

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

WORKSPOT, INC.,
Petitioner,

v.

CITRIX SYSTEMS, INC.,
Patent Owner.

IPR2019-01002
Patent 8,135,843 B2

Before JUSTIN T. ARBES, MIRIAM L. QUINN, and
FREDERICK C. LANEY, *Administrative Patent Judges*.

ARBES, *Administrative Patent Judge*.

JUDGMENT
Final Written Decision
Determining No Challenged Claims Unpatentable
35 U.S.C. § 318(a)

I. INTRODUCTION

A. Background and Summary

Petitioner Workspot, Inc. filed a Petition (Paper 1, “Pet.”) requesting *inter partes* review of claims 1, 5, 7–9, 12, 16, 18, 19, 23, 24, 29, and 30 of U.S. Patent No. 8,135,843 B2 (Ex. 1001, “the ’843 patent”) pursuant to

35 U.S.C. § 311(a). On November 20, 2019, we instituted an *inter partes* review as to all challenged claims on all grounds of unpatentability asserted in the Petition. Paper 12 (“Decision on Institution” or “Dec. on Inst.”). Patent Owner Citrix Systems, Inc. subsequently filed a Patent Owner Response (Paper 20, “PO Resp.”), Petitioner filed a Reply (Paper 23, “Reply”), and Patent Owner filed a Sur-Reply (Paper 29, “Sur-Reply”). An oral hearing was held on August 25, 2020, and a transcript of the hearing is included in the record (Paper 37, “Tr.”).

We have jurisdiction under 35 U.S.C. § 6. This Final Written Decision is issued pursuant to 35 U.S.C. § 318(a). For the reasons that follow, we determine that Petitioner has not shown by a preponderance of the evidence that claims 1, 5, 7–9, 12, 16, 18, 19, 23, 24, 29, and 30 are unpatentable.¹

B. Related Matters

The parties indicate that the ’843 patent is the subject of the following district court case: *Citrix Systems, Inc. v. Workspot, Inc.*, Case No. 18-588-GMS (D. Del.). *See* Pet. 1; Paper 4, 2. Petitioner filed a petition challenging another patent also asserted in the district court case, which was denied. *See Workspot, Inc. v. Citrix Sys., Inc.*, IPR2019-01001, Paper 15 (PTAB Nov. 19, 2019).

¹ We previously granted Petitioner’s motion to seal portions of Exhibits 1011 and 1012 in this proceeding. Paper 14. We do not refer to any sealed material in this Decision.

C. The '843 Patent

The '843 patent discloses methods and systems for “providing access to a graphical user interface (GUI) application using web services.” Ex. 1001, col. 2, ll. 26–28. “[A] web portal can integrate numerous services from other web sites, such as travel information and search capabilities,” called “web services,” which “enables the web portal to offer more services to its users.” *Id.* at col. 1, ll. 12–21. The '843 patent describes a prior art arrangement where a company publishes its web services using a web service directory on a content server and a client can access one of the web services through a programming interface. *Id.* at col. 1, ll. 42–49, 63–66. The prior art arrangement had various disadvantages, such as the need for “client-side applications (having client-side application logic) to be developed by the supplier of the web service to ensure that the client . . . can properly execute the web service through its interface.” *Id.* at col. 2, ll. 4–9. According to the '843 patent, there was “a need to access web services in a more user-friendly manner, such as by providing greater interactivity between the client . . . and the web service and less dependence on suppliers of web services for applications to correctly execute with the web service.” *Id.* at col. 2, ll. 18–22.

Figure 2 of the '843 patent, depicting an embodiment of the invention, is reproduced below.

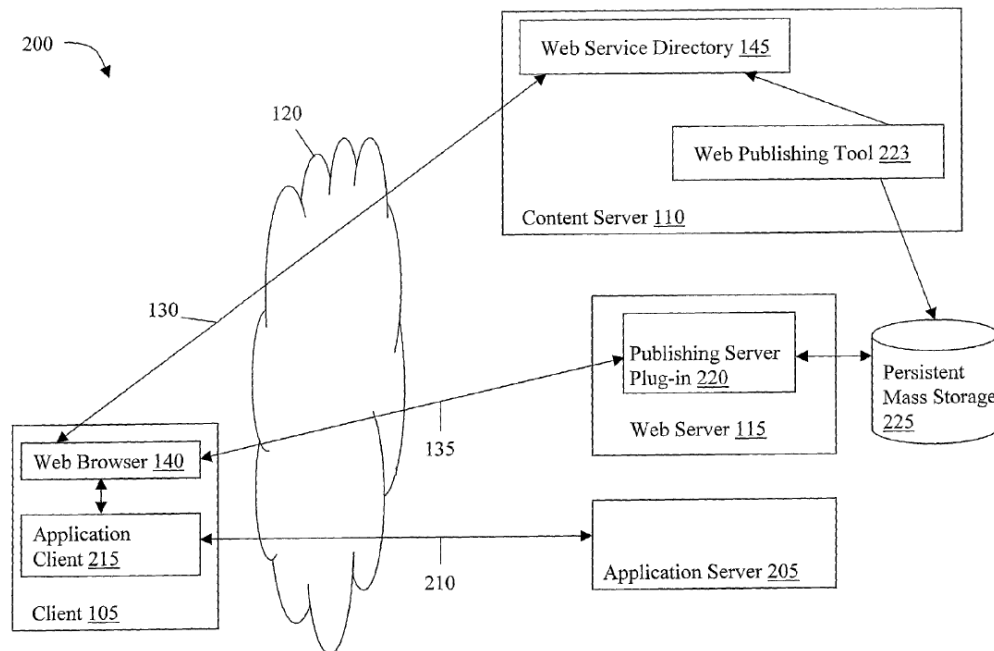


FIG. 2

Figure 2 depicts computer system 200 comprising client 105, content server 110, web server 115, and application server 205. *Id.* at col. 3, ll. 59–67.

Client 105 includes web browser 140 and application client 215, which may be a GUI application, such as “an Independent Computing Architecture (ICA) client, developed by Citrix Systems, Inc.” *Id.* at col. 4, ll. 33–39. The '843 patent notes that “[a]lthough illustrated with three servers 110, 115, 205 [in Figure 2 above], any number of servers can be used to implement the functions described In one embodiment, two or more of the servers 110, 115, 205 are aggregated together and provided as a single physical machine.” *Id.* at col. 4, ll. 1–5.

The '843 patent describes the steps involved in first publishing a web service using web publishing tool 223 and web service directory 145 on content server 110, including storing an entry for a “service access point” (SAP), which is “a unique address for an application” (e.g., a Uniform

Resource Locator (URL)). *Id.* at col. 5, ll. 11–21, col. 6, l. 46–col. 7, l. 42, Fig. 3 (steps 300–320). Client 105 subsequently searches web service directory 145 for a particular web service. *Id.* at col. 4, ll. 49–50, col. 7, ll. 43–53, Fig. 3 (steps 322 and 325). Content server 110 responds by transmitting the SAP for the requested web service, and client 105, using the received SAP, transmits a request for the GUI application to web server 115. *Id.* at col. 7, l. 54–col. 8, l. 3, Fig. 3 (steps 330–345).

Publishing server plug-in 220 on web server 115 determines the SAP entry for the request and transmits a document containing information for the GUI application (e.g., the Hypertext Transfer Protocol (HTTP) address of application server 205) to client 105. *Id.* at col. 8, ll. 4–27, Fig. 3 (steps 350–355). If application client 215 is already installed on client 105, client 105 launches application client 215 to view the document received from web server 115. *Id.* at col. 8, ll. 32–36, Fig. 3 (step 360). Otherwise, client 105 first “communicates with the application server 205 to download and install the application client 215.” *Id.* at col. 8, ll. 29–32. “Once the application client 215 is installed and executing on the client 105, the application server [205] then executes the application and displays the application on the application client 215 (step 365).” *Id.* at col. 8, ll. 37–40. Application client 215 provides “service-based access to published applications, desktops, desktop documents, and any other application that is supported” (e.g., word processing applications like Microsoft Word). *Id.* at col. 8, l. 63–col. 9, l. 7.

According to the ’843 patent, providing access to a remote application in this manner is advantageous because it allows for “a more power interface than a web [user interface (UI)] and a more user-friendly environment” and avoids the need for “client-side application logic to properly execute on the client.” *Id.* at col. 2, ll. 26–36.

D. Illustrative Claims

Claims 1, 9, 12, and 19 of the '843 patent are independent. Claims 1 and 19 recite:

1. A method of providing access to a remote application to an application client or end user application comprising:

(a) receiving, by a client, from a web service directory on a content server, a service access point associated with a first application, the service access point identifying a web server;

(b) receiving, by the client, from the web server identified by the service access point, address information associated with the first application;

(c) launching, by the client, a second application, the second application communicating via a presentation layer protocol with an application server identified by the received address information; and

(d) launching, by the application server, the first application and returning information to the second application via the presentation layer protocol.

19. A method of providing access to a remote application to an application client or end user application comprising:

a) receiving, by a content server, from a client, a request to access a service access point associated with a first application;

b) identifying, by the content server, that the requested service access point can be used with an application client;

c) requesting, by the client, from a web server, address information associated with the first application identified by the service access point;

d) converting, by the web server, the requested address information into a file, the format of the file associated with the application client;

e) transmitting, by the web server, the file including the converted address information to the client;

(f) launching by the client a second application, the second application communicating via a presentation layer protocol with an application server identified by the converted address information; and

(g) launching by the application server the first application and returning information to the second application via the presentation layer protocol.

E. Evidence

The pending grounds of unpatentability in the instant *inter partes* review are based on the following prior art:

U.S. Patent No. 6,836,786 B1, filed Apr. 30, 2001, issued Dec. 28, 2004 (Ex. 1005, “Zoller”);

International Patent Application Publication No. WO 00/39678, published July 6, 2000 (Ex. 1004, “Duursma”); and

Paul Stansel et al., *Configuring Citrix MetaFrame for Windows 2000 Terminal Services* (Melissa Craft ed., 2000) (Ex. 1003, “Craft”).²

Petitioner filed declarations from D. Ethan Trooskin-Zoller³ (Ex. 1016) and Laura A. Whitbeck (Ex. 1014) with its Petition and a second declaration from Ms. Whitbeck (Ex. 1029) with its Reply. Patent Owner filed a declaration from Edwin A. Hernandez-Mondragon, Ph.D. (Ex. 2002), with its Preliminary Response and a second declaration from Dr. Hernandez (Ex. 2004) with its Response.

² When citing Craft, we refer to the original page numbers of the reference, consistent with Petitioner’s usage in the Petition.

³ Mr. Zoller is the first named inventor of the Zoller reference. *See* Ex. 1005, code (75); Ex. 1016 ¶ 88.

F. Asserted Grounds

The instant *inter partes* review involves the following grounds of unpatentability:

Claims Challenged	35 U.S.C. §	References/Basis
1, 5, 7–9, 12, 16, 18, 19, 23, 24, 29, 30	103(a) ⁴	Craft, Duursma
1, 5, 7–9, 12, 16, 18, 19, 23, 24, 29, 30	103(a)	Zoller, Craft, Duursma

II. ANALYSIS

A. Level of Ordinary Skill in the Art

In determining the level of ordinary skill in the art for a challenged patent, we look to “1) the types of problems encountered in the art; 2) the prior art solutions to those problems; 3) the rapidity with which innovations are made; 4) the sophistication of the technology; and 5) the educational level of active workers in the field.” *Ruiz v. A.B. Chance Co.*, 234 F.3d 654, 666–667 (Fed. Cir. 2000). “Not all such factors may be present in every case, and one or more of them may predominate.” *Id.*

In the Decision on Institution, based on the parties’ arguments and record at the time, we preliminarily found that a person of ordinary skill in the art at the time of the ’843 patent (March 2002) would have had “a bachelor’s degree in computer science (or equivalent education) and

⁴ The Leahy-Smith America Invents Act, Pub. L. No. 112-29, 125 Stat. 284 (2011) (“AIA”), amended 35 U.S.C. §§ 102 and 103. Because the challenged claims of the ’843 patent have an effective filing date before the effective date of the applicable AIA amendments, we refer to the pre-AIA versions of 35 U.S.C. §§ 102 and 103.

