

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

BITDEFENDER INC.,
Petitioner,

v.

UNILOC USA, INC.,
Patent Owner.

Case IPR2017-01315
Patent 6,510,466 B1

Before MIRIAM L. QUINN, ROBERT J. WEINSCHENK, and
JESSICA C. KAISER, *Administrative Patent Judges*.

KAISER, *Administrative Patent Judge*.

FINAL WRITTEN DECISION
Inter Partes Review
35 U.S.C. § 318(a) and 37 C.F.R. § 42.73

I. INTRODUCTION

BitDefender Inc. (“Petitioner”) filed a Petition for *inter partes* review of claims 1, 2, 7–9, 15–17, 22–24, 30, and 35–37 of U.S. Patent No. 6,510,466 B1, issued on January 21, 2003 (Ex. 1001, “the ’466 patent”). Paper 1 (“Pet.”). Uniloc USA, Inc. (“Patent Owner”)¹ filed a Preliminary Response. Paper 6 (“Prelim. Resp.”). Taking into account the arguments presented in Patent Owner’s Preliminary Response, we determined the information presented in the Petition established that there was a reasonable likelihood that Petitioner would prevail in challenging claims 1, 2, and 7–9 of the ’466 patent, but not in challenging claims 15–17, 22–24, 30, and 35–37. Pursuant to § 314, we instituted this *inter partes* review on November 1, 2017, as to fewer than all of the claims challenged in the Petition. Paper 7 (“Dec. on Inst.”). On November 13, 2017, Petitioner requested rehearing as to the claims for which review was not instituted (Paper 9), and we denied Petitioner’s rehearing request (Paper 10, “Dec. on Reh’g”).

During the course of trial, Patent Owner filed a Patent Owner Response (Paper 11, “PO Resp.”), and Petitioner filed a Reply to the Patent Owner Response (Paper 13, “Pet. Reply”). An oral hearing was held on August 7, 2018, and a transcript of the hearing is included in the record. Paper 22 (“Tr.”).

After all substantive briefing was complete, but before the oral hearing, the United States Supreme Court held that a decision to institute

¹ Patent Owner’s Updated Mandatory Notices state that the real parties-in-interest are the owner, Uniloc 2017 LLC, and its licensees, Uniloc USA, Inc. and Uniloc Licensing USA LLC. Paper 23, 1.

under 35 U.S.C. § 314 may not institute on fewer than all claims challenged in the petition. *SAS Inst., Inc. v. Iancu*, 138 S. Ct. 1348, 1359–60 (2018). In accordance with *SAS*, we issued an Order modifying our Decision on Institution to include review of all challenged claims and all grounds presented by Petitioner in its Petition. Paper 14. Patent Owner waived any further briefing on the newly-added claims. Paper 15, 2. Petitioner, however, requested authorization to file a supplemental brief to respond to the Decision on Institution as to the newly-added claims. *Id.* at 3. As discussed further below, the order authorizing that brief provided instructions as to the proper scope of Petitioner’s Institution Response Brief. *Id.* at 3–4. Petitioner filed its Institution Response Brief on June 4, 2018. Paper 17 (“Inst. Resp. Br.”).

We have jurisdiction under 35 U.S.C. § 6. This decision is a Final Written Decision under 35 U.S.C. § 318(a) as to the patentability of claims 1, 2, 7–9, 15–17, 22–24, 30, and 35–37 of the ’466 patent. For the reasons discussed below, we hold that Petitioner has demonstrated by a preponderance of the evidence that claims 1, 2, and 7–9 are unpatentable under § 103(a), but Petitioner has not demonstrated by a preponderance of the evidence that claims 15–17, 22–24, 30, and 35–37 are unpatentable under § 103(a).

II. BACKGROUND

A. The ’466 Patent (Ex. 1001)

The ’466 patent relates to management of application programs on a network including a server supporting client stations. Ex. 1001, at [57]. The ’466 patent states that user mobility and hardware portability are provided

by establishing a user desktop interface responsive to a user login request.
Id. Responsive to a request from the user on the user desktop screen at the client, a selected application program is provided from the server to the client. *Id.*

Figure 1 of the '466 patent is reproduced below.

