust's system to display the availability of functions disclosed in Walker and Broomhall. *Id.* at 59. Displaying different functions for different users would have been common so a user could only see the functions she would be permitted to execute. *Id.* at 59–60 (citing Ex. 1008, ¶¶ 78, 42–44 (citing Exs. 1020, 1021, 1022)). Additionally, Petitioner contends the POSITA would have expected success because the modifications to Prust would have required at most minor software modifications and would have yielded predictable results. *Id.* at 60 (citing Ex. 1008, ¶ 77).

With regard to claim 6, Patent Owner argues that Broomhall fails to overcome the noted deficiencies of Prust. PO Resp. 39. Patent Owner argues that “it would take more than ‘minor modifications’ to combine [Prust, Walker, and Broomhall] to achieve predictable results” and points to complications associated with “layering on top the incorporation of sub accounts and sub account permission levels/privileges” and that “Broomhall does not contemplate things such as threads, semaphores, etc.” *Id.* at 40 (citing Ex. 2022 ¶ 75); *see also* PO Sur-Reply 20 (citing Ex. 2022 ¶¶ 73–78). Patent Owner additionally contends that Broomhall is a different architecture

than either Walker or Prust, and this would introduce additional complexity in combining the technologies. PO Resp. 40.

In its Reply, Petitioner responds that Patent Owner's arguments as to claim 6 again misapprehend the law regarding enablement of the prior art, misunderstand Walker's disclosure and overcomplicate the scope of the proposed combination, and impose a "bodily incorporation" requirement that unnecessary to show obviousness. Reply 18. Petitioner also points to the testimony of Dr. Long, who explains that the idea of the idea of setting up a file storage system with subaccounts with specific user permissions using a system administrating was well known "decades before 2005," and that modifying Prust to include a database linking organizational accounts would have required at most the application of similar techniques in similar prior art systems. *Id.* at 19 (citing Ex. 1008 ¶¶ 41, 71–72, 77); Ex. 1017, 1020). As further asserted by Petitioner, "a POSITA would have recognized desirability and feasibility of the application of Broomhall's user-organization features to Prust's virtual storage network, particular given that the largest clients of such systems were businesses." *Id.* (citing Ex. 1008 ¶¶ 67, 73).

Having considered the arguments and evidence of record, we determine that a preponderance of the evidence supports Petitioner's contentions that a POSITA would have been motivated with a reasonable expectation of success to incorporate Broomhall's features of generating subaccounts associated with particular storage accounts with the combined teachings of Prust and Walker and arrive at the requirements of dependent claim 6. We are not persuaded by Patent Owner's arguments to the contrary. In particular, we agree with Petitioner that Patent Owner alleges

complications associated with the prior art, including different “architectures,” that are not required by the claims. We also agree with Petitioner that the proposed combination does not require bodily incorporation of Broomhall’s entire architecture into Prust’s system. *See In re Keller*, 642 F.2d 413, 425 (CCPA 1981) (“The test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference.”). Moreover, as discussed above with respect Patent Owner’s enablement arguments for Walker, Patent Owner relies upon alleged complexities unrelated to the claimed invention. We find Dr. Brogioli’s testimony regarding the complications associated with combining Broomhall with Prust and Walker to be conclusory and unsupported by any other evidence. *See* Ex. 2022 ¶ 78 (Dr. Brogioli not citing any other evidence in support of his testimony regarding why it would take more than “minor modifications” to combine the prior art teachings); *In re Ethicon, Inc.*, 844 F.3d 1344, 1352 (Fed. Cir. 2017) (concluding that the Board properly gave little weight to conclusory expert testimony of objective indicia); 37 C.F.R. § 42.65(a) (“Expert testimony that does not disclose the underlying facts or data on which the opinion is based is entitled to little or no weight.”). Rather, we credit the testimony of Dr. Long, who provides a more complete analysis supported by citations to the prior art, as to why a POSITA would have been motivated to combine the prior art teachings with a reasonable expectation of success. Ex. 1008 ¶¶ 68–78.

In sum, having considered the evidence and arguments of record, we determine that Prust combined with Walker and Broomhall renders obvious dependent claim 6.