3–4 years of experience working with remote-accessed computer systems (or equivalent work experience).” Dec. on Inst. 8–9; *see* Pet. 12; Paper 10, 22–23; Ex. 1016 ¶ 63; Ex. 2002 ¶¶ 34–37. Patent Owner agrees with that assessment. PO Resp. 24–25. Petitioner disagrees “to the extent that [the] definition requires a formal computer science-related degree and excludes equivalent education or experience.” Reply 5. Petitioner instead proposes that a person of ordinary skill in the art would have had “at least a bachelor’s degree in computer science and 3–4 years of experience working in the field of remote-accessed computer systems, *or* an equivalent combination of education and/or experience in related fields.” Pet. 12 (emphasis added). Patent Owner responds that an ordinarily skilled artisan would have had a “formal” education “to understand the theory required to design and build a remote-accessed computer system” in addition to the required work experience. Sur-Reply 6–7; *see* PO Resp. 25–27.

Based on the full record developed during trial, including our review of the ’843 patent and the types of problems and prior art solutions described in the ’843 patent, we adopt the preliminary definition of the level of ordinary skill in the art, with one clarification. The definition includes both an education and a work experience component. The education component is satisfied by a bachelor’s degree in computer science *or equivalent education*. We see no reason why such an education must have been acquired in a “formal” setting as Patent Owner suggests—as opposed to, for example, via on-the-job training or work experiences that would be the equivalent of the education one would receive by obtaining a bachelor’s degree in computer science. We find that a person of ordinary skill in the art would have had a bachelor’s degree in computer science (or equivalent education) and 3–4 years of experience working with remote-accessed

computer systems (or equivalent work experience), and apply that level of skill for purposes of this Decision.⁵

B. Claim Interpretation

We interpret the claims of the '843 patent

using the same claim construction standard that would be used to construe the [claims] in a civil action under 35 U.S.C. 282(b), including construing the [claims] in accordance with the ordinary and customary meaning of such [claims] as understood by one of ordinary skill in the art and the prosecution history pertaining to the patent.

See Changes to the Claim Construction Standard for Interpreting Claims in Trial Proceedings Before the Patent Trial and Appeal Board, 83 Fed. Reg. 51,340 (Oct. 11, 2018) (amending 37 C.F.R. § 42.100(b) effective November 13, 2018) (now codified at 37 C.F.R. § 42.100(b) (2019)).

“In determining the meaning of [a] disputed claim limitation, we look principally to the intrinsic evidence of record, examining the claim language itself, the written description, and the prosecution history, if in evidence.”

DePuy Spine, Inc. v. Medtronic Sofamor Danek, Inc., 469 F.3d 1005, 1014

⁵ We note that the parties disagree as to whether their respective declarants, Mr. Zoller and Dr. Hernandez, qualified as persons of ordinary skill in the art at the time of the '843 patent. *See* PO Resp. 25–27; Reply 5–7; Sur-Reply 6–8. We have reviewed the witnesses' respective backgrounds and are persuaded that they were persons of at least ordinary skill in the art at the relevant time. *See* Ex. 1016 ¶¶ 5–24, pp. 76–79; Ex. 2004 ¶¶ 6–16, App'x A. Also, the difference in their levels of experience with respect to coding and software development is not so great as to require discounting Mr. Zoller's testimony as Patent Owner contends. *See* PO Resp. 25–27. Nevertheless, we credit Dr. Hernandez's testimony over that of Mr. Zoller on various points, based on the explanations he provides and the support he cites regarding the asserted prior art, for the reasons explained herein. *See infra* Sections II.D, II.E.

(Fed. Cir. 2006). Claim terms are given their plain and ordinary meaning as would be understood by a person of ordinary skill in the art at the time of the invention and in the context of the entire patent disclosure. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1313 (Fed. Cir. 2005) (en banc). “There are only two exceptions to this general rule: 1) when a patentee sets out a definition and acts as his own lexicographer, or 2) when the patentee disavows the full scope of a claim term either in the specification or during prosecution.” *Thorner v. Sony Comput. Entm’t Am. LLC*, 669 F.3d 1362, 1365 (Fed. Cir. 2012).

1. “Service Access Point”

In the Decision on Institution, based on the parties’ arguments and record at the time, we preliminarily interpreted the claim term “service access point” to mean “a unique address for an application.” Dec. on Inst. 10–11 (citing Pet. 13–14; Paper 10, 24–27). The parties agree with that interpretation. See PO Resp. 12; Reply 1. Based on the full record developed during trial, we do not perceive any reason or evidence that compels deviation from the preliminary interpretation, and adopt the previous analysis for purposes of this Decision.

2. “Web Service Directory”

We also preliminarily interpreted the term “web service directory” in the Decision on Institution to mean “a directory of information for web services.” Dec. on Inst. 11–13. Patent Owner argues that the term should be given its plain and ordinary meaning or, alternatively, interpreted to mean a “searchable directory of information for web services,” citing as support various portions of the Specification. PO Resp. 12–14 (citing Ex. 1001,

col. 1, ll. 46–62, col. 2, ll. 47–49, col. 4, l. 66–col. 5, l. 2, col. 7, ll. 43–53; Ex. 2004 ¶¶ 52–57); Sur-Reply 5–6. Petitioner disagrees that the “web service directory” of the claims must be “searchable.” Reply 1–4. We agree with Petitioner.

“Web service directory” is recited in independent claims 1, 9, and 12, and dependent claims 2, 20, 22, and 23. Claim 1, for example, recites “receiving, by a client, from a web service directory on a content server, a service access point associated with a first application, the service access point identifying a web server.” There is no reference in the challenged claims themselves to the “web service directory” being searchable. Indeed, the only reference to searching in any of the claims of the ’843 patent is in claim 2, which recites “transmitting a query to the web service directory to search for the first application prior to step (a).”⁶ Claim 2, however, depends from claim 1 and thus does not provide a basis to limit the parent claim to a “searchable” web service directory.

The Specification does not define the term “web service directory” as, or state that a “web service directory” must be, capable of being searched. Rather, it describes searching a web service directory only in the context of exemplary embodiments. The computer system shown in Figure 2 is “an embodiment” of the invention in which “client 105 searches the web service directory 145 for a web service.” Ex. 1001, col. 3, ll. 52–53, 59–62, col. 4, ll. 49–50. “In one embodiment, the search is a manual search. Alternatively, the search is an automatic search. The web service directory 145 may also provide a service based view, such as white and yellow pages,

⁶ Claims 12 and 22 also recite a client sending a “query” to a web service directory, but do not recite that the query is to “search” for a first application.

to search for web services in the web service directory.” *Id.* at col. 4, ll. 50–54. Figure 3 likewise shows the sequence of steps for “an embodiment” of the invention where client 105 “queries a service name from the web service directory 145” in step 322 (similar to the step recited in dependent claim 2) and “content server 110 receives the query . . . and finds the requested service name in the web service directory 145” in step 325. *Id.* at col. 3, ll. 54–55, col. 7, ll. 43–46. These are only exemplary embodiments and do not support Patent Owner’s argument that a “web service directory” must be “searchable” in all cases. *See id.* at col. 10, ll. 17–19 (“the invention should not be limited to certain embodiments”); *Ancora Techs., Inc. v. Apple, Inc.*, 744 F.3d 732, 735 (Fed. Cir. 2014) (concluding that descriptions in the specification of “preferred” and “example” embodiments were “not sufficient to redefine [a] term . . . to have anything other than its plain and ordinary meaning” (citation omitted)). Indeed, Patent Owner’s arguments themselves confirm that the cited embodiments of a web service directory are non-definitional and merely point out permissible examples. *See* PO Resp. 13 (“[w]eb service directories *may* include a table listing supported web services and documentation” and “a web service directory *can* allow a device or user to search for a published web service” (emphases added)).

The Specification also discloses embodiments of a web service directory in which service access points may be accessed by “browsing” or “navigating” rather than submitting a search query. *See, e.g.*, Ex. 1001, col. 4, ll. 54–57 (“In another embodiment, the web service directory 145 supports a hierarchical browsing based on a structured service name and service kind for GUI applications.”), col. 7, ll. 46–49 (“In another embodiment, the user of the client 105 navigates the web service directory

145 until locating a particular service name that the user of the client 105 was attempting to find.”), 50–53 (a client “can query *or* navigate the web service directory 145 to discover published web services” (emphasis added)). This further supports Petitioner’s position that a person of ordinary skill in the art would have understood the term “web service directory” to not require search capability.

Finally, we note that our interpretation is consistent with that of the district court in the related district court case.⁷ *See* Ex. 2013, 4–5.

Based on the full record developed during trial, we do not perceive any reason or evidence that compels deviation from our preliminary interpretation, adopt the previous analysis for purposes of this Decision, and interpret “web service directory” to mean “a directory of information for web services.”

3. “Content Server” and “Web Server”

We did not preliminarily interpret the terms “content server” and “web server” in independent claims 1, 9, 12, and 19 in the Decision on Institution. We noted, though, the parties’ agreement that “the content server and the web server may reside on the same physical machine.” Dec. on Inst. 36 (quoting Paper 10, 30). That reading of the claims is based on one paragraph of the Specification, relied upon by Petitioner, stating that

⁷ The district court also construed claim 1 of the ’843 patent to not require that steps (c) and (d) be performed in order, and noted Patent Owner’s acknowledgement that steps (a) and (b) must be performed in order. Ex. 2013, 28–30 & n.5. We need not resolve these issues, given our determination that Petitioner has not met its burden to show that certain limitations of claim 1 are taught by the prior art. *See infra* Sections II.D.3, II.E.2.

“[a]lthough illustrated with three servers 110, 115, 205 [in Figure 2], any number of servers can be used to implement the functions described [in the Specification]. In one embodiment, two or more of the servers 110, 115, 205 are aggregated together and provided as a single physical machine.” Ex. 1001, col. 4, ll. 1–5; *see* Pet. 15–16.

In their papers filed during trial, the parties reiterate their agreement that the “content server” and “web server” may reside on the same physical machine, and also agree that the recited servers “must still be two distinct components, even if residing on the same physical machine,” because they can be implemented in software. *See* PO Resp. 14–15; Reply 4; *see also* Ex. 2007, 8 (Petitioner arguing to the district court that “critically, the context of claim 1 and the patent specification confirm that the same component cannot meet both ‘web service directory on a content server’ and the ‘web server’ limitations”); Ex. 2008, 9 (Petitioner’s proposed interpretation to the district court that the recited servers be “distinct”); Tr. 27:13–22 (Petitioner noting that “in the district court, the parties are in agreement that the web server and the content server need to be distinct”). We agree that the “content server” and “web server” must be distinct components.

“Where a claim lists elements separately, the clear implication of the claim language is that those elements are distinct component[s] of the patented invention.” *Becton, Dickinson & Co. v. Tyco Healthcare Group, LP*, 616 F.3d 1249, 1254 (Fed. Cir. 2010) (citation and quotation marks omitted). Independent claims 1, 9, 12, and 19 each recite a “content server” and “web server” performing various functions. Claim 1, for example, recites “receiving, by a client, from a web service directory on a content server, a service access point associated with a first application, the service

access point identifying a web server,” and “receiving, by the client, from the web server identified by the service access point, address information associated with the first application.” The client thus communicates with both servers, receiving certain information *from* a web service directory on a content server and other information *from* a web server. Moreover, the service access point transmitted to the client in the first step is what *identifies* the web server to the client, allowing the client to communicate with the web server in the second step.⁸ *See* Tr. 12:12–17 (Petitioner acknowledging that “the function of the service access point is to identify the web server, so that the web server can then create the connection, the application, to the client”). Claims 9, 12, and 19 recite similar limitations pertaining to information transmitted “to” and “from” the client, content server, and web server, with the service access point “identifying” the web server in claims 9 and 12.