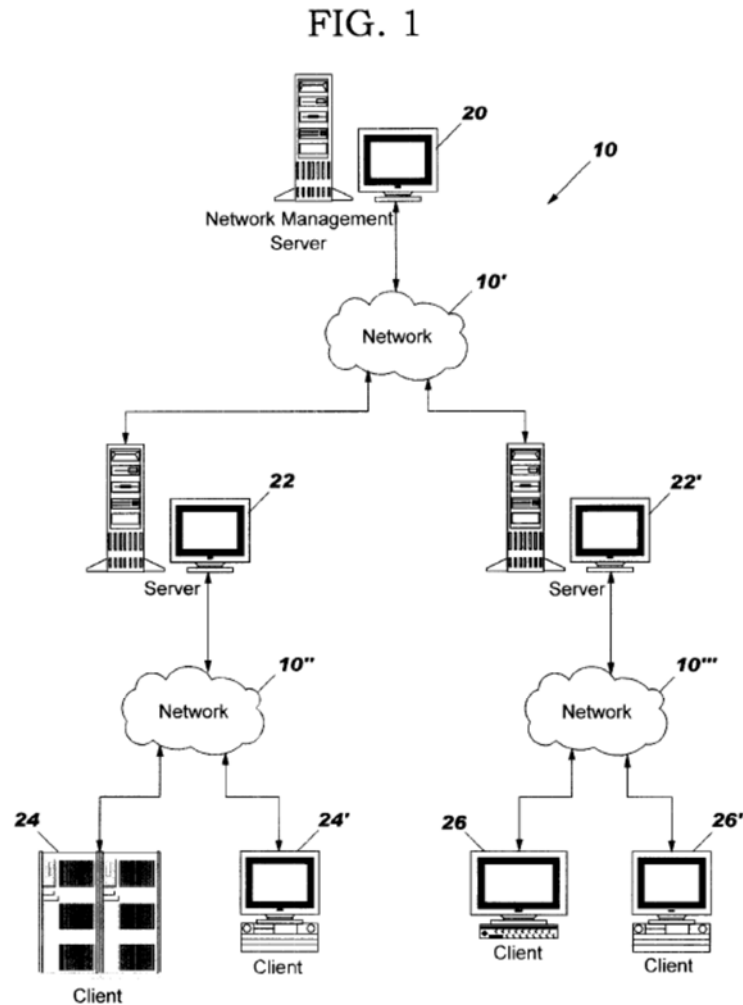


Figure 1 illustrates a computer network according to an embodiment of the invention. *Id.* at 6:57–60. In particular, network management server 20 is connected to on-demand servers 22 and 22' which are in turn connected to client stations 24 and 24' and 26 and 26' respectively. *Id.* at 6:60–7:6.

Figure 8 of the '466 patent is reproduced below.

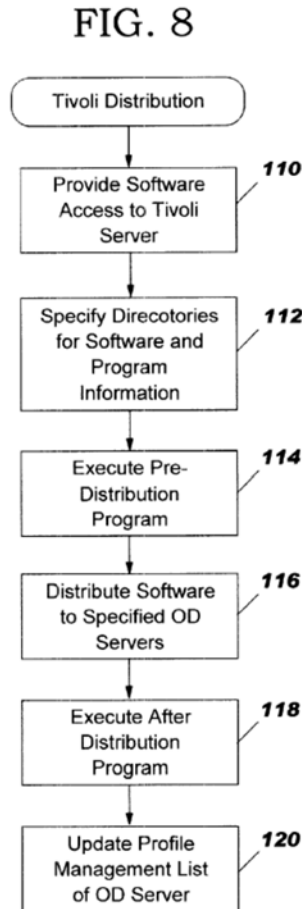


Figure 8 is a flowchart illustrating operations for application program distribution and execution in a network management server environment. *Id.* at 6:28–31. In particular, in block 110, an application program to be distributed is placed by a system administrator on a disk or storage device at a network management server such as a Tivoli server. *Id.* at 17:52–55. At block 112, the application program source and destination programs are specified, and a pre-distribution program is run (if specified) at block 114. *Id.* at 17:55–60. The application program is then distributed to the on-demand servers at block 116, and any specified after-distribution programs are executed at block 118. *Id.* at 17:60–18:7.

B. Challenged Claims

Of the challenged claims, claims 1, 15, and 16 are independent claims. Claim 1 is directed to a method for management of application programs on a network including a server and a client; claim 15 is directed to an application program management system for managing the same; and claim 16 is directed to a computer program product for managing the same. Claims 2 and 7–9 depend directly or indirectly from claim 1; claims 17, 22–24 depend directly or indirectly from claim 15; and claims 30 and 35–37 depend directly or indirectly from claim 16.

Claim 1 is illustrative and is reproduced below.

1. A method for management of application programs on a network including a server and a client comprising the steps of:
 - installing a plurality of application programs at the server;
 - receiving at the server a login request from a user at the client;
 - establishing a user desktop interface at the client associated with the user responsive to the login request from the user, the desktop interface including a plurality of display regions associated with a set of the plurality of application programs installed at the server for which the user is authorized;
 - receiving at the server a selection of one of the plurality of application programs from the user desktop interface; and
 - providing an instance of the selected one of the plurality of application programs to the client for execution responsive to the selection.

Id. at 21:17–35.

C. Related Proceedings

Petitioner and Patent Owner identify a related litigation in the Eastern District of Texas involving the '466 patent, titled *Uniloc USA, Inc. et al. v. BitDefender Holding BV et al.*, 2:16-cv-00394-RWS (E.D. Tex.). Pet. 2; Paper 4, 2. Petitioner also identifies other litigation filed in the Eastern District of Texas involving the '466 patent against other defendants. Pet. 2. Petitioner further identifies another *inter partes* review regarding a related patent, for which institution was denied: IPR2017-00184. *Id.* at 3.

D. References

Petitioner relies on the following references:

1. “Kasso” (US 5,832,505; issued Nov. 3, 1998) (Ex. 1009);
2. “Raduchel” (US 6,338,138 B1; issued Jan. 8, 2002) (Ex. 1010);
3. “Bennett” (US 5,615,367; issued Mar. 25, 1997) (Ex. 1011); and
4. “Olsen” (US 5,905,860; issued May 18, 1999) (Ex. 1012).

E. Instituted Grounds of Unpatentability

We instituted a trial based on the asserted grounds of unpatentability (“grounds”) set forth in the table below. Dec. on Inst. 26; Paper 14.

Reference(s)	Basis	Claim(s)
Kasso and Raduchel	35 U.S.C. § 103(a)	1, 7, 8, 15, 16, 22, 23, 35, and 36
Kasso, Raduchel, and Bennett	35 U.S.C. § 103(a)	2, 17, and 30
Kasso, Raduchel, and Olsen	35 U.S.C. § 103(a)	9, 24, and 37

III. ANALYSIS

A. Petitioner's Institution Response Brief

As discussed above, Patent Owner waived additional briefing on the claims added to the trial in this *inter partes* review in accordance with the Supreme Court's *SAS* decision. Paper 15, 2. We authorized Petitioner to file a supplemental brief to respond to the Decision on Institution as to the newly-added claims. *Id.* at 3. Our order authorizing that supplemental brief provided clear instructions as to the proper scope of Petitioner's Institution Response Brief. *Id.* at 3–4. In particular, our order states: “Petitioner's Institution Response Brief is for **identifying matters that Petitioner believes the Board misapprehended or overlooked, or otherwise erred** in its institution decision discussing the newly-added claims.” *Id.* at 3. Our order required Petitioner to “identify with particularity the place where each matter (i.e., argument or evidence) raised in its Institution Response Brief was previously addressed in its Petition (Paper 1)” and cautioned that the Institution Response Brief was “not an opportunity for Petitioner to add additional arguments, evidence, or otherwise try to improve its Petition.” *Id.* at 3–4.