E. Ground 3: Obviousness of Claims 1–6, 8, 10, 12–16, 19, and 20 in View of Chu

Petitioner asserts that claims 1–6, 8, 10, 12–16, 19, and 20 would have been obvious in view of Chu. Pet. 8.

1. Overview of Chu (Ex. 1007)

Chu is a U.S. patent publication that was published on April 25, 2002. Ex. 1007, code (43). Thus, on its face Chu qualifies as prior art under pre-AIA 35 U.S.C. § 102(b).

Chu is directed to a method for securely delivering electronic documents between users (clients) over the Internet. *Id.* ¶¶ 3, 11. The method includes a first step of issuing instructions to a first client having a web browser to register an account with a digital asset distribution (“DAD”) server via a website. *Id.* ¶ 11. The second step includes issuing second instructions for uploading a file to the DAD server via the website using embedded client software that is automatically downloaded to the first client. *Id.* Once the file is uploaded and available for downloading from the website, the system notifies a second client, which connects to the website via web browser to download the file. *Id.*

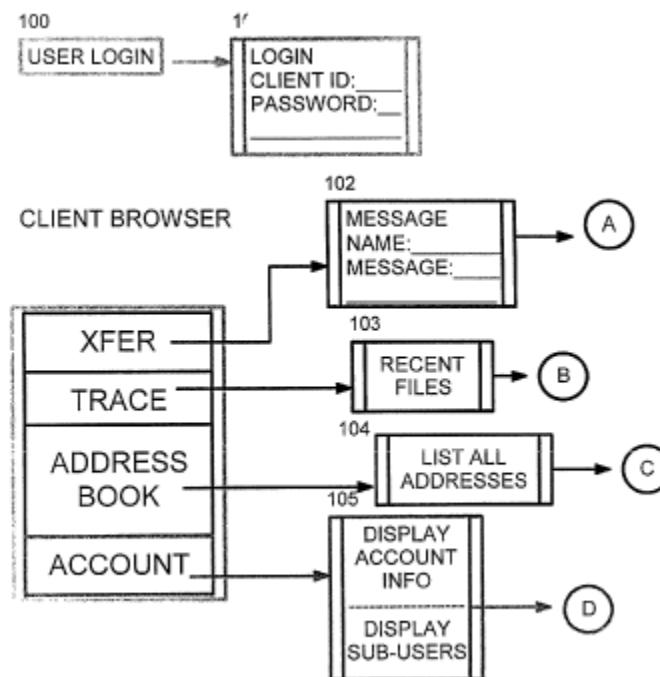
Chu describes computer readable media for storing:

a data structure including a first field comprising data representing account information of a client, a second field comprising data representing package information regarding a file for transfer, a third field comprising address information for an address to transfer a file, a fourth field comprising a server site, a fifth field comprising a server list and a sixth field comprising download and/or upload information of a file.

Id. ¶ 12. Account information includes a unique user ID for authenticating users based on the ID, and to allow system administrators to monitor sub-user activity. *Id.* ¶ 83. System administrators “have access to various types

of sub-user information, such as account records, recent transfers activated by that user, and other maintenance options.” *Id.* ¶ 83. “Depending on the user level as indicated in the database, a different display may be presented to the user. If the user is of a sub-user level, they may be displayed a page on which they could view and modify their own unique account information.” *Id.* ¶ 84.

Chu illustrates a user interface in Figure 3, reproduced below.



Id., Fig. 3. Figure 3 illustrates a general outline of an exemplary interface that may be displayed by the client browser. *Id.* ¶ 21. As shown above, the interface may include “User Login, Client Browser Screen components: Transfer (XFER), Tracking (TRACE), Address Book, and Account,” wherein “[t]he User Login process requires user or client identification and password.” *Id.* ¶ 64.

2. *Analysis*

Petitioner contends that claims 1–6, 8, 10, 13–16, 19, and 20 would have been obvious over Chu. Pet. 60–77. Petitioner provides a detailed analysis of how each claim element is expressly or inherently described, or otherwise suggested, by the prior art. *Id.* Petitioner also relies on the declaration of Dr. Long to support this challenge. *See id.* We address the similar limitations of independent claims 1, 10, and 15 (and their corresponding dependent claims) together as the parties’ contentions are the same for those limitations.