The Specification and prosecution history demonstrate further that the terms “content server” and “web server” are used to identify distinct components. The Specification describes exemplary content server 110 and web server 115 as having different roles communicating information to and from client 105. *See* Ex. 1001, col. 7, l. 26–col. 8, l. 29, Fig. 3. The Specification also defines a service access point as “a *unique* address for an application.” *Id.* at col. 5, ll. 11–12 (emphasis added). The service access point uniquely identifies the web server—as opposed to a different

⁸ Petitioner acknowledged this purpose behind the recited identification in the related district court case. *See* Ex. 2007, 8 (arguing that the first step “would have no purpose if ‘web service directory on a content server’ and the ‘web server’ were the same thing—the ‘web service directory on a content server’ would merely be identifying itself”).

component, such as the content server that provided it—so that the client may communicate with the web server and obtain the necessary information from it (i.e., address information identifying an application server) after receiving the service access point. *See, e.g., id.* at col. 2, l. 37–col. 3, l. 10, col. 5, ll. 16–26.

During prosecution of the '843 patent, the applicant attempted to distinguish certain prior art by arguing that the claimed arrangement provides “a level of indirection” with the “the client first contacting a content server providing a web service directory and then . . . contacting a web server from which the client retrieves address information of an application server which the client then contacts,” unlike the prior art where the client “receives a response *without* having to contact each of the different web servers.” Ex. 1002, 124–127; *see also id.* at 123–124 (applicant arguing that “[t]he service access point *directs* a client from a web service directory to a web server, which then directs the client to an application server” (emphasis added)); Tr. 6:19–24 (Petitioner acknowledging that “the indirection that occurs between the client and the content server, web server, and application server” is “[a] key aspect of the invention”). An understanding of “content server” and “web server” as encompassing the same component would be contrary to this allegedly important point of distinction for the claimed invention because the client’s communications would be directed to the same component and, thus, would eliminate the need for any “level of indirection.”

Based on the full record developed during trial, we interpret the terms “content server” and “web server” in independent claims 1, 9, 12, and 19 to be distinct components (even if provided on a single physical machine). Accordingly, to prove that the challenged claims are unpatentable, Petitioner

must establish that the relied upon prior art teaches or suggests a “content server” and “web server” as distinct components, regardless of whether those servers are on a single or multiple physical machines. No further interpretation of “content server” and “web server,” or any other term, is necessary to resolve the parties’ disputes over the asserted grounds of unpatentability in this proceeding. *See Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co.*, 868 F.3d 1013, 1017 (Fed. Cir. 2017) (“Because we need only construe terms ‘that are in controversy, and only to the extent necessary to resolve the controversy,’ we need not construe [a particular claim limitation] where the construction is not ‘material to the . . . dispute.’” (citations omitted)).

C. Legal Standards

A claim is unpatentable for obviousness if, to one of ordinary skill in the pertinent art, “the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made.” *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007) (quoting 35 U.S.C. § 103(a)). The question of obviousness is resolved on the basis of underlying factual determinations, including “the scope and content of the prior art”; “differences between the prior art and the claims at issue”; and “the level of ordinary skill in the pertinent art.”⁹ *Graham v. John Deere Co.*, 383 U.S. 1,

⁹ Additionally, secondary considerations, such as “commercial success, long felt but unsolved needs, failure of others, etc., might be utilized to give light to the circumstances surrounding the origin of the subject matter sought to be patented. As indicia of obviousness or nonobviousness, these inquiries may have relevancy.” *Graham*, 383 U.S. at 17–18. Patent Owner has not

17–18 (1966). When conducting an obviousness analysis, we consider a prior art reference “not only for what it expressly teaches, but also for what it fairly suggests.” *Bradium Techs. LLC v. Iancu*, 923 F.3d 1032, 1049 (Fed. Cir. 2019) (citation omitted).

A patent claim “is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art.” *KSR*, 550 U.S. at 418. An obviousness determination requires finding “both ‘that a skilled artisan would have been motivated to combine the teachings of the prior art references to achieve the claimed invention, and that the skilled artisan would have had a reasonable expectation of success in doing so.’” *Intelligent Bio-Sys., Inc. v. Illumina Cambridge Ltd.*, 821 F.3d 1359, 1367–68 (Fed. Cir. 2016) (citation omitted); *see KSR*, 550 U.S. at 418 (for an obviousness analysis, “it can be important to identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does”). “Although the *KSR* test is flexible, the Board ‘must still be careful not to allow hindsight reconstruction of references . . . without any explanation as to *how* or *why* the references would be combined to produce the claimed invention.’” *TriVascular, Inc. v. Samuels*, 812 F.3d 1056, 1066 (Fed. Cir. 2016) (citation omitted). Further, an assertion of obviousness “cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.” *KSR*, 550 U.S. at 418 (quoting *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006)); *accord In re NuVasive, Inc.*, 842 F.3d

presented any evidence of secondary considerations of nonobviousness in this proceeding.

1376, 1383 (Fed. Cir. 2016) (stating that “conclusory statements” amount to an “insufficient articulation[] of motivation to combine”; “instead, the finding must be supported by a ‘reasoned explanation’” (citation omitted)); *In re Magnum Oil Tools Int’l, Ltd.*, 829 F.3d 1364, 1380 (Fed. Cir. 2016) (“To satisfy its burden of proving obviousness, a petitioner cannot employ mere conclusory statements. The petitioner must instead articulate specific reasoning, based on evidence of record, to support the legal conclusion of obviousness.”).

D. Obviousness Ground Based on Craft and Duursma

1. Craft

Craft is a book describing Windows 2000 Terminal Services, which allows administrators to “distribute a multiuser environment to fat- and thin-client machines,” and Citrix MetaFrame, an extension of Terminal Services. Ex. 1003, 21, 37. “[T]he two packages allow remote users to connect to a server, open a virtual desktop, and perform remote control computing without the necessity of a local PC. The server handles all applications processing and sends only screen updates to the client.” *Id.* at 17. Craft also describes NFuse, an add-on to Citrix MetaFrame that “allows organizations to integrate and publish interactive applications into any standard Web browser.” *Id.* at 303, 442. “NFuse includes both a Citrix Server component and a Web server component, as well as a Citrix ICA client component to deliver applications in thin-client fashion through Web browsers.” *Id.* at 442. Specifically, NFuse is “installed on one of the Citrix servers in the farm that houses the applications being served, and the NFuse extensions must be installed on the Web server that will present the applications.” *Id.* at 443. Publishing an application using Citrix MetaFrame

causes two files to be created and stored on the Web server:

(1) a “[HyperText Markup Language (HTML)] Web page file that links to the application,” and (2) an ICA file that “contains information about the application server.” *Id.* at 433, 435.

Figure 12.3 of Craft is reproduced below.

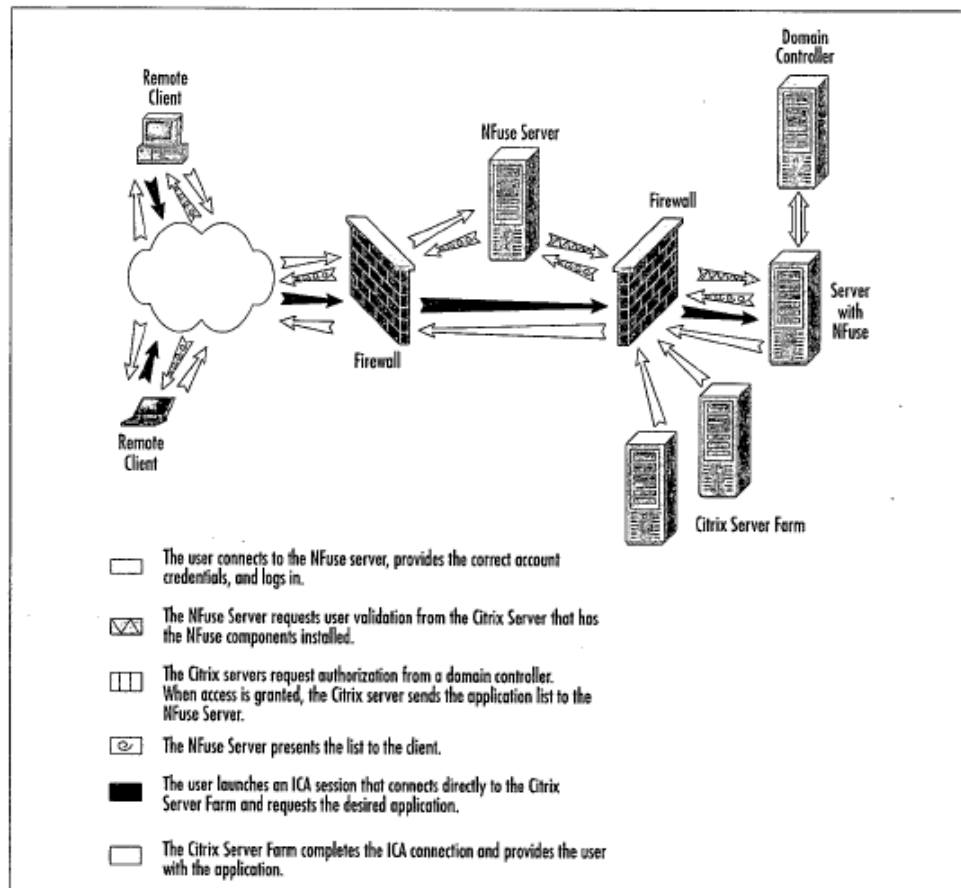


Figure 12.3 depicts “[t]he flow of access to applications in the Citrix Server Farm through NFuse.” *Id.* at 433. The Remote Client sends authentication information entered by the user to the NFuse Server (i.e., a web server), which passes the information to the Server with NFuse for authentication. *Id.* at 454. After authentication, the Server with NFuse collects and sends “information about the applications for that specific user” to the NFuse Server. *Id.* at 454–55. Craft states that NFuse includes “[a] Web interface to

Program Neighborhood for simplified application access.” *Id.* at 443–44.
“Program Neighborhood provides a single sign-on for all published applications a user has rights to in [the] Citrix Server Farm.” *Id.* at 45. The NFuse Server “pastes [the] application information into a template .ICA file, thereby creating links in the Web interface of the client to an array of .ICA files” stored on the NFuse Server, and provides the links to the Remote Client. *Id.* at 455. The links may appear as icons. *Id.* at 450, 455.
“By clicking on an icon in the Web browser, the client downloads the corresponding .ICA file and starts the local ICA Client.” *Id.* at 455. Then, “[t]he ICA Client uses the given information to open a connection to the Citrix Server serving up that particular application.” *Id.* “Once the user gets the .ICA file, the [NFuse Server] has done its job and is no longer needed to make a connection.” *Id.*

2. *Duursma*

Duursma discloses “a method for informing a client system of application programs installed at server systems that are available to the client system for execution.” Ex. 1004, p. 1, ll. 6–8. As described in Duursma, “[t]hese available application programs comprise the ‘program neighborhood’ of the user. A system for determining a program neighborhood for a client node includes an application program . . . (referred to as the ‘Program Neighborhood’ application), memory for storing components of the application program, and a processor for executing the application program.” *Id.* at p. 10, ll. 11–18. Duursma describes a server providing information about available application programs to the client after it is authenticated. *Id.* at p. 12, l. 1–2, p. 19, ll. 3–18. A user can click on an icon “displayed in the Program Neighborhood web page,” which may

be “an encoded URL that specifies . . . the location of the application (i.e., on which servers it is hosted or, alternatively, the address of a master server).” *Id.* at p. 21, ll. 19–24. The client then “establishes a connection . . . with the server identified as hosting the requested application,” which may be via the ICA protocol. *Id.* at p. 22, ll. 3–7.