Petitioner filed its Institution Response Brief on June 4, 2018. Patent Owner objected to Petitioner's Institution Response Brief, as violating the limitations in our order, noting the Institution Response Brief includes new arguments not previously addressed in the Petition. Tr. 25:9–30:18. We agree with Patent Owner.

In the Institution Response Brief, Petitioner contends “[f]orcing the Petitioner to supply evidence with [its] petition for arguments not yet raised would, in fact, require [it] to anticipate all possible arguments.” Inst. Resp.

Br. 1. At the oral hearing, Petitioner also argued that if its Institution Response Brief were not considered in its entirety, its due process rights would be violated. *See* Tr. 11:17–18:10.

In its Institution Response Brief, Petitioner contends (1) the corresponding structure we found in the Decision on Institution for the “means for installing” is incorrect (Inst. Resp. Br. 3–7), (2) if the “means for installing” limitation does not fall into the *Katz* exception, the newly-added claims are invalid as indefinite (*id.* at 7–8), and (3) Kasso in view of Raduchel renders the newly-added claims obvious even under our construction of the “means for installing” limitation (*id.* at 8–10). We have already considered Petitioner’s first two arguments. In its Petition, Petitioner relied on *In re Katz Interactive Call Processing Patent Litigation*, 639 F.3d 1303, 1316 (Fed. Cir. 2011) as holding that a “general-purpose computer, by itself, may be sufficient as corresponding structure for general computing functions such as storing, which can be achieved by any general purpose computer without special programming.” Pet. 19. Petitioner also recognized that “when the disclosed structure is a computer programmed to carry out an algorithm, the disclosed structure is not the general purpose computer, but rather that special purpose computer programmed to perform the disclosed algorithm.” *Id.* (quoting *In re Aoyama*, 656 F.3d 1293, 1297 (Fed. Cir. 2011)).

For the “means for installing” limitation, Petitioner chose only to identify general purpose hardware, namely, a server processor, CRM (computer readable medium), or a network drive accessible to a server. *Id.* at 20. As we noted in our Decision on Institution (Dec. on Inst. 10), other than citations to the ’466 patent, Petitioner did not provide argument,

explanation, or expert testimony in support of its proposed corresponding structure. Pet. 20. Petitioner did not propose any alternative (i.e., an algorithm in addition to general purpose hardware) to its apparent argument that the exception in *In re Katz* applies to the “means for installing” limitation. *See id.* In the Preliminary Response, Patent Owner argued that Petitioner had failed to cite any algorithm and proposed corresponding structure for the “means for installing” limitation. Prelim. Resp. 10, 13–14. Petitioner did not seek authorization to respond to the Preliminary Response.

In our Decision on Institution, we determined Petitioner had not provided evidence or factually-supported explanation to support its apparent argument that “installing a plurality of application programs at the server” is a basic function of a microprocessor. Dec. on Inst. 11. We then analyzed the corresponding structure proposed by Patent Owner, and determined that some but not all of that structure was clearly linked to the recited function. *Id.* at 11–13. Because Petitioner had not shown in the Petition that the asserted prior art references taught that corresponding structure (or its equivalents), we determined that Petitioner had not shown a reasonable likelihood of success on its challenges to the means-plus-function claims. *Id.* at 17–18, 23–25.

Petitioner sought rehearing of our decision not to institute an *inter partes* review of claims 15–17, 22–24, 30, and 35–37. Paper 9 (“Req. Reh’g”). In that request, Petitioner reiterated its argument that the “means for installing” limitation falls within the *Katz* exception and further argued that if it does not, then there is no corresponding structure for this limitation. *Id.* at 1–2. We considered Petitioner’s request for rehearing, but declined to modify our decision not to institute an *inter partes* review of claims 15–17,

22–24, 30, and 35–37. Dec. on Reh’g 1. In particular, we found that we had already fully considered Petitioner’s argument that the “means for installing” limitation falls within the *Katz* exception and that the evidence to which Petitioner pointed on rehearing did not alter our analysis. *Id.* at 3–5. We did not substantively consider Petitioner’s arguments that none of the corresponding structure we adopted in the Decision on Institution is clearly linked to the claimed function. *Id.* at 5. In particular, we determined that even if those arguments were correct, they would not have changed the outcome as to the means-plus-function claims (i.e., in the absence of any corresponding structure, institution of the challenges to those claims would still have been denied). *Id.*

As discussed above, following the Supreme Court’s *SAS* decision, we issued an order to include the previously non-instituted claims in this proceeding. Paper 14, 2. Patent Owner waived additional briefing as to the newly-added claims, but we authorized Petitioner to file a limited Institution Response Brief. Paper 15, 2–4. In that brief, Petitioner again argues that the structure corresponding to the “means for installing” limitation that we found in the Decision on Institution is incorrect. Inst. Resp. Br. 3–7. Although Petitioner does not present additional argument as to the *Katz* exception, Petitioner argues that if the “means for installing” limitation does not fall within the *Katz* exception, we should hold that challenged claims 15–17, 22–24, 30, and 35–37 are unpatentable as indefinite. *Id.* at 7–8.