Claims 1, 10, 15

Petitioner contends that Chu discloses the preambles of independent claims 1 (“data storage system”), 10 (“data storage method”), and 15 (“non-transitory computer-readable medium”). *Id.* at 61. For these requirements, Petitioner relies on Chu’s teaching of a DAD server for storing and transferring files between client computers. *Id.* (citing Ex. 1007, Abstr., Figs. 1A, 1B, 5, ¶¶ 12, 15). Petitioner also relies upon Chu’s disclosure of non-transitory “computer-readable media” encoded with instructions for data storage that are executable by a processor. *Id.*

Patent Owner does not present any specific arguments with regard to the preambles of the independent claims. To the extent they are limiting, we determine that Chu discloses the requirements of the preambles based on the foregoing teachings.

With respect to the requirement of “a virtual server connected to a communication network” (claim 1), Petitioner relies on Chu’s teaching of a DAD server. *Id.* at 61–62 (citing Ex. 1007, ¶¶ 9, 14, 49, 61, Figs. 1, 1A, 1B, 2). Petitioner contends Chu discloses that the DAD server is accessible from

anywhere by using a web browser to log onto a website for the server. *Id.* at 63 (citing Ex. 1007, ¶¶ 13, 49–51, 54).

Patent Owner does not present any specific arguments with regard to this limitation. Based on the foregoing teachings, we determine that Chu discloses the requirement of a virtual server connected to a communications network.

With respect to the first element common to all independent claims (limitation 1.1.1, 10.1, and 15.1), which requires that the virtual server “verify user access information for a particular user storage account of one or more user storage accounts maintained by the virtual server,” Petitioner relies on Chu’s teaching of a user login process requiring a user ID and password. *Id.* at 63 (citing Ex. 1007 ¶ 64). Petitioner contends Chu discloses a virtual (DAD) server that verifies user access information inputted through a graphical user interface including a login component. *Id.* (citing Ex. 1007 ¶¶ 64, 13, 98, 112, Fig. 6).

Patent Owner does not present any specific arguments with regard to this limitation. Based on the foregoing teachings, we determine that Chu discloses the requirement of verifying user access information for a particular user storage maintained by a virtual server.

With respect to the second limitation common to all independent claims (limitation 1.1.2, 10.2, 15.2), which requires that the virtual server “connect to a client device associated with the verified first user access information over the communications network,” Petitioner relies on Chu’s teaching that “the DAD Server securely connects to the verified user’s client device over a communications network,” after verifying the access information. *Id.* at 64 (citing 1007 ¶¶ 11, 52, 57, 94–95, Figs. 1B, 12).

Patent Owner does not present any specific arguments with regard to this limitation. Based on the foregoing teachings, we determine that Chu discloses the requirement of connecting to a client device associated with the verified user access information over a communications network.

With respect to third limitation common to all independent claims (limitation 1.1.3, 10.3, 15.3), which requires that the virtual server “transmit to the client device for display, information identifying first system functions of the virtual server,” Petitioner relies on Chu’s teaching that the “DAD server transmits information identifying first information functions of the DAD server to the client, including functions that initiate file transfer.” *Id.* at 64–65 (citing Ex. 1007 ¶¶ 11, 13). Petitioner further relies on Chu’s disclosure of displaying functions such as transfer, tracking, address book, and modifying account information. *Id.* (citing Ex. 1007, Fig. 3, ¶¶ 64–66, 73, 82).

Patent Owner does not present any specific arguments with regard to these limitations. Based on the foregoing teachings, we determine that Chu discloses the requirement of transmitting to the client device for display, information identifying system functions of the virtual server.

With respect to the fourth limitation common to all independent claims (limitation 1.1.4, 10.4, 15.4), which requires that the virtual server “transmit to the client device for display, information relating to one or more files associated with the particular user storage account,” Petitioner relies on Chu’s teaching that the DAD server includes file information for the shared files. *Id.* at 66 (citing Ex. 1007 ¶ 65). Petitioner contends Chu discloses that the DAD server displays file information, including, file name, location, and other descriptive information, e.g., pathnames, server port, IP address, ID, file

path name, and file size. *Id.* (citing Ex. 1007 ¶¶ 63, 94, 97, 100, 104–105). Petitioner also contends that Chu discloses the file property data is sortable to provide the user with easier access to relevant information. *Id.* at 67 (citing Ex. 1007, Figs. 3, 3A, 3-B-(0–4), ¶¶ 66–69).