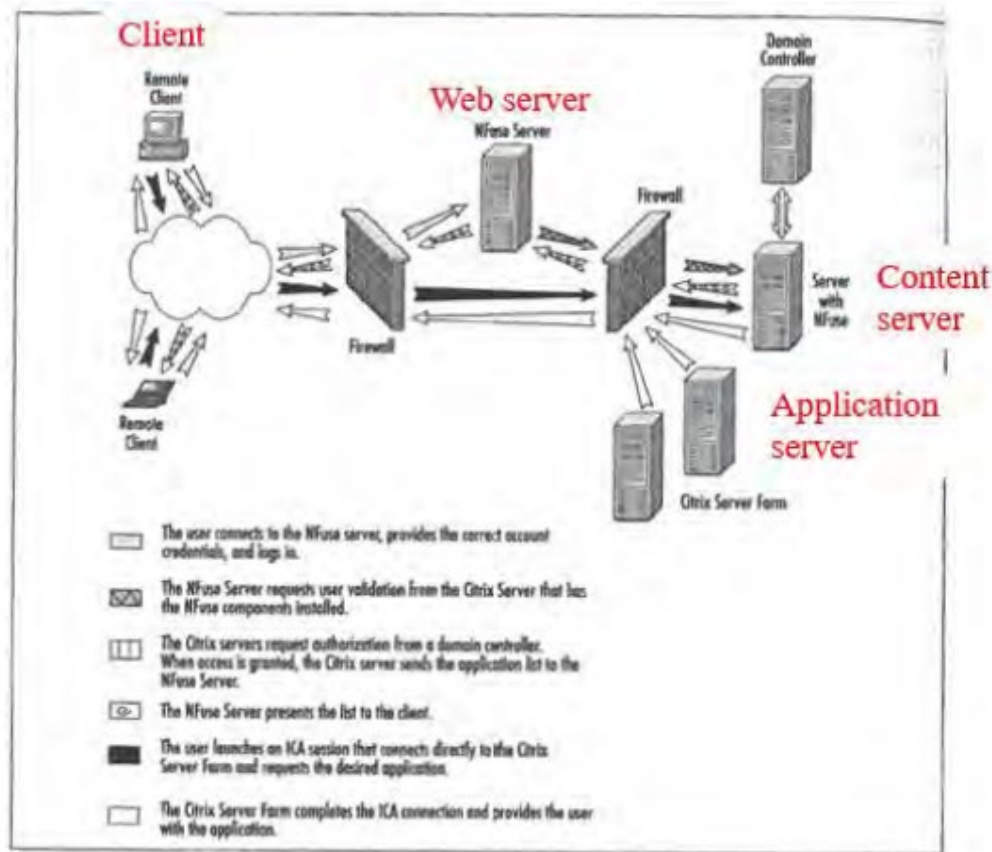
3. *Claim 1*

Petitioner argues that claim 1 is unpatentable over Craft and Duursma under 35 U.S.C. § 103(a), relying on the testimony of Mr. Zoller as support.¹⁰ Pet. 21–32 (citing Ex. 1016); Reply 21–27. Patent Owner makes various arguments in response, relying on the testimony of Dr. Hernandez. PO Resp. 57–62, 65–66 (citing Ex. 2004); Sur-Reply 25–28.

Petitioner asserts that “Craft, either alone or in combination with Durrsma,” teaches step (a) of claim 1, and Craft teaches steps (b) through (d). Pet. 21–32. Petitioner contends that Craft teaches a “client” (i.e., Remote Client shown in Figure 12.3), “web server” (i.e., NFuse Server), “content server” (i.e., Server with NFuse), and “application server” (i.e., a Citrix Server in the Citrix Server Farm). *Id.* at 21–23.

¹⁰ In the Decision on Institution, we determined that Petitioner had not established a reasonable likelihood of prevailing on its asserted ground based on Craft and Duursma. Dec. on Inst. 13–26. We now assess Petitioner’s asserted ground based on a full trial record.

Petitioner provides an annotated version of Figure 12.3 of Craft reproduced below (*id.* at 22).



The annotated version of Figure 12.3 depicts the alleged “client,” “web server,” “content server,” and “application server” in Craft. Petitioner argues that (a) the Remote Client receives a “service access point” (i.e., application icon, which is a hyperlink according to Petitioner) associated with a “first application” (i.e., application running on the Citrix Server) and identifying the “web server” (i.e., NFuse Server); (b) the Remote Client receives “address information” (i.e., information in the ICA file) associated with the first application; (c) the Remote Client launches a “second application” (i.e., ICA Client), which communicates via a “presentation layer protocol” (i.e., ICA protocol) with the “application server” (i.e., Citrix Server) identified by the address information; and (d) the Citrix Server then

launches the first application and returns information to the second application via the presentation layer protocol. *Id.* at 23–32.

We focus on step (a) of claim 1, as it is dispositive. Step (a) recites “receiving, by a client, from a web service directory on a content server, a service access point associated with a first application, the service access point identifying a web server.” Petitioner asserts that Craft teaches a content server that has a web service directory, citing Craft’s discussion of sending a set of icons to the user and Craft’s description of Program Neighborhood. *Id.* at 23–24 (citing Ex. 1003, 45, 52, 443–444, 455, Fig. 12.20; Ex. 1016). Petitioner argues that “Program Neighborhood is a web service directory because it provides service access points.” *Id.* at 24. According to Petitioner, “[t]his is confirmed by Duursma, which describes Citrix’s ‘Program Neighborhood’ in detail,” and a person of ordinary skill in the art would have been motivated to combine the references’ teachings. *Id.* at 25–26 (citing Ex. 1004, p. 10, ll. 20–23, p. 23, ll. 22–23, p. 24, ll. 3–6; Ex. 1016). Petitioner further argues that “each application icon” in Craft constitutes a service access point because each is “a hyperlink that identifies the web server.” *Id.* at 26.

Patent Owner responds that Craft and Duursma do not teach step (a) because the alleged “service access point” (i.e., application icon, which is a hyperlink) in Craft is received from the alleged “web server” (i.e., NFuse Server), not from the alleged “content server” (i.e., Server with NFuse) as required by the claim. PO Resp. 59. Further, the alleged “web service directory” (i.e., Program Neighborhood) only provides to the NFuse Server information identifying applications accessible to the user, not a “service

access point” to a client as required by the claim.¹¹ *Id.* at 59–60. We agree with Patent Owner.

As described in Craft and shown in Figure 12.3 above, Program Neighborhood identifies the applications that the user is permitted to access, the Server with NFuse sends information about those applications to the NFuse Server, and the NFuse Server uses the information to create the ICA files. Ex. 1003, 454–455. The NFuse Server also creates links, presented as icons, and provides them to the Remote Client so that the Remote Client may select one to download the appropriate ICA file and connect to the appropriate Citrix Server. *Id.* at 450, 455. Petitioner identifies an icon in Craft as a “service access point” and Program Neighborhood as a “web service directory.” Pet. 24, 26. Claim 1, however, requires that a service access point be received by the client from a web service directory on a content server. The icon in Craft is created and provided to the client by the NFuse Server (i.e., what Petitioner identifies as the alleged “web server”), *not* by Program Neighborhood (i.e., what Petitioner identifies as the alleged “web service directory” on a “content server”). *See id.* at 22–26 (Petitioner acknowledging that “the Program Neighborhood service [is] on the Citrix Server” rather than the NFuse Server (quoting Ex. 1003, 444)); Ex. 1003, 454–455. Vice versa, the information that Program Neighborhood provides merely identifies the applications that the user can access; it is not a “service access point” (i.e., a unique address for an application). *See* Ex. 1003,

¹¹ Patent Owner argues that Petitioner has not met its burden to prove unpatentability for other reasons as well, including that Petitioner has not provided sufficient evidence that Craft is a prior art printed publication under 35 U.S.C. § 102. PO Resp. 50–56, 65–66; Sur-Reply 20–25, 27–28. We need not resolve these issues, given our determination herein regarding step (a) of claim 1.

454–455 (disclosing that the Citrix Server returns to the IIS Server¹² “information about the applications for that specific user”).

Nor do Petitioner’s arguments regarding Duursma cure the inconsistency. The portions of Duursma cited by Petitioner disclose maintaining a database of information about what applications a user may access and sending links (as icons) to the user. *See* Pet. 25, 27 (citing Ex. 1004, p. 21, l. 19–p. 22, l. 2 (disclosing icons 57, 57', each with “an encoded URL that specifies . . . the location of the application,” transmitted by web server 30 to client node 20 as shown in Figure 3D), p. 23, ll. 22–23 (disclosing application database 48 storing “authorized user and group information for all the public (i.e., published) applications in a server farm or in a group of trusted domains’’)). Similar to Craft, though, in the cited portions of Duursma, the icons are provided to the client by a web server, not by the database, and vice versa, the information that the database provides is not a “service access point” (i.e., a unique address for an application).

Petitioner argues in its Reply that Craft teaches step (a) because “Craft is clear that the icons (SAPs) come from the content server” (i.e., Server with NFuse) and are “passed to the client via the web server” (i.e., NFuse Server). Reply 21–22 (citing Ex. 1016 ¶¶ 101–105). This arrangement teaches step (a) according to Petitioner because nothing in the claim requires the client to “*directly* receive the SAPs from the content server, i.e., without any involvement of the web server,” and a person of ordinary skill in the art

¹² The IIS Server corresponds to the NFuse Server shown in Figure 12.3. *See* Ex. 1003, 433 (“Microsoft’s Internet Information Server (IIS) . . . acts as the Web server”), 454–455.

“would recognize that intermediaries are the norm for communications over the Internet.” *Id.* (citing Ex. 1016 ¶¶ 28–30, 46–47).

We are not persuaded. First, we do not agree that the application icons in Craft are created by the Server with NFuse. The portions of Craft cited by Petitioner and Mr. Zoller merely indicate that information about available applications is “passe[d]” to and “displayed” by the Remote Client. *See* Ex. 1003, 444, 455; Reply 21–22; Ex. 1016 ¶ 101. What is actually sent to the Remote Client, however—and what Petitioner relies on as a “service access point”—is the set of application icons, which is created by the NFuse Server. Specifically, the Server with NFuse sends information about the accessible applications to the NFuse Server. Ex. 1003, 454 (“The Citrix Server (Farm) returns from the master ICA browser all information about the applications for that specific user.”), Fig. 12.3 (“the Citrix server sends the application list to the NFuse Server”). The NFuse Server does not merely provide the information received from the Server with NFuse to the Remote Client. *Id.* at 439, 455. Rather, the NFuse Server creates the application icons, which are hyperlinks that the user can select. *Id.* at 455 (“The IIS Server pastes this application information into a template .ICA file, thereby *creating links* in the Web interface of the client to an array of .ICA files. . . . By clicking on an icon in the Web browser, the client downloads that corresponding .ICA file and starts the local ICA Client.” (emphasis added)); *see* Pet. 26–27 (expressly relying on Craft’s connection sequence involving the IIS Server); Ex. 1016 ¶ 105 (same). Petitioner does not point to, and we do not find, any specific disclosure in Craft that the application icons, acting as hyperlinks, are created by the Server with NFuse (as opposed to the NFuse Server), or even that they exist until the application information is received and the NFuse Server creates them.

Petitioner also argued during the hearing that “the hyperlink behind the icon is really what the service access point is,” and that the hyperlink comes from the Server with NFuse and “just pass[es] through the web server on its way to the client.” Tr. 30:25–32:10. In its Petition, however, Petitioner stated that “Craft teaches that each application icon is a service access point.” Pet. 26. To the extent Petitioner is attempting to disavow any reliance on the application icons in asserting that Craft teaches a “service access point,” that is a new argument that cannot be considered. *See Dell Inc. v. Accelaron, LLC*, 884 F.3d 1364, 1369 (Fed. Cir. 2018) (holding that the Board was not obligated to consider an “untimely argument . . . raised for the first time during oral argument”); Patent Trial and Appeal Board Consolidated Trial Practice Guide (Nov. 2019), 85–86, *available at* <https://www.uspto.gov/TrialPracticeGuideConsolidated> (“Practice Guide”) (“During an oral hearing, a party . . . may only present arguments relied upon in the papers previously submitted.”). It is not merely a clarification of Petitioner’s position, given Petitioner’s clear identification of an application icon as a “service access point” in its Petition. *See Chamberlain Group, Inc. v. One World Techs., Inc.*, 944 F.3d 919, 924–25 (Fed. Cir. 2019) (“Parties are not barred from elaborating on their arguments on issues previously raised.”).