We determine Petitioner’s arguments as to the construction of “means for installing” in the Institution Response Brief fare no better than Petitioner’s similar arguments on rehearing. Specifically, Petitioner does not propose corresponding structure for that limitation, but rather contends that

there is no corresponding structure. *Id.* As we stated in our Decision on Rehearing (Dec. on Reh’g 5), even if we were to accept Petitioner’s argument, we would be left with no corresponding structure identified by either party. In the absence of corresponding structure, we are not free to treat the “means for installing” limitation as if it were a purely functional limitation. *See IPCom GmbH & Co. v. HTC Corp.*, 861 F.3d 1362, 1371 (Fed. Cir. 2017), as corrected (Aug. 21, 2017). In addition, contrary to Petitioner’s argument, we cannot hold claims invalid as indefinite as part of an *inter partes* review. *See Cuozzo Speed Techs., LLC v. Lee*, 136 S. Ct. 2131, 2141–42 (2016) (The agency may not act “act outside its statutory limits by, for example, canceling a patent claim for ‘indefiniteness under § 112’ in inter partes review.”).

Thus, we determine we need not consider Petitioner’s arguments that our construction of the “means for installing” limitation is incorrect (and that the means-plus-function claims are indefinite) because if we accepted those arguments in the absence of an alternative construction, we would find Petitioner had failed to show those claims are unpatentable by a preponderance of the evidence.

In its Institution Response Brief, Petitioner also contends Kasso teaches the “means for installing” limitation even under our construction in the Decision on Institution. Inst. Resp. Br. 8–10. Patent Owner argues this portion of the Institution Response Brief exceeds the scope of the brief we authorized. *See* Tr. 27:16–28:11. We agree with Patent Owner, as evidenced by Petitioner’s failure to cite to the corresponding arguments regarding Kasso’s teachings in the Petition in violation of our order authorizing that brief. *See* Inst. Resp. Br. 8–10; Paper 15, 3–4.

Nevertheless, Petitioner contends that due process dictates that we allow Petitioner the opportunity to provide a new mapping to the cited references under the claim construction in the Decision on Institution. *See* Tr. 23:19–25:2. Petitioner, however, chose only to identify general purpose hardware in its Petition without identifying any potential algorithm as an alternative. Pet. 20–21. Likewise, once Patent Owner identified its proposed corresponding structure in the Preliminary Response, Petitioner never requested authorization to respond to this proposed structure or explain how the references cited in its unpatentability grounds accounted for it.

It was not until after those claims became part of the trial that Petitioner chose to make these arguments for the first time. In doing so, Petitioner disregarded our admonition that its Institution Response Brief was “not an opportunity for Petitioner to add additional arguments, evidence, or otherwise try to improve its Petition” (Paper 15, 3–4), and Petitioner never requested that we reconsider or modify that order prior to filing its Brief. In essence, Petitioner seeks a windfall from the Supreme Court’s decision in *SAS* to rewrite its challenges to the means-plus-function claims. At the institution stage, we found that Petitioner had not shown a reasonable likelihood of prevailing on its challenges to claims 15–17, 22–24, 30, and 35–37. It would be odd indeed for us to allow Petitioner to improve its position on those claims, not by pointing out errors in our Decision on Institution or responding to Patent Owner’s arguments, but by crafting an entirely new challenge road mapped to our Decision on Institution.

We recognize that there are circumstances where a Petitioner may properly cite new portions of a reference in a Petitioner Reply, and Patent Owner may be afforded an opportunity to address those contentions in a sur-

reply. *See, e.g., In re NuVasive, Inc.*, 841 F.3d 966, 972 (Fed. Cir. 2016). Likewise, in its Institution Response Brief, Petitioner cites *Genzyme Therapeutic Products Ltd. Partnership v. Biomarin Pharmaceutical Inc.*, 825 F.3d 1360, 1367 (Fed. Cir. 2016) as stating that “[t]he purpose of the trial in an *inter partes* review proceeding is to give the parties an opportunity to build a record by introducing evidence—not simply to weigh evidence of which the Board is already aware.” Inst. Resp. Br. 2. Generally, we agree, but determine the circumstances in this case are wholly different. As discussed above, this is not a case where Petitioner cites new evidence in a reply to a Patent Owner response. Instead, Petitioner chose to rely only on the narrow *Katz* exception in its Petition, did not request a reply to the Preliminary Response, and ignored the limitations in our order authorizing its Institution Response Brief to put forth an entirely new mapping of the reference. In other words, Petitioner seeks to re-write its Petition as to the means-plus-function claims, not simply develop evidence in support of the positions in its Petition.

Accordingly, we do not consider the portion of Petitioner’s Institution Response Brief that addresses whether Kasso teaches the “means for installing” limitation as construed in our Decision on Institution.

B. Claim Construction

In an *inter partes* review, claim terms in an unexpired patent are construed according to their broadest reasonable interpretation in light of the specification of the patent in which they appear. *See* 37 C.F.R. § 42.100(b) (2016); *Cuozzo Speed Techs., LLC v. Lee*, 136 S. Ct. 2131, 2144–46 (2016). Under that standard, claim terms are generally given their ordinary and customary meaning, as would be understood by one of ordinary skill in the

art, in the context of the entire disclosure. *In re Translogic Tech., Inc.*, 504 F.3d 1249, 1257 (Fed. Cir. 2007). There are, however, two exceptions to that rule: “1) when a patentee sets out a definition and acts as his own lexicographer,” and “2) when the patentee disavows the full scope of a claim term either in the specification or during prosecution.” *See Thorner v. Sony Computer Entm’t Am. LLC*, 669 F.3d 1362, 1365 (Fed. Cir. 2012).

In our Decision on Institution, we determined we needed only address the constructions of “application program,” “installing,” and “means for installing a plurality of application programs at the server” and only to the extent necessary to resolve whether the grounds asserted by Petitioner properly accounted for those terms. *See Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999) (holding that “only those terms need be construed that are in controversy, and only to the extent necessary to resolve the controversy”). We address each of those terms below.