Patent Owner relies upon its claim construction, which we have rejected for the reasons stated above, to argue that Chu does not disclose the fourth limitation. PO Resp. 18–25. In particular, Patent Owner contends that Chu does not disclose the fourth limitation because there is nothing in cited paragraph 65 “addressing the DAD server transmitting for display on a client device information relating to one or more files that would satisfy the antecedent basis requirements for the fifth element of claim 1.” *Id.* at 19. Patent Owner further argues that the “server to server” transfer disclosed in paragraph 65 of Chu is not a disclosure of the fourth limitation. *Id.* Patent Owner contends that Chu’s Fig. 3A illustrates a user interface that allows a user to input information about a file to be transferred, but this does not disclose the DAD server transmitting file information to a client device for display. *Id.* Patent Owner also contends that cited paragraphs 66–72 of Chu relate to a “tracking” embodiment as shown in Figs. 3-B-(0-4), and this only discloses locating information about previously sent files, but does not meet the requirements of the fourth limitation. *Id.* at 20–21. Patent Owner also contends that none of the other paragraphs cited or relied upon by Petitioner “disclose the DAD server transmitting to the client device for display, information relating to one or more files associated with the particular user storage account, e.g., information regarding files resident on the client device, whereby the user may then *select from the* information one or more

files to be uploaded by the DAD server from the client device to the DAD server.” *Id.* at 22.

In its Reply, Petitioner contends that Patent Owner’s arguments are based on either an incorrect claim construction theory or an otherwise unsupported contention that the act of uploading a file is “implemented by software embedded on the client device, and not by the DAD server.” Reply 20. According to Petitioner, even if Patent Owner’s arguments were correct, Chu discloses that information about the files selected for upload are displayed to a user. *Id.* at 20–21 (citing Ex. 1007 ¶ 94, Fig. 6). Petitioner also contends that Chu discloses that the server performs the handling and gathering elements of the claims based on its disclosure that **“the DAD starts the program, processes the file transfer request, and generates and sends client software embedded in HTML to the sender (as shown in B of the diagram) stores information for FTP transfer in the database, or initiates DAD server-to-server transfer.”** *Id.* at 22 (citing Ex. 1007 ¶ 65, Fig. 3-A; Ex. 1008 ¶ 83). In any event, Petitioner argues that Patent Owner’s arguments regarding Chu’s use of a client-facing program (such as a web browser) are misguided because such a client-facing interface is how the user interacts with the server and is consistent with the teachings of the ’868 patent itself. *Id.* at 22–23.

Having considered the arguments and evidence of record, we find that a preponderance of the evidence supports Petitioner’s contention that Chu discloses the claimed feature of transmitting to the client device for display, information relating to one or more files associated with the particular user storage account. For example, Chu satisfies the fourth limitation based on its disclosure that the DAD server transmits to the client device for display,

information relating to one or more files, such as date or size. Ex. 1007 ¶¶ 65 (“Sender enters relevant information about the files 20 to be transferred. File information includes names of the files, locations of the files, and other descriptive information as shown in A of the diagram.”), 66–68 (explaining that sender can “track files previously sent” by retrieving and displaying the files’ information, “including transfer timestamps and file properties”), Figs. 3-B-0–4; *see also id.* ¶ 94 (“Parameters in the .DAD file for this program include the pathnames for the files on the local machine, seer port, IP address, ID, XFR file path name, file size.”). We also credit Dr. Long’s testimony that “[b]ecause the DAD server has the information about users and their files stored, before such information could be displayed on a client device, the DAD server would necessarily ‘transmit’ it for display.” Ex. 1008 ¶ 83.