Second, even if the application icons did originate at the Server with NFuse and were passed through the NFuse Server to the Remote Client, we are not persuaded that that process would teach step (a). Claim 1 clearly delineates between what is received “from” the “web service directory on a content server” (i.e., a “service access point identifying a web server”) and what is received “from” the “web server” (i.e., “address information associated with the first application”). Petitioner’s reading is that the

“service access point” can instead be sent to the client from the “web server” (as long as it originated at the “content server” at some earlier time), rendering the distinction between the “content server” and “web server” meaningless. To be clear, we do not read claim 1 as requiring direct communication between the client and the two servers, given that some intermediary would always exist for information communicated over the Internet. *See* Reply 21–22; Ex. 1003, 52–53, Fig. 1.16 (Craft depicting “Internet” between a “Remote User” and a “Web Server”). But when the plain language of the claim recites that certain information is received from a “content server” and other information is received from a “web server,” we do not see how communication from the “web server” satisfies a limitation that expressly requires communication from the “content server.” In other words, we are not persuaded that information can be sent through a “web server” intermediary when the claim requires that it be sent from the “content server,” and vice versa.

We credit the testimony of Dr. Hernandez on step (a), as it explains in detail the deficiencies in Petitioner’s position and is consistent with the references’ disclosures discussed above. *See* Ex. 2004 ¶¶ 90–92, 95.

Based on the full record developed during trial and for the reasons explained above, we are not persuaded by Petitioner’s arguments that Craft and Duursma teach step (a) of claim 1. Petitioner has not proven, by a preponderance of the evidence, that claim 1 would have been obvious based on Craft and Duursma under 35 U.S.C. § 103(a).

4. Claims 5, 7–9, 12, 16, and 18

Similar to claim 1, independent claim 9 recites a client browser “(a) receiving, from a web service directory on a content server, a service

access point associated with the first application, the service access point identifying a web server.” Independent claim 12 recites “b) transmitting, to the client, from the web service directory, a service access point associated with the first application, the service access point identifying a web server.” Petitioner relies on its previous arguments regarding step (a) of claim 1. Pet. 36–37, 40. Based on the full record developed during trial and for the reasons explained above, we are not persuaded that Craft and Duursma teach the recited transmitting of a service access point from a web service directory on a content server to a client. *See supra* Section II.D.3.

We also note an additional deficiency with respect to claim 12. Step (a) of claim 12 recites “sending, by a client, a query to a web service directory on a content server for information associated with a first application.” Petitioner argues that in Craft, the user logs in to the NFuse Server by providing a username and password, and information is then retrieved about the applications available to that user. Pet. 39–40 (citing Ex. 1003, 454; Ex. 1016 ¶ 108). According to Petitioner, “[b]ecause the application information is for ‘that specific user,’ . . . a [person of ordinary skill in the art] would understand login information is sent from the client to the web service directory to determine which applications are authorized.” *Id.* at 43 (quoting Ex. 1003, 454; citing Ex. 1016 ¶ 109); *see* Reply 25–26.

We are not persuaded. First, Petitioner does not explain sufficiently why the Remote Client logging in to the NFuse Server (i.e., what Petitioner identifies as the alleged “web server”) constitutes a query being sent to Program Neighborhood on the Server with NFuse (i.e., what Petitioner identifies as the “web service directory on a content server”). *See* Pet. 21–23, 39–40. Further, it is the NFuse Server that queries the Server with NFuse for application information, not the Remote Client. *See* Ex. 1003,

Fig. 12.3 (“The NFuse Server requests user validation from the Citrix Server that has the NFuse components installed.”). Second, even if logging in to the NFuse Server could qualify, Petitioner does not point to sufficient support to equate logging in with “a query . . . for information associated with a first application,” as recited in claim 12. *See* Pet. 39–40. The cited portion of Craft only states: “Your client Web browser connects to the IIS server at port 80, where it asks for username and password if needed.” Ex. 1003, 454. Thus, Craft discloses a user entering a username and password as a request to log in to the system and be authenticated, rather than “a query . . . for information associated with a first application.” We agree with Dr. Hernandez that “[a]uthentication credentials alone are not a query for anything other than authentication and permission to access a system.” Ex. 2004 ¶ 96; *see* PO Resp. 62–63.

Claims 5, 7, and 8 depend from claim 1, and claims 16 and 18 depend from claim 12. Accordingly, Petitioner has not proven, by a preponderance of the evidence, that claims 5, 7–9, 12, 16, and 18 would have been obvious based on Craft and Duursma under 35 U.S.C. § 103(a).

5. Claims 19, 23, 24, 29, and 30

Petitioner relies on Craft and Duursma as allegedly teaching steps (a) and (b) of independent claim 19, and relies on Craft alone for steps (c) through (g), referring to many of its arguments with respect to claim 1. Pet. 41–48. We focus on steps (a) and (b), each of which is dispositive.

Similar to step (a) of claim 12, step (a) of claim 19 recites “receiving, by a content server, from a client, a request to access a service access point associated with a first application.” Whereas step (a) of claim 12 involves a query to a “web service directory on a content server” for “information

associated with a first application,” step (a) of claim 19 recites a request to a “content server” to “access a service access point associated with a first application.” Petitioner’s arguments for the two limitations are nearly identical. *Compare* Pet. 39–40, *with id.* at 42–43.

We are not persuaded for the same reasons explained above for claim 12. *See supra* Section II.D.4. Petitioner does not explain sufficiently why the Remote Client logging in to the NFuse Server (i.e., what Petitioner identifies as the alleged “web server”) constitutes a request being received from the Remote Client by the Server with NFuse (i.e., what Petitioner identifies as the alleged “content server”), and even if it could, Petitioner does not point to sufficient support to equate logging in with “a request to access a service access point associated with a first application,” as recited in claim 19. *See* Pet. 21–23, 42–43.

Step (b) of claim 19 recites “identifying, by the content server, that the requested service access point can be used with an application client.” Petitioner argues that Craft teaches the limitation in two ways. Pet. 43–46. First, Petitioner contends that the Server with NFuse “identifies which applications the user is authorized to use (and thus, which associated service access points to provide)” because it returns to the NFuse Server information about applications “for that *specific user*.” *Id.* at 43–44 (quoting Ex. 1003, 454; citing Ex. 1016 ¶ 109). This is “confirmed by Duursma,” according to Petitioner, because Duursma teaches Program Neighborhood using user credentials to determine application programs authorized for the user. *Id.* at 44–45. Second, Petitioner relies on Craft’s “Client Auto Update” feature, arguing that when it is enabled, the Server with NFuse “identifies whether the requested service access point can be used with the local ICA Client

(i.e., whether it is up to date).” *Id.* at 45–46 (citing Ex. 1003, 229–232; Ex. 1016 ¶¶ 110–111).

We are not persuaded. With respect to Petitioner’s first argument, Petitioner does not explain sufficiently why determining which applications a user may access (based on the user’s login information) equates with identifying that a requested “service access point” (i.e., application icon, which is a hyperlink) can be “used” with the user’s application client. *See* Reply 26 (arguing, without further explanation, that identifying authorized applications “mean[s] that the corresponding SAPs can be used with an application client”). The Server with NFuse’s determination is based on the login information provided by the user, not any particular capability of an application icon to be used with an application client. Craft lists the following sequence of steps:

The user connects to the NFuse server, provides the correct account credentials, and logs in.

The NFuse Server requests user validation from the Citrix Server that has the NFuse components installed.

The Citrix servers request authorization from a domain controller. When access is granted, the Citrix server sends the application list to the NFuse Server.

Ex. 1003, Fig. 12.3, 444 (“The access attributes assigned to the applications in the Citrix Published Application Manager determine what applications will be displayed to which users/groups.”). We see no indication in Craft, for example, that the list of applications authorized for a particular user is any different depending on what type of application client is being used at the Remote Client. *See, e.g., id.* at 454–455 (disclosing use of only one type of application client, the “local ICA Client”). Moreover, as explained above, the application icons, operating as hyperlinks, are not even created at the

time the Server with NFuse determines which applications a user is permitted to access; they are created by the NFuse Server *after* receiving the application information from the Server with NFuse. *See supra* Section II.D.3. The alleged “content server” (i.e., Server with NFuse) cannot make a determination about a “service access point” that does not yet exist.

Duursma operates similarly to Craft, with the user’s credentials being used to determine a list of authorized applications. *See* Ex. 1004, p. 29, ll. 20–22. Petitioner does not explain sufficiently the connection between that determination and identifying that a requested “service access point” can be “used” with the user’s application client.

With respect to Petitioner’s second argument, Petitioner likewise fails to explain sufficiently why determining whether the user has the latest version of the ICA Client equates with identifying that a requested “service access point” (i.e., application icon, which is a hyperlink) can be “used” with the user’s application client. Craft discloses that “new versions of the MetaFrame client software” are stored “in a central database on the Citrix server (or a network share)” and “[w]hen clients connect to your server, it compares the client version with the version in your database and then automatically downloads the new version to the client if needed and upgrades their installation.” Ex. 1003, 230. Craft does not mention the application icons in connection with the “Client Auto Update” feature, and we see no connection between them. Petitioner and Mr. Zoller state that “if the client does not have the latest ICA Client installed, the older version might not be useable with a service access point,” but point to no specific language in Craft supporting that inference. *See* Pet. 46; Ex. 1016 ¶ 111. Again, Petitioner has not provided sufficient explanation or factual support for why the limited disclosure in Craft teaches the specific identification

recited in step (b). We instead credit the testimony of Dr. Hernandez on these points, as it is consistent with the language of Craft and Duursma. *See* Ex. 2004 ¶¶ 97–101.

Based on the full record developed during trial and for the reasons explained above, we are not persuaded by Petitioner’s arguments that Craft and Duursma teach steps (a) and (b) of claim 19. Petitioner has not proven, by a preponderance of the evidence, that claim 19, or claims 23, 24, 29, and 30, which depend from claim 19, would have been obvious based on Craft and Duursma under 35 U.S.C. § 103(a).

E. Obviousness Ground Based on Zoller, Craft, and Duursma

1. Zoller

Zoller describes a method for establishing a terminal server connection using a web browser where “a user at a client may specify a URL including certain parameters necessary to establish a corresponding terminal server connection.” Ex. 1005, col. 2, ll. 23–25. Zoller discloses:

The standard http request generated by the URL is sent to the web server, which in response generates the complete set of parameters required for the terminal server connection using a script or other program logic. The full set of parameters may include: name of server, screen resolution or aspect ratio, name of application to execute (e.g., Word, SAP), audio (yes/no), login name, password, disk space for temporary storage, etc. The parameters are returned within the structure of a URL address corresponding to a web page having functionality used to facilitate the desired terminal server connection. Thus, the terminal server client software on the client can then use the information and parameters returned to create the selected terminal server connection.

Id. at col. 2, ll. 25–38.

Figure 7 of Zoller is reproduced below.