1. “application program”

Upon reviewing the parties’ preliminary arguments and evidence, we determined that the broadest reasonable interpretation of “application program” in the context of the challenged claims is “code associated with underlying application program functions.” Dec. on Inst. 8. In particular, we noted the ’466 patent states: “As used herein, the term ‘application program’ generally refers to the code associated with the underlying program functions, for example, Lotus Notes or a terminal emulator program.” *Id.* (quoting Ex. 1001, 14:24–27). We further found that definition is consistent with the language of the independent claims, which recite “providing an instance of the selected one of the plurality of

application programs to the client *for execution* responsive to the selection.” *Id.* (quoting Ex. 1001, 23:6–8). Following institution, neither party addresses our preliminary construction of “application program.” Upon review of the record developed during trial, we see no reason to modify that construction. Accordingly, we determine that the broadest reasonable interpretation of “application program” in the context of the challenged claims is “code associated with underlying application program functions.” *See* Ex. 1001, 14:24–27, 23:6–8.

2. “installing”

In our Decision on Institution, we determined that the broadest reasonable interpretation of “installing” does not encompass “configuring” or “registering” as those terms are used in the ’466 patent, but we determined that we did not need to further construe “installing.” Dec. on Inst. 9. In reaching that determination, we relied on portions of the ’466 patent that distinguish between installation and configuration or registration. *Id.* (citing Ex. 1001, 4:15–16 (“install and register the application program on the on-demand server”), 4:20 (“install and register the program”), 18:27–29 (“[A]n administrator both sends a new application package to all supported on-demand servers and installs the program and configures (registers) it to be available for use.”). Following institution, neither party addresses our preliminary construction of “installing,” and upon review of the record developed during trial, we see no reason to modify that construction. Accordingly, we determine that the broadest reasonable interpretation of “installing” does not encompass “configuring” or “registering” as those terms are used in the ’466 patent, but we do not further construe “installing.” *E.g.*, Ex. 1001, 4:15–16, 4:20, 18:27–29.

3. “means for installing a plurality of application programs at the server”

Regarding “means for installing a plurality of application programs at the server,” we determined that the limitation is a means-plus-function limitation with the function of “installing a plurality of application programs at the server.” Dec. on Inst. 10. As discussed above, for corresponding structure, Petitioner relied only on general purpose hardware (a server processor, CRM (computer readable medium), or a network drive accessible to a server) with no algorithm. *Id.* (citing Pet. 20). In support, Petitioner cited *Katz*, 639 F.3d at 1316, as holding that a “general-purpose computer, by itself, may be sufficient as corresponding structure for general computing functions such as storing, which can be achieved by any general purpose computer without special programming.” *Id.* (citing Pet. 19). We noted in our Decision on Institution that the Federal Circuit has characterized the exception in *Katz* as a “narrow” one. *Id.* at 11 (citing *EON Corp. IP Holdings LLC v. AT & T Mobility LLC*, 785 F.3d 616, 621 (Fed. Cir. 2015); *Ergo Licensing, LLC v. CareFusion 303, Inc.*, 673 F.3d 1361, 1364 (Fed. Cir. 2012)). In particular, we noted the Federal Circuit has stated that “a microprocessor can serve as structure for a computer-implemented function only where the claimed function is ‘coextensive’ with a microprocessor itself” (i.e., where the claimed function is a “basic function[] of a microprocessor”). *Id.* (quoting *EON Corp.*, 785 F.3d at 622–23).

We then determined that Petitioner had not shown that the recited function (i.e., “installing a plurality of application programs at the server”) was a basic function of a microprocessor such that general purpose hardware with no algorithm could be sufficient corresponding structure. Dec. on Inst. 10–11 (“Petitioner provides no evidence or factually-supported explanation

to support its apparent argument that ‘installing a plurality of application programs at the server’ is a basic function of a microprocessor.”). In our Decision on Rehearing, we also noted that the ’466 patent suggests “installing” is more than a basic function of a microprocessor when it discusses “various steps in the installation process.” Dec. on Reh’g 4 n.1 (quoting Ex. 1001, 3:31–36).

We next analyzed the corresponding structure proposed by Patent Owner. Because we determined that “installing” does not encompass configuring or registering, we determined the portions of Patent Owner’s proposed corresponding structure related to configuration were not linked to the recited function. *Id.* at 12–13 (discussing Ex. 1001, 6:19–21, 13:1–23, 18:3–18, 20:1–59, Figs. 5, 8, 9C). We also determined that other portions of Patent Owner’s proposed corresponding structure did not disclose an algorithm for the recited “installing.” *Id.* at 12 (discussing Ex. 1001, Fig. 4, 12:25–30). We determined the remainder of Patent Owner’s proposed corresponding structure, namely Figure 8, steps 112–116, and the associated description of those steps in the ’466 patent (Ex. 1001, 17:55–67), have the required clear linkage or association to the recited function. *Id.* at 13.

Thus, we determined the corresponding structure for this claim limitation includes, at least, an algorithm for specifying application program source and destination locations, executing a pre-distribution program (if specified), and distributing the application program software to an on-demand server (and equivalents of such an algorithm). *Id.* at 11–13 (citing Ex. 1001, Fig. 8, steps 112–116, 17:55–67). Finally, we determined that claim 16 requires the same corresponding structure because it recites “computer readable program code means.” *Id.* at 13–14.

Other than the Petitioner's Institution Response Brief, which we discuss above, the parties do not address the "means for installing" limitation. Accordingly, we maintain our construction of that term with the function of "installing a plurality of application programs at the server" and corresponding structure of, at least, an algorithm for specifying application program source and destination locations, executing a pre-distribution program (if specified), and distributing the application program software to an on-demand server (and equivalents of such an algorithm). *See* Ex. 1001, Fig. 8, steps 112–116, 17:55–67.