We are not persuaded by Patent Owner’s arguments regarding the fourth claim element. As discussed above in our claim construction analysis, we do not interpret the claims to require that “information relating to one or more files associated with the particular user storage account” recited in the fourth element must include information about locally stored files. As such, we find that the foregoing cited teachings of Chu relating to the DAD server transmitting file information, such as file location, date, size, or other parameters in the .DAD file to be displayed on the client device are sufficient to render obvious the fourth limitation. Patent Owner’s arguments regarding the alleged deficiencies in the technical disclosures of Chu are not supported by any expert testimony, and we decline to give significant weight to such unsupported attorney argument, especially when compared to the un rebutted declaration testimony of Dr. Long that has been

presented by Petitioner. *See Gemtron Corp. v. Saint-Gobain Corp.*, 572 F.3d 1371, 1380 (Fed. Cir. 2009) (“[U]nsworn attorney argument . . . is not evidence and cannot rebut . . . other admitted evidence.”)

With respect to the fifth limitation common to all independent claims (limitation 1.1.5, 10.5, 15.5), which requires that the virtual server “upload a first user-selected file selected from the one or more files associated with the particular user storage account by accessing a particular system function of the system functions of the virtual server that initiates a transfer of the first user-selected file from the client device to the virtual server,” Petitioner relies on Chu’s teaching of uploading a file from a first client device of a verified user by accessing a website and using client software to upload the file to the DAD server. Pet. 67–40 (citing Ex. 1007 ¶¶ 10–11, 14, 49, 64, 90). Petitioner contends that Chu’s Figure 6 discloses a process for uploading a file from the client device to the DAD server. *Id.* at 68–69 (citing Ex. 1007, Fig. 6, 6-1, ¶¶ 93–97. Figure 6 illustrates a “Client Send” process including a client login (steps 1006, 1006A) and a step to “Prompt Sender for Type of Upload (New, Resume, Return, or Instructions Only)” (step 1006C). Ex. 1007, Figure 6. Petitioner contends that the “DAD server also stores files so the user could transfer them later without storing them on a client device.” Pet. 70 (citing Ex. 1007 ¶¶ 12, 55).

Patent Owner again relies upon its claim construction, which we have rejected, to argue that Chu does not disclose the fifth limitation. PO Resp. 22–25. Under the proper claim construction, however, we find that the foregoing cited disclosures of Chu related to uploading files from the client device to the DAD server are sufficient to render obvious the fifth claim element. We are also unpersuaded by Patent Owner’s argument that “Chu

does not disclose or suggest a virtual server that is configured to upload a user selected file from a client device to the virtual server,” but rather “teaches that the client device uploads the user selected file to the virtual server.” *Id.* at 23–25. As discussed above with respect to the grounds based on Prust, there is nothing in the claims or specification suggesting that the uploading step must be initiated by the virtual server (i.e., a “pull”) as opposed to the client device (i.e., a “push”). Nonetheless, even if the claims were interpreted to require the virtual server to initiate the uploading, we credit Dr. Long’s un rebutted testimony that “there is nothing non-obvious about structuring an exchange as a push versus a pull, as there are a finite number of predictable ways to perform such interactions in software” and “[b]y 2005, the source of an initiation of a transaction was a matter of design choice.” Ex. 1008 ¶ 46; Ex. 1024. Accordingly, we determine that a POSITA would find it obvious to implement the claimed uploading step as either a push or a pull in Chu’s system to satisfy the claim requirements.

Patent Owner does not present any evidence of objective indicia of non-obviousness.

In sum, having considered the evidence and arguments of record, we determine that Chu renders obvious each of independent claims 1, 10, and 15.

Claims 2, 16

Petitioner contends that dependent claims 2 and 16 are rendered obvious by Chu’s disclosures that the DAD server is configured to download any of a plurality of files that are received by the user from the DAD server to the client device. Pet. 70 (citing Ex. 1007 ¶¶ 86, 103; Fig. 7).

Patent Owner does not present any separate arguments for these dependent claims. Having considered the evidence and arguments of record, we find that a preponderance of the evidence supports Petitioner's contention that Chu renders obvious each of dependent claims 2 and 16.