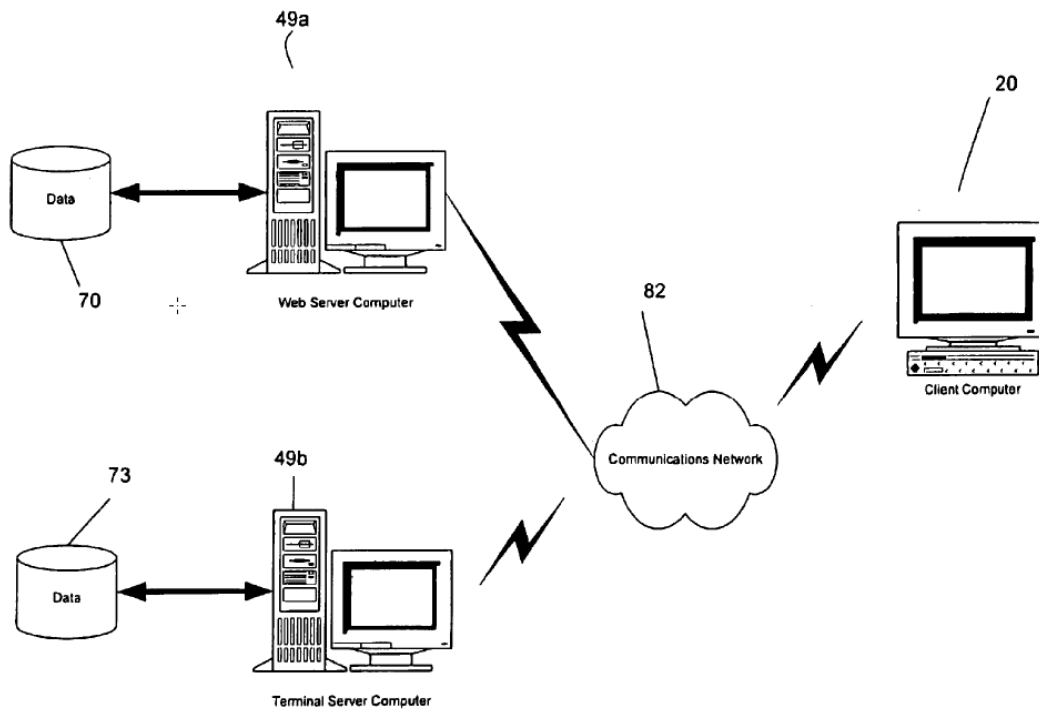


FIGURE 7

Figure 7 depicts client 20 in communication with web server 49a¹³ and terminal server 49b, at different locations, via communications network 82. *Id.* at col. 7, ll. 7–13. Client 20 first generates a request to web server 49a and web server 49a returns a “web page query form” that is the “initial page in a series of forms allowing a user to specify the parameters necessary to establish a particular terminal server connection.” *Id.* at col. 5, ll. 12–37. Specifically, the first web page allows the user to enter a screen size and parameter “identif[y]ing the terminal server having the desired application for which an execution is desired.” *Id.* at col. 5, ll. 43–53, Fig. 3. Upon receiving that information, web server 49a returns a second web page

¹³ When referencing component 49a, we use the nomenclature of Zoller, which refers to the component only as “web server 49a.” *See* Ex. 1005, col. 7, ll. 7–44.

requesting a username and password from the user. *Id.* at col. 5,
l. 54–col. 6, l. 16, Fig. 4.

Upon receiving the username and password, web server 49a returns a third web page “allowing specification of a parameter indicating the application to be executed on the earlier selected terminal server.” *Id.* at col. 6, ll. 17–24. Figure 5 of Zoller is reproduced below.

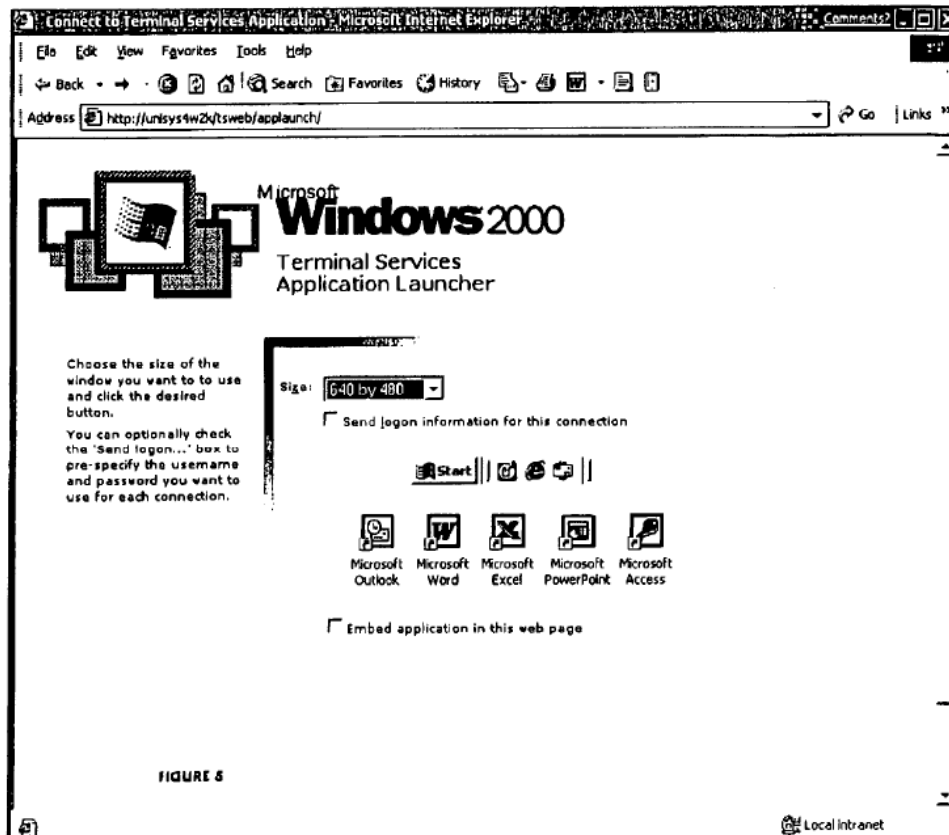


Figure 5 depicts an exemplary “Application Launching query form page allowing a user to specify a particular Microsoft® Corporation software application for execution,” and shows various icons, such as an icon labeled “Microsoft Word.” *Id.* at col. 6, ll. 24–30 (the web page permits “selection of an application button depicted . . . at the client 20”). The user selects a particular application shown on the page, causing “an http request and the application identifier parameter” to be sent to web server 49a. *Id.* at col. 6,

ll. 27–30. Web server 49a uses an Active Server Page (ASP) script to generate additional parameters, including “the directory location on the terminal server having the application selected,” and provides to client 20, via “a web page and associated ActiveX® controls or other embedded program having functionality beyond that of traditional HTML,” a URL having all of the necessary parameters. *Id.* at col. 6, ll. 31–65, col. 7, ll. 28–31.

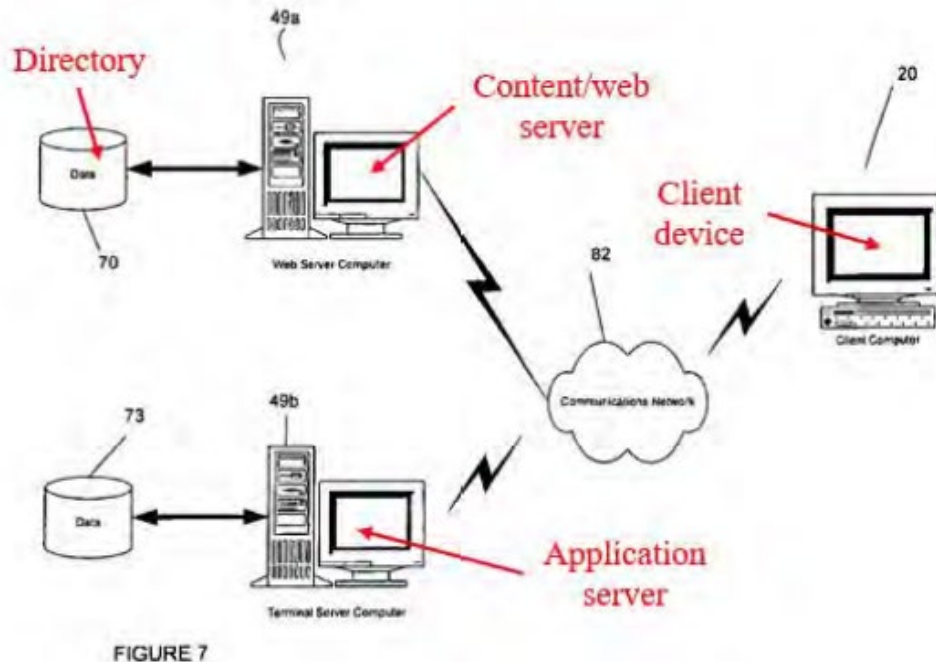
Client 20 then “initiates the terminal serv[er] connection with the terminal server via execution of ActiveX® controls, using whatever proprietary protocols are necessary to do so.” *Id.* at col. 6, l. 66–col. 7, l. 2. “Upon completion of the connection with the terminal server 49b using required parameters, the terminal server executes the selected application” and “returns to the client 20 a display showing execution of the application on the terminal server 49b,” in “a screen window sized according to the user’s earlier specified parameters.” *Id.* at col. 7, ll. 13–33, Fig. 6. Because the URL provided to the user includes all of the parameters necessary to make the terminal server connection, it can be used again later to re-establish a connection. *Id.* at col. 7, ll. 34–47.

2. Claim 1

Petitioner argues that claim 1 is unpatentable over Zoller, Craft, and Duursma under 35 U.S.C. § 103(a), relying on the testimony of Mr. Zoller as support. Pet. 50–63 (citing Ex. 1016); Reply 8–19. Patent Owner makes various arguments in response, relying on the testimony of Dr. Hernandez. PO Resp. 29–49 (citing Ex. 2004); Sur-Reply 9–19.

Petitioner relies on Zoller for the majority of the limitations of claim 1. Pet. 50–63. Petitioner argues that Zoller teaches a “client”

(i.e., client 20 shown in Figure 7), “web server” (i.e., web server 49a), “content server” (i.e., web server 49a), and “application server” (i.e., terminal server 49b). *Id.* at 50–51, 60–63. Petitioner provides an annotated version of Figure 7 of Zoller reproduced below (*id.* at 51).



The annotated version of Figure 7 depicts the alleged “client device,” “content/web server,” and “application server” in Zoller. Petitioner argues that (a) client 20 receives a “service access point” (i.e., icon shown in Figure 5 reproduced in Section II.E.1 above, which is a hyperlink according to Petitioner) associated with a “first application” (i.e., Microsoft Word) and identifying the “web server” (i.e., web server 49a); (b) client 20 receives “address information” (i.e., a directory location on terminal server 49b generated by the ASP script on web server 49a) associated with the first application; (c) client 20 launches a “second application” (i.e., ActiveX controls or another embedded program) that communicates via a “presentation layer protocol” (i.e., the “proprietary protocols” disclosed in Zoller) with the “application server” (i.e., terminal server 49b) identified by

the address information; and (d) terminal server 49b then launches the first application and returns information to the second application via the presentation layer protocol. *Id.* at 50–63.

With respect to the “service access point” recited in claim 1, Petitioner argues that each icon shown in Figure 5, such as the icon labeled “Microsoft Word,” is a hyperlink because when the user clicks on the icon, client 20 sends a corresponding HTTP request to web server 49a. *Id.* at 53–54 (citing Ex. 1005, col. 4, ll. 59–63, col. 6, ll. 27–30, Fig. 5). According to Petitioner and Mr. Zoller, a person of ordinary skill in the art “would understand each icon is a hyperlink pointing to (i.e., identifying) the content/web server 49a, and thus a service access point.” *Id.* at 54; *see* Ex. 1016 ¶ 126. As further support, Petitioner cites the URL shown in the address bar in Figure 5, which identifies web server 49a (“unisys4w2k”) to which the hyperlinks in the web page point. *Id.*

In addition, Petitioner contends that Craft and Duursma both “further confirm[]” that Zoller’s icons are hyperlinks. *Id.* at 54–56. With respect to Craft, Petitioner cites Craft’s description of Terminal Services remote application access via a hyperlink to a specific server. *Id.* at 54–55 (citing Ex. 1003, 287). According to Petitioner, a person of ordinary skill in the art would have had reason to combine the teachings of Zoller and Craft because (1) Zoller refers to Terminal Services and Craft “provides further details” about Terminal Services, (2) “Craft discloses the well-known understanding that web pages include hyperlinks pointing to a specific server,” and (3) “the combination would yield predictable and successful results (i.e., Zoller’s icons are hyperlinks pointing to the content/web server 49a).” *Id.* at 55. With respect to Duursma, Petitioner cites Duursma’s teaching of icons in a web page each with an encoded URL specifying the location of the

corresponding application. *Id.* at 55–56; *see* Ex. 1004, col. 15, ll. 14–18, col. 21, ll. 19–24. According to Petitioner, a person of ordinary skill in the art would have had reason to combine the teachings of Zoller and Duursma because (1) “both references describe providing icons through a web interface,” (2) “Duursma discloses that icons in a web interface are hyperlinks referencing the location of a server,” and (3) “the combination would yield predictable and successful results (i.e., available applications are displayed as icons that are hyperlinks pointing to content/web server 49a, which completes the connection parameters).” Pet. 56.