C. Asserted Obviousness over Kasso and Raduchel

Petitioner contends that claims 1, 7, 8, 15, 16, 22, 23, 35, and 36 of the '466 patent are unpatentable as obvious over the combined teachings of Kasso and Raduchel. Pet. 28–52. Petitioner explains how it alleges this proffered combination teaches or suggests the subject matter of each challenged claim, and provides reasoning as to why one of ordinary skill in the art would have been prompted to modify or combine the references' respective teachings. *Id.* Petitioner also relies upon the Declaration of Mr. Day to support its positions. Ex. 1008 ¶¶ 23–70. In its Patent Owner Response, Patent Owner presents a number of arguments as to why the combined teachings of Kasso and Raduchel do not render the limitations of claim 1 obvious. PO Resp. 6–19. Patent Owner relies upon the Declaration of Dr. DiEuliis to support its positions. Ex. 2001.

We begin our analysis with the principles of law that generally apply to a ground based on obviousness, followed by an assessment of the level of skill in the art, as well as brief overviews of Kasso and Raduchel, and then

we address the parties' contentions with respect to the claims at issue in this asserted ground.

1. Legal Principles

A claim is unpatentable under 35 U.S.C. § 103(a) if 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 to a person having ordinary skill in the art to which said subject matter pertains. *See KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007). The question of obviousness is resolved on the basis of underlying factual determinations including: (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; (3) the level of ordinary skill in the art; and (4) when in the record, objective evidence of nonobviousness. *See Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966). In that regard, an obviousness analysis “need not seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ.” *KSR*, 550 U.S. at 418.

2. Level of Skill in the Art

There is evidence in the record before us that enables us to determine the knowledge level of a person of ordinary skill in the art. Relying on the testimony of its declarant, Mr. Day, Petitioner asserts that a person of ordinary skill in the art at the time of the alleged invention of the '466 patent “would have held at least a Bachelor of Science or higher degree in electrical engineering or computer science, and at least three years of experience with client-server systems.” Pet. 17 (citing Ex. 1008 ¶ 17). Again relying on the testimony of Mr. Day, Petitioner contends “[a]dditional education may

compensate for less experience and vice-versa.” *Id.* (citing Ex. 1008 ¶ 17). In the Preliminary Response, Patent Owner did not dispute Mr. Day’s testimony. Prelim. Resp. 4–5. Following institution, Patent Owner did not address the level of skill in the art. *See* PO Resp. We adopt Mr. Day’s assessment because it is consistent with the ’466 patent and the asserted prior art, and apply it to our obviousness evaluation below.

3. *Overview of Kasso and Raduchel*

Kasso is entitled “Computer System for Managing and Configuring Application Properties and Enabling System Administrator to Override Certain User-Set or Host Properties,” and was filed on April 2, 1997 and issued on November 3, 1998. Ex. 1009, at [54], [22], [45]. Petitioner contends Kasso is prior art under at least 35 U.S.C. §§ 102(a) and 102(e). Pet. 25.

Figure 2 of Kasso is reproduced below.

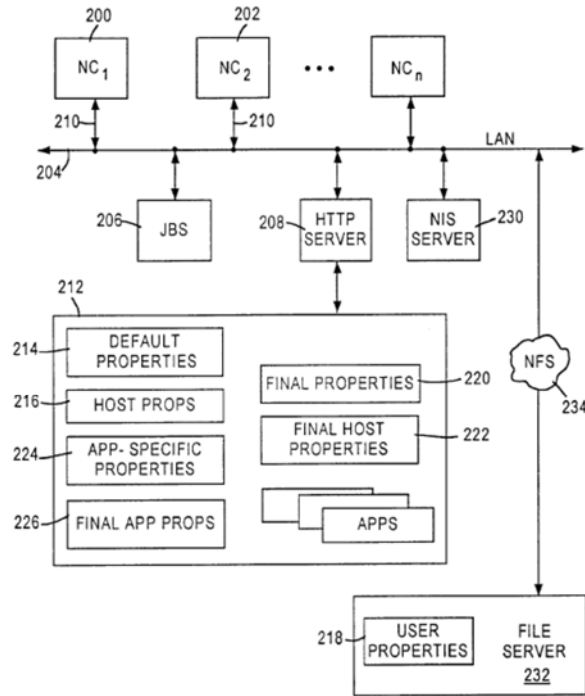


Fig. 2

Figure 2 depicts a hardware environment with a plurality of network computers (NC) 200, 202. Ex. 1009, 4:46–47. When NC 200 powers on, it locates JavaOS boot server (JBS) 206 and downloads an operating system and a Selector program. *Id.* at 4:54–55, 5:21–30. Once the host begins executing JavaOS, the user enters a username and password, and the JavaOS requests Network Information Server (NIS) 230 to verify the validity of the username and password. *Id.* at 5:35–41. The JavaOS then passes control to the Selector, which establishes a connection to HTTP server 208 to access application programs 240 on HTTP server 208. *Id.* at 5:54–63.

Figure 5 of Kasso is reproduced below.