Claims 3, 13, 19

Petitioner contends that dependent claims 3, 13, and 19 are rendered obvious by Chu's disclosures that the server a) generates third-party accounts, such as "unregistered recipient account[s]" for recipients who have not yet registered with the system, b) allows these unregistered recipients to **"logon to the system via a web page** and enter a PID" (a package ID number) and/or password to download a package, c) enables communication over a network between the DAD Server and the recipient's computer, d) verifies the third-party user account using a username and password, the PID, or "package password" set by the sender before accessing a received file, and e) permits the second user download of any of a plurality of files from the DAD server to the second user's computer. *Id.* at 70–73 (citing Ex. 1007 ¶¶ 11, 52–53, 57–58, 62–63, 123–124, Fig. 12; Ex. 1008 ¶¶ 45–46).

Patent Owner does not present any separate arguments for these dependent claims. Having considered the evidence and arguments of record, we find that a preponderance of the evidence supports Petitioner's contention that Chu renders obvious each of dependent claims 3, 13, and 19.

Claim 4

Petitioner contends that dependent claim 4 is rendered obvious by Chu's disclosures that both the first and second users may be registered with the system. *Id.* at 73 (citing Ex. 1007 ¶¶ 53, 57, 62, claims 12–13).

Patent Owner does not present any separate arguments for this dependent claim. Having considered the evidence and arguments of record, we find that a preponderance of the evidence supports Petitioner's contention that Chu renders obvious dependent claim 4.

Claim 5

Petitioner contends that dependent claim 5 is rendered obvious by Chu's disclosures that a sender may be a registered user, while a recipient may be unregistered. *Id.* at 73–74 (citing Ex. 1007 ¶¶ 11, 51, 53, 57).

Patent Owner does not present any separate arguments for this dependent claim. Having considered the evidence and arguments of record, we find that a preponderance of the evidence supports Petitioner's contention that Chu renders obvious dependent claim 5.

Claim 6

Petitioner contends that dependent claim 6 is rendered obvious by Chu's disclosures of allowing "multiple user levels" including designations such as "administrators" and "sub-users," where in both administrators and sub-users may access the system's database only upon being authenticated via username and password, and where in a different display with additional functions may be presented to the user at the administrator level. *Id.* at 74–76 (citing Ex. 1007 ¶¶ 83–84, Figs. 3-D, 3-D-5; Ex. 1008 ¶¶ 81–83, 86).

Patent Owner does not present any separate arguments for this dependent claim. Having considered the evidence and arguments of record, we find that a preponderance of the evidence supports Petitioner's contention that Chu renders obvious dependent claim 6.

Claims 8, 14, 20

Petitioner contends that dependent claims 8, 14, and 20 are rendered obvious by Chu’s disclosures that DAD server displays “graphical-user interface for a first client computer system having a selection device” and selectable components that correspond to functions of the DAD server, such as transfer, tracking, and account management. *Id.* at 76–77 (citing Ex. 1007 ¶¶ 13–14, Fig. 3).

Patent Owner does not present any separate arguments for these dependent claims. Having considered the evidence and arguments of record, we find that a preponderance of the evidence supports Petitioner’s contention that Chu renders obvious each of dependent claims 8, 14, and 20.

III. CONCLUSION⁹

The outcome for the Challenged Claims in this proceeding is set forth below in summary as follows:

Claim(s)	35 U.S.C. §	Reference(s)	Claim(s) Shown Unpatentable	Claims Not Shown Unpatentable
1–5, 8, 10–20	103	Prust, Walker	1–5, 8, 10, 13–16, 19, 20	11, 12, 17, 18
6	103	Prust, Walker, Broomhall	6	
1–6, 8, 10, 12– 16, 19, 20	103	Chu	1–6, 8, 10, 13–16, 19, 20	12 ¹⁰
Overall Outcome			1–6, 8, 10, 13–16, 19, 20	11, 12, 17, 18

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*, 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).

¹⁰ Although nominally included within the scope of Ground 3 on page 8 of the Petition, Petitioner did not present any arguments or evidence as to why claim 12 is rendered obvious by Chu. *See* Pet. 60–77.

IV. ORDER

Upon consideration of the record before us, it is:

ORDERED that claims 1–6, 8, 10, 13–16, 19, and 20 of U.S. Patent No. 10,476,868 B2 have been proven by a preponderance of the evidence to be unpatentable;

FURTHER ORDERED that claims 11, 12, 17, and 18 of U.S. Patent No. 10,476,868 B2 have not been proven by a preponderance of the evidence to be unpatentable; and

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

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Patent 10,476,868 B2

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