With respect to the “web service directory” recited in claim 1, Petitioner argues that the “service access point” (i.e., icon) in Zoller is provided to client 20 from a “web service directory” on a “content server” (i.e., web server 49a). *Id.* at 56–57. According to Petitioner, a person of ordinary skill in the art would “understand that Zoller’s web/content server 49a includes a directory for providing the icons (service access points) shown in [Figure 5] because the field ‘ts-web’ refers to a directory on the content/web server 49a.” *Id.* Mr. Zoller testifies that the URL shown in the address bar of Figure 5 (“http://unisys4w2k/tswb/applaunch”) identifies web server 49a (“unisys42k”) and a directory (“tsweb”) on web server 49a that provides the web page with icons. Ex. 1016 ¶¶ 122–24. Petitioner also points to “data store 70” in Figure 7, arguing that an ordinarily skilled artisan “would understand that data store 70 is ‘on’ web/content server 49a.” Pet. 57 & n.7. Mr. Zoller testifies that “data store 70 stores the content for the ‘tsweb,’ which contains the ‘applaunch page.’” Ex. 1016 ¶ 124.

We now turn to Petitioner’s specific assertions regarding the “content server” and “web server” recited in step (a) of claim 1, which are dispositive.

a) Petitioner's Arguments in the Petition

In its Petition, Petitioner clearly maps web server 49a in Figure 7 of Zoller to both the “content server” and “web server” recited in claim 1. On page 51 of the Petition, Petitioner states that “[s]erver 49a corresponds to the claimed content and web servers.” Pet. 51. Petitioner argues that web server 49a meets the various limitations of steps (a) and (b), such as a “web service directory on a content server” providing a “service access point identifying a web server” to the client, *id.* at 52–54 (“the client 20 receives a web page from *the content/web server 49a*” (emphasis added)), 56–57, and a “web server” providing “address information associated with the first application,” *id.* at 59–60 (“the client 20 receives, from *the content/web server 49a*, address information (the directory location on the terminal server) associated with the first application” (emphasis added)).

Petitioner now acknowledges, and we interpret claim 1 to require, that the “content server” and “web server” be distinct components (even if provided on a single physical machine). *See supra* Section II.B.3. Petitioner in its Petition does not point to any *distinct components* in web server 49a that act independently as a “content server” and “web server.” Rather, Petitioner refers throughout its Petition to web server 49a as a single physical machine that Petitioner calls “content/web server 49a,” “web/content server 49a,” or “[s]erver 49a.” Pet. 50–63. Mr. Zoller does the same, referencing “content/web server 49a” or “web server 49a.” Ex. 1016 ¶¶ 119–163, pp. 106–123. Thus, based on the position Petitioner took in its Petition, Petitioner has not shown that Zoller teaches a “content server” that is a distinct component from a “web server.” Also, Petitioner in its asserted ground does not rely on Craft or Duursma as teaching a “content server.” Pet. 51–59. Accordingly, Petitioner has not met its burden to show

that the cited references teach or suggest “(a) receiving, by a client, from a web service directory on a content server, a service access point associated with a first application, the service access point identifying a web server,” as recited in claim 1.

b) Petitioner’s Arguments in the Reply

Petitioner takes a different position in its Reply, arguing for the first time that Zoller teaches separate “software [on web server 49a] for performing the claimed content server functions” as a “content server” and “software [on web server 49a] for performing the claimed functionalities of the web server” as a “web server.” *See* Reply 14–15. Petitioner acknowledged during the hearing that its position is *not* that the alleged “content server” and “web server” are both web server 49a (as argued in the Petition), but rather that they are specific “software” or “portion[s]” of web server 49a:

JUDGE ARBES: Counsel, can I ask a few questions about the content/web server issue? Again, if we can go to pages 14 and 15 of the reply, I’d like to be clear about what the Petitioner’s position is of what is the alleged content server and web server in Zoller. It looks like, on page 15, you say that a person of ordinary skill in the art would understand that server 49a also contains software for performing the claim functionalities of the web server.

So is it your position that the web server in Zoller is that software, it is not server 49a overall; it’s that particular software, right?

[PETITIONER’S COUNSEL]: I think that’s a fair characterization. It’s the *portion of the server 49a* that’s performing the web server function, and it’s *software on the web server* that performs those functions. . . .

JUDGE ARBES: Okay. And there is some other portion of server 49a, some other software that operates as a content server then, right?

[PETITIONER’S COUNSEL]: Right. So the *portion of the server 49a* that’s hosting the web service 13 directory is the *software* that is the content server. And the web service directory is on that content server.

Tr. 21:10–22:15 (emphases added), 92:5–11.

We agree with Patent Owner that presentation of this theory in the Reply is improper because it was not raised adequately in the Petition. *See* Sur-Reply 9–11. Pursuant to 37 C.F.R. § 42.23(b), “[a] reply may only respond to arguments raised in the corresponding . . . patent owner response.” “‘Respond,’ in the context of 37 C.F.R. § 42.23(b), does not mean proceed in a new direction with a new approach as compared to the positions taken in a prior filing.” Practice Guide at 74; *see also Acceleration Bay, LLC v. Activision Blizzard Inc.*, 908 F.3d 765, 775 (Fed. Cir. 2018) (concluding that the Board did not err in refusing to consider portions of a reply declaration “rais[ing] a new obviousness argument for [a claim] limitation that could have been made in the petition” but was not); *Intelligent Bio-Sys.*, 821 F.3d at 1369–70 (concluding that the Board did not err in refusing to consider reply brief arguments advocating a “new theory” of unpatentability under 37 C.F.R. § 42.23(b)).

Petitioner in its Petition never referenced any specific “software” executed by web server 49a or “portion” of web server 49a, instead referring to the device throughout as a singular entity. *See* Pet. 50–63. The word “software” appears only four times in the Petition, and never in reference to web server 49a of Zoller. *See id.* at 52, 61, 66, 77. Mr. Zoller in his declaration likewise does not refer to any particular software or portion of web server 49a. *See* Ex. 1016 ¶¶ 119–163, pp. 106–123. Mr. Zoller’s

analysis is premised entirely on his opinion that “Zoller’s web server 49a (FIG. 7) corresponds to both the claimed ‘content server’ and the claimed ‘web server.’” *See id.* ¶ 120, pp. 106, 113.

Petitioner’s position expressed in the Reply—that the alleged “content server” and “web server” in Zoller are not web server 49a as a whole, but rather specific software executing on that device—amounts to an improper new theory as to how the claim is unpatentable. Although both the Petition and Reply cite portions of Zoller describing web server 49a, the Reply cannot be considered mere elaboration on the Petition arguments because it *changes* the thrust of Petitioner’s theory of obviousness by significantly altering the mapping to the “content server” and “web server” limitations. For that reason alone, and considering only Petitioner’s arguments in the Petition, Petitioner has not met its burden to show that Zoller, Craft, and Duursma teach step (a) of claim 1, which requires a “content server” distinct from a “web server.” *See supra* Section II.E.2.a.

Nevertheless, even considering Petitioner’s new reply arguments and evidence, we are not persuaded that Petitioner has made a sufficient showing that Zoller teaches receiving, from a “content server” distinct from a “web server,” a service access point identifying the web server, as recited in step (a). Petitioner never identifies any specific element in Zoller that it contends is “software for performing the claimed content server functions” and does not point to any specific disclosure in Zoller (e.g., text description, code) differentiating allegedly different “software” components that communicate with client 20. *See* Pet. 50–60; Reply 14–15. Mr. Zoller likewise makes no distinction between different parts of web server 49a. *See* Ex. 2009, 116:15–25 (“Q: What part of the web server 49a performs the functionality of the content server of the ’843 patent? A: The—that

computer is in both the role of providing the web pages as well as the content from an '843 [patent] standpoint”). He simply assumes, “for purposes of [his] analysis, [that] a single server machine that performs all of the claimed functionality satisfies the claim limitations of the content server and the web server.” Ex. 1016 ¶ 81. That is incorrect, given the claim interpretation above. *See supra* Section II.B.3.

Zoller does not appear to ever differentiate between different components of web server 49a communicating with client 20, instead describing repeated requests to and responses from the same “web server” device. *See, e.g.*, Ex. 1005, col. 5, ll. 12–14 (“client station 20 generates a request to the server 49”), col. 6, ll. 1–4 (“the request is routed to the web server 49,” which “routes the page back to the client 20”), 17–20 (“the web server receives the user request”), 27–30 (“an http request and the application identifier parameter is sent to the web server 49”), 31–49 (“a web page is returned to the client” by “the web server”). We agree with Dr. Hernandez that “Zoller never describes [web server 49a] as anything but a web server that provides web pages.” Ex. 2004 ¶ 129; *see also* Ex. 1016, pp. 107 (Mr. Zoller acknowledging that client 20 receives the Figure 5 web page “from the web server”), 112 (Mr. Zoller acknowledging that “Zoller and Duursma both teach that the list of icons can be provided to a client by a web server”).

In its arguments regarding step (a), Petitioner maps the icons displayed on Zoller’s “Application Launching query form page” (Figure 5) to the recited “service access point,” and maps the “tsweb” directory to the recited “web service directory” from which they are provided. Pet. 53–57; Reply 14. To the extent those contentions can be considered an argument regarding the recited “content server,” we are not persuaded. The icons and

web page are not “software.” *See* Ex. 1005, col. 6, ll. 21–30. The “tsweb” directory is simply a directory on web server 49a (whether or not part of data store 70, which is never mentioned in the written description of Zoller) that stores the icons and web page. *See id.*; Ex. 1016 ¶ 124; Ex. 2009, 101:13–23, 125:11–21. It is not “software” either. And it cannot be a “content server” because Petitioner maps it to the recited “web service directory *on a content server*” (emphasis added). *See* Pet. 56–57.

The deficiency in Petitioner’s analysis is further exemplified by how it contends Zoller teaches a content server providing a service access point “identifying a web server.” First, Petitioner takes inconsistent positions. When addressing the “identifying a web server” portion of step (a), Petitioner states that each icon identifies web server 49a. *See id.* at 54 (“each icon is a hyperlink pointing to (i.e., identifying) *the content/web server 49a*,” where “the field following ‘http://’ (‘unisys4w2k’) identifies *the content/web server 49a*” (emphases added)); Reply 14 (“each application icon is a hyperlink pointing back to and identifying *server 49a* (i.e., a SAP)” (emphasis added)); Tr. 14:14–16:3 (Petitioner arguing that the “unisys4w2k” field identifies web server 49a “because it’s identifying the physical machine on which the web server is located,” where the “unisys4w2k” field “is what it needs to communicate between the client and the web server”); *see also* Ex. 1016 ¶¶ 124, 126, 127, 143, 144, pp. 109, 110, 112 (repeating numerous times that the icon in Zoller is a hyperlink that “points to (i.e., identifies)” web server 49a, where the “hyperlinks referenc[e] the location of a server”). At the same time, however, Petitioner argues that the “web server” in Zoller is “software for performing the claimed functionalities of the web server,” not web server 49a as a whole. Reply 15.

Second, even assuming that the “unisys4w2k” field in the Figure 5 web page URL identifies the “web server,” as Petitioner contends, because it points to web server 49a, the field also would identify the “content server” for the same reason. Petitioner acknowledges that client 20 simply “contacts the server 49a” (via an HTTP request) in both cases—to receive the alleged “service access point” (i.e., icon) from a “content server” and the alleged “address information” from a “web server.” *Id.* at 18. Accordingly, if we assume that the “unisys4w2k” field identifies the “web server,” it would likewise identify the “content server.” But again, the claim clearly delineates between communication with the “content server” and communication with the “web server.”¹⁴ Petitioner’s position would eliminate any distinction between them.