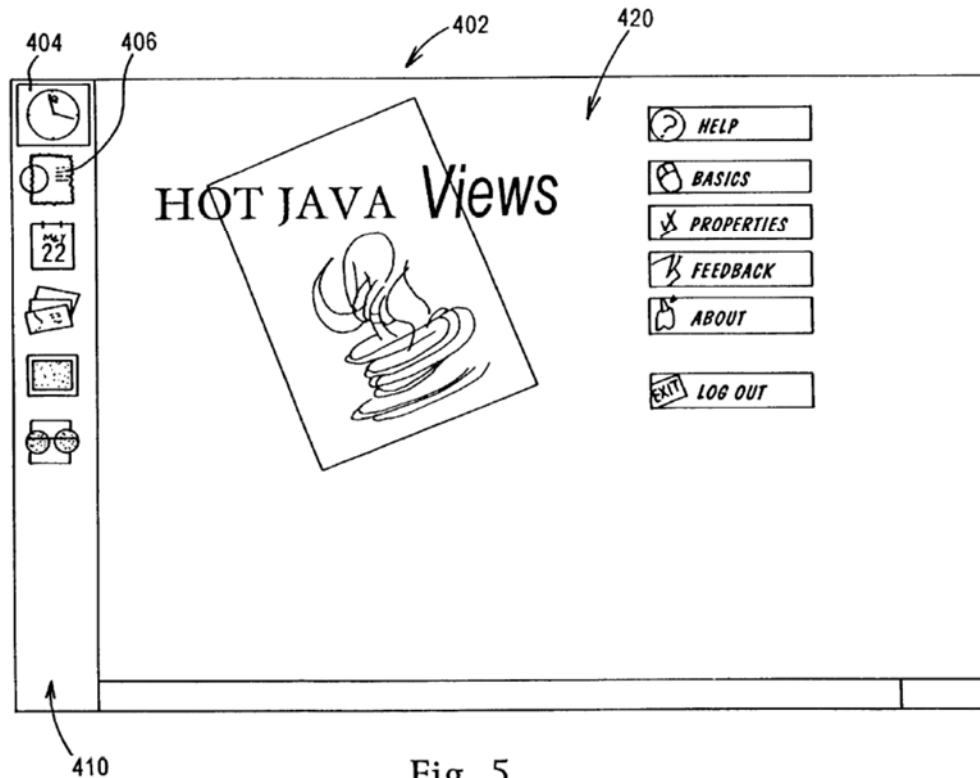


Fig. 5

Figure 5 depicts main screen 402 displayed by Selector at NC 200. *Id.* at 5:63.² Each application program is represented on main screen 402 by an icon 404, 406. *Id.* at 5:63–66. For example, Kasso explains that when a user clicks on mailbox icon 406,³ the MailView Java applet loads itself into the RAM of the network computer, and then executes and runs on the network computer. *Id.* at 6:1–12.

² Although in the cited portion Kasso refers to Figure 4, it is clear from the reference numbers that Figure 5 is actually described.

³ Although in the cited portion Kasso refers to both “mailbox icon 404” (Ex. 1009, 6:1) and “mailbox icon 406” (*id.* at 6:5), it is clear from both the context and from Figure 5 that both references refer to “mailbox icon 406.”

Raduchel is entitled “Network-Based Authentication of Computer User,” and issued on January 8, 2002. Ex. 1010, at [54], [45]. Petitioner contends Raduchel is prior art under at least under 35 U.S.C. § 102(e).
Pet. 27.

4. Analysis

Petitioner contends that claims 1, 7, 8, 15, 16, 22, 23, 35, and 36 would have been obvious over Kasso and Raduchel. Pet. 28–52.

a. Claims 1, 7, and 8

For claim 1, Petitioner relies primarily on the teachings of Kasso. For the preamble “[a] method for management of application programs on a network including a server and a client,” Petitioner contends Kasso describes distributing Java applets (i.e., application programs) in a network including HTTP server 208 (i.e., a server), Network Information Server (“NIS”) 230, and a host such as network computer 200 (i.e., a client). Pet. 28–29 (citing Ex. 1009, 4:46–5:7, 5:60–62; Ex. 1008 ¶ 23). Petitioner further contends that Kasso teaches “installing a plurality of application programs at the server,” as recited in claim 1, because Kasso describes installing a plurality of Java applets at HTTP server 208. *Id.* at 30–31 (citing Ex. 1009, 4:62–5:4, 6:1–7, 6:60–65; Ex. 1008 ¶ 25).

Regarding “receiving at the server a login request from a user at the client,” as recited in claim 1, Petitioner contends that Kasso teaches receiving, at NIS 230, a request to verify the validity of a username and password entered by a user at host computer 200. *Id.* at 32 (citing Ex. 1009, 5:34–40). Petitioner acknowledges that NIS 230, which receives login requests in Kasso, is distinct from HTTP server 208, which delivers applications to clients in Kasso. *Id.* Nevertheless, Petitioner presents two

modifications to Kasso that it contends satisfy the limitations of claim 1 and would have been obvious. *Id.* at 32–36. First, Petitioner contends “it would have been obvious to implement the authentication functionality described for the NIS server 230 on the HTTP server 208 of Kasso, so that the HTTP server 208 would have received authentication requests” (“single server modification”). *Id.* at 32. Among other reasons, Petitioner contends that implementing these two functions on the same server, instead of on separate, dedicated servers, would have saved costs and potentially simplified the system architecture. *Id.* at 33–34 (citing Ex. 1008 ¶ 28). Relying on the testimony of its declarant, Mr. Day, Petitioner asserts that a single-server implementation would have been desirable on a system of limited scale where the additional processing power of a dedicated authentication server was not required. *Id.* at 34 (citing Ex. 1008 ¶ 28).

Second, Petitioner contends “it would have been obvious to receive authentication requests at HTTP server 208, which would then offload the authentication functionality to NIS server 230” (“offload modification”). *Id.* at 32. Among other reasons, Petitioner contends that a person of ordinary skill would have been motivated to make this modification to simplify communications on the client side and to minimize the number of servers directly exposed to external communications. *Id.* at 35 (citing Ex. 1008 ¶¶ 32–33). Petitioner also contends the offload modification would have been suitable for larger networks. *Id.* at 32–33 (citing Ex. 1008 ¶ 26).