We note that Zoller’s arrangement is no different in that respect from the primary reference applied during prosecution of the ’843 patent, U.S. Patent No. 6,088,515 (Ex. 2006, “Muir”). *See* PO Resp. 38; Ex. 2004 ¶¶ 130–133. Zoller teaches client 20 receiving a web page with icons from web server 49a, selecting an icon to generate a request to web server 49a, receiving a file with configuration information from web server 49a, and using that file to connect to terminal server 49b. Ex. 1005, col. 6, l. 17–col. 7, l. 33, Fig. 7. Muir similarly teaches client node 10 receiving a web page with hyperlinks from network server node 18, selecting a hyperlink to generate a request to network server node 18, receiving a configuration file from network server node 18, and using that file to

¹⁴ Again, Petitioner recognizes the importance of the service access point “identifying a web server”—step (a) would serve no purpose if the “content server” and “web server” were the same because the content server “would merely be identifying itself.” *See* Ex. 2007, 8; *supra* Section II.D.3.

connect to application execution server 24. Ex. 2006, col. 2, l. 41–col. 5, l. 6, Fig. 1. Like web server 49a in Zoller, Muir does not differentiate between components of network server node 18 from which the client receives information. *See id.* By contrast, the indirection recited in claim 1 is the client receiving from a “content server” a service access point “identifying a web server,” using the service access point to contact the identified “web server” and receive address information “identif[ying]” an “application server,” and using the address information to launch an application communicating with the identified “application server.” *See supra* Section II.B.3; Ex. 1002, 71 (Board decision finding that the prior art cited by the examiner did not teach “a client directly communicating with a web service[] directory for a SAP, then with a web server identified by the SAP, and finally with an application server to retrieve an application associated with the SAP”).

Ultimately, it is Petitioner’s burden to prove unpatentability by a preponderance of the evidence, which includes in this instance proving that the cited references teach or suggest a “content server” distinct from a “web server” (even if provided on a single physical machine). *See* 35 U.S.C. § 316(e); *Harmonic Inc. v. Avid Tech., Inc.*, 815 F.3d 1356, 1363 (Fed. Cir. 2016) (“In an [*inter partes* review], the petitioner has the burden from the onset to show with particularity why the patent it challenges is unpatentable.”). That burden never shifts to Patent Owner. *Dynamic Drinkware, LLC v. Nat’l Graphics, Inc.*, 800 F.3d 1375, 1378 (Fed. Cir. 2015); *see also* *Magnum Oil*, 829 F.3d at 1376 (“Where, as here, the only question presented is whether [claims would have been obvious], no burden shifts from the patent challenger to the patentee,” and “[t]his is especially true” when the issue is “what the prior art discloses . . .”). Based on the

record presented, we are not persuaded that there is sufficient evidence to establish that Zoller teaches a “content server” distinct from a “web server,” as required by step (a) of claim 1.¹⁵ We credit Dr. Hernandez’s testimony on that issue and find it more persuasive than the testimony of Mr. Zoller, for all of the reasons explained above. *See* Ex. 2004 ¶¶ 121, 129–133.

Based on the full record developed during trial and for the reasons explained above, we are not persuaded by Petitioner’s arguments that Zoller teaches a “content server” that is a distinct component from a “web server,” and Petitioner does not rely on Craft or Duursma as teaching a “content server” in its asserted ground.¹⁶ *See* Pet. 51–59; Reply 12–19. Petitioner thus has not shown that the cited references teach or suggest “(a) receiving, by a client, from a web service directory on a content server, a service access point associated with a first application, the service access point identifying a web server,” as recited in claim 1. Petitioner has not proven, by a

¹⁵ In the Decision on Institution, based on the limited record at the time, we found Petitioner’s arguments in the Petition sufficient to establish a reasonable likelihood of prevailing, based primarily on the statement in the Specification that servers 110 and 115 may be “provided as a single physical machine.” Dec. on Inst. 26–39 (quoting Ex. 1001, col. 4, ll. 3–5). After receiving further briefing and evidence during trial, including the parties’ agreement that the “content server” and “web server” must be distinct components, we agree with Patent Owner that Petitioner has not made a sufficient showing. *See* PO Resp. 30–34; *TriVascular*, 812 F.3d at 1068 (“[At the institution stage], the Board is considering the matter preliminarily without the benefit of a full record. The Board is free to change its view of the merits after further development of the record, and *should do so* if convinced its initial inclinations were wrong.”).

¹⁶ Even if Petitioner had relied on the additional references, we are not persuaded that they teach step (a) either, for the reasons explained above. *See supra* Section II.D.3.

preponderance of the evidence, that claim 1 would have been obvious based on Zoller, Craft, and Duursma under 35 U.S.C. § 103(a).

3. *Claims 5, 7–9, 12, 16, 18, 19, 23, 24, 29, and 30*

Independent claims 9, 12, and 19 recite “content server” and “web server” limitations similar to steps (a) and (b) of claim 1. Claim 9 recites a client browser “(a) receiving, from a *web service directory on a content server*, a service access point associated with the first application, the service access point identifying a web server,” and “(b) receiving address information associated with the first application from the *web server* identified by the service access point” (emphases added). Whereas claims 1 and 9 recite information being received by a client, claim 12 recites information being transmitted to and received by the client. Claim 12 recites “a) sending, by a client, a query to a *web service directory on a content server* for information associated with a first application,” “b) transmitting, to the client, from the *web service directory*, a service access point associated with the first application, the service access point identifying a web server,” and “c) receiving, by the client, address information associated with the first application from the *web server* identified by the service access point” (emphases added). Petitioner refers to its previous arguments regarding steps (a) and (b) of claim 1, again relying on web server 49a of Zoller as both a “content server” and “web server” in its Petition and allegedly separate “software” of web server 49a in its Reply. *See* Pet. 66–67, 69–71; Reply 14–15; Ex. 1016, pp. 124–132.

Similarly, claim 19 recites (emphases added):

- a) receiving, by a *content server*, from a client, a request to access a service access point associated with a first application;
- b) identifying, by the *content server*, that the requested service access point can be used with an application client;
- c) requesting, by the client, from a *web server*, address information associated with the first application identified by the service access point;
- d) converting, by the *web server*, the requested address information into a file, the format of the file associated with the application client; [and]
- e) transmitting, by the *web server*, the file including the converted address information to the client.

Although claim 19 does not recite a “web service directory” on the “content server” as in the other independent claims, it does recite a “content server” and “web server,” which must be distinct components (even if provided on a single physical machine). *See supra* Section II.B.3. Also, like the other independent claims, claim 19 recites separate functionality performed by the “content server” (i.e., receiving a request to access a service access point, identifying that the requested service access point can be used with an application client) and “web server” (i.e., receiving a request for address information, converting the requested address information into a file, transmitting the file to the client). Petitioner again relies solely on web server 49a in its Petition and allegedly distinct “software” of web server 49a in its Reply. *See* Pet. 72–79; Reply 14–15; Ex. 1016, pp. 132–146.

The parties argue all of the independent claims together with respect to the “content server”/“web server” distinction. *See* PO Resp. 29–34, 38–40; Reply 14–15; Sur-Reply 9–13. Based on the full record developed during trial and for the reasons explained above, we are not persuaded by

Petitioner's arguments that Zoller teaches a "content server" that is a distinct component from a "web server," as recited in at least client browser clause (a) of claim 9 and steps (a) and (b) of claims 12 and 19. *See supra* Section II.E.2.

We also note an additional deficiency with respect to claim 19. Step (b) of claim 19 recites "identifying, by the content server, that the requested service access point can be used with *an application client*" (emphasis added). Petitioner argues that web server 49a in Zoller provides the "Application Launching query form page" with icons to client 20, but that page is "static across groups of users." Pet. 73. Petitioner contends that it would have been obvious, based on Duursma's teaching of Program Neighborhood filtering out application programs that a client is authorized to use, to modify web server 49a to determine which applications are authorized and indicate as such in the "Application Launching query form page." *Id.* at 73–76. According to Petitioner, "[i]f a first application is authorized, the associated service access point can be used with an application client. . . . Conversely, if a first application is not authorized, the associated service access point cannot be used with an application client." *Id.* at 76. Thus, it appears that Petitioner is arguing that the client device itself (with a browser rendering the web page) is the "application client" for purposes of step (b).

Step (d) of claim 19 recites "converting, by the web server, the requested address information into a file, the format of the file associated with *the application client*" (emphasis added). Petitioner argues that when the user selects an icon, web server 49a returns a web page with the determined URL and "associated ActiveX® controls or other embedded program." *Id.* at 77–78 (quoting Ex. 1005, col. 6, ll. 50–53). Petitioner

expressly states that “Zoller’s ActiveX controls are an application client.” *Id.* at 79. Petitioner’s arguments for claim 19 fail because they rely on different things as the recited “application client.” Petitioner clearly relies on the ActiveX controls for purposes of step (d), but never mentions the ActiveX controls in its analysis of step (b).¹⁷ Indeed, it is not clear how Petitioner could rely on the ActiveX controls for step (b) because Zoller teaches that the ActiveX controls do not exist until *after* the user selects an icon and the ASP script generates the directory location for the URL pointing to terminal server 49b. *See* Ex. 1005, col. 6, ll. 21–65.

Claims 5, 7, and 8 depend from claim 1, claims 16 and 18 depend from claim 12, and claims 23, 24, 29, and 30 depend from claim 19. Petitioner has not proven, by a preponderance of the evidence, that claims 5, 7–9, 12, 16, 18, 19, 23, 24, 29, and 30 would have been obvious based on Zoller, Craft, and Duursma under 35 U.S.C. § 103(a).

¹⁷ Mr. Zoller discusses ActiveX controls in his testimony regarding step (b). Ex. 1016, pp. 132–134. That analysis is not part of the Petition itself, however, and cannot be incorporated by reference. *See* 37 C.F.R. §§ 42.6(a)(3) (“Arguments must not be incorporated by reference from one document into another document.”), 42.22(a)(2) (a petition must include “[a] full statement of the reasons for the relief requested, including a detailed explanation of the significance of the evidence”); *Cisco Sys., Inc. v. C-Cation Techs., LLC*, IPR2014-00454, Paper 12 at 10 (PTAB Aug. 29, 2014) (informative) (“Incorporation ‘by reference amounts to a self-help increase in the length of the [] brief[,]’ and ‘is a pointless imposition on the court’s time. A brief must make all arguments accessible to the judges, rather than ask them to play archeologist with the record.’”) (citations omitted)).

III. CONCLUSION¹⁸

Petitioner has not demonstrated, by a preponderance of the evidence, that claims 1, 5, 7–9, 12, 16, 18, 19, 23, 24, 29, and 30 of the '843 patent are unpatentable. In summary:

Claims	35 U.S.C. §	References/ Basis	Claims Shown Unpatentable	Claims Not shown Unpatentable
1, 5, 7–9, 12, 16, 18, 19, 23, 24, 29, 30	103(a)	Craft, Duursma		1, 5, 7–9, 12, 16, 18, 19, 23, 24, 29, 30
1, 5, 7–9, 12, 16, 18, 19, 23, 24, 29, 30	103(a)	Zoller, Craft, Duursma		1, 5, 7–9, 12, 16, 18, 19, 23, 24, 29, 30
Overall Outcome				1, 5, 7–9, 12, 16, 18, 19, 23, 24, 29, 30

IV. ORDER

In consideration of the foregoing, it is hereby:

ORDERED that claims 1, 5, 7–9, 12, 16, 18, 19, 23, 24, 29, and 30 of the '843 patent have not been shown to be unpatentable.

¹⁸ Should Patent Owner wish to pursue amendment of the challenged claims in a reissue or reexamination proceeding subsequent to the issuance of this Decision, we draw Patent Owner's attention to the April 2019 *Notice Regarding Options for Amendments by Patent Owner Through Reissue or Reexamination During a Pending AIA Trial Proceeding*. See 84 Fed. Reg. 16,654 (Apr. 22, 2019). If Patent Owner chooses to file a reissue application or a request for reexamination of the challenged patent, we remind Patent Owner of its continuing obligation to notify the Board of any such related matters in updated mandatory notices. See 37 C.F.R. §§ 42.8(a)(3), 42.8(b)(2).

This is a final decision. Parties to the proceeding seeking judicial review of the decision must comply with the notice and service requirements of 37 C.F.R. § 90.2.

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Patent 8,135,843 B2

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