Petitioner contends that Kasso teaches “establishing a user desktop interface at the client associated with the user responsive to the login request from the user, the desktop interface including a plurality of display regions associated with a set of the plurality of application programs installed at the

server for which the user is authorized,” as recited in claim 1. *Id.* at 36–40. In particular, Petitioner contends that Kasso’s Selector application is launched in response to a login request from the user and establishes a user desktop interface. *Id.* at 36–37 (citing Ex. 1009, 5:23–53, 5:60–6:4, Fig. 5; Ex. 1008 ¶¶ 37–38). Petitioner points to the plurality of display regions (icons 404, 406) in Kasso’s Figure 5 as being associated with a set of the plurality of application programs installed at the server for which the user is authorized. *Id.* at 37 (citing Ex. 1009, 5:63–6:12, Fig. 5).

Petitioner further contends that to the extent this limitation requires the displayed icons be only for applications for which the user is authorized, such a limitation would have been obvious based on Raduchel’s user-selective application access. *Id.* at 37–38. Specifically, Petitioner contends that it would have been obvious

to combine *Raduchel*’s teachings on user-selective application access with *Kasso*’s teachings on providing a user desktop interface, to arrive at a user desktop interface which does not merely display applications for which the user is authorized (among others), but is configured according to a list of applications (indicated by *Raduchel*’s token) for which the user is authorized.

Id. at 39. Petitioner contends that a person of ordinary skill would have been motivated to combine these teachings to simplify the user display and reduce error messages caused by user interactions with unavailable applications. *Id.* (citing Ex. 1008 ¶ 42).

Petitioner further contends that Kasso teaches “receiving at the server a selection of one of the plurality of application programs from the user desktop interface,” as recited in claim 1. *Id.* at 40–41. In particular, Petitioner relies on Kasso’s teaching that when a user clicks on mailbox icon

406, HTTP server 208 receives a request to access the HTML page associated with the MailView application icon. *Id.* (citing Ex. 1009, 5:2–4, 6:1–7; Ex. 1008 ¶ 45).

Finally, Petitioner contends that Kasso teaches “providing an instance of the selected one of the plurality of application programs to the client for execution responsive to the selection,” as recited in claim 1. *Id.* at 41–42. Petitioner contends that in Kasso, when a user clicks mailbox icon 406, HTTP server 208 provides an instance of the selected application when Selector loads an instance of the MailView Java applet to the host. *Id.* at 41 (citing Ex. 1009, 6:4–7, 6:9–12; Ex. 1008 ¶ 47). To the extent that this limitation requires distribution of transient programs, rather than client-resident programs, Petitioner contends that such a requirement would have been obvious in light of Raduchel’s teachings. *Id.* at 41–42 (citing Ex. 1008 ¶ 49).

As an initial matter, other than the “receiving” limitation discussed below, in its Patent Owner Response, Patent Owner does not address separately whether the combined teachings of Kasso and Raduchel account for the remaining limitations of independent claim 1. *See generally* PO Resp. We have reviewed Petitioner’s explanations and supporting evidence as to how this proffered combination teaches these remaining limitations, and we agree with and adopt Petitioner’s analysis. *See* Pet. 28–31, 36–42.

In its Patent Owner Response, Patent Owner presents a number of arguments contending that Petitioner has not shown “receiving at the server a login request from a user at the client,” as recited in claim 1, would have been obvious in light of Kasso’s teachings. PO Resp. 6. Patent Owner argues that Petitioner has failed to show that either of its proposed

modifications to Kasso's system would have been obvious. *Id.* at 1. As discussed below, we find that Petitioner has shown its single server modification to Kasso would have been obvious. Because Petitioner proposed its two modifications as alternatives (either one standing alone would be sufficient to satisfy the "receiving" limitation), we need not and do not reach Patent Owner's arguments regarding the offload modification.

Claim 1 recites that certain of its method steps (e.g., installing a plurality of application programs and receiving a login request from a user at the client) happen at "the server." Ex. 1001, 21:17–35. As discussed above, Petitioner acknowledges that in Kasso, "the NIS server 230, which receives login requests from clients, is distinct from the HTTP server 208, which delivers applications to clients" (i.e., these functions are performed by different servers). Pet. 32. Petitioner contends that "it would have been obvious to implement the authentication functionality described for the NIS server 230 on the HTTP server 208 of *Kasso*, so that the HTTP server 208 would have received authentication requests." *Id.*

Patent Owner contends Petitioner's proposed single-server modification is "hindsight and speculative reconstruction outside the four corners of the reference." PO Resp. 6. Patent Owner argues that Petitioner provides no explanation, reasoning, or evidence as to why a person of ordinary skill would have been motivated "to completely redesign the *Kasso* system, such that the authentication functionality dedicated to a server designed for that purpose[] is, instead, implemented in an entirely different server having an expressly different purpose." *Id.* at 8. Patent Owner argues that Petitioner's contention that this modification "would have saved costs and **potentially** simplified the system architecture" is speculation. *Id.* at 9

(citing Pet. 33–34; Ex. 1008 ¶ 28). In particular, Patent Owner contends that this alleged motivation is conclusory (*id.* at 11–12), Kasso’s description of dedicated servers would have led a person of ordinary skill away from using a single server (*id.* at 15), and using a single server would have eliminated the “enhanced security aspect” of Kasso (*id.* (citing Ex. 1001 ¶¶ 90–93)).

In its Reply, Petitioner contends that the single-server modification would not require Kasso’s system to be completely redesigned, but instead would have required only “incorporating authentication functionality on a delivery server such as the HTTP server 208 of *Kasso*.” Pet. Reply 3–4 (quoting Pet. 33). Regarding its explanation that implementing these two functions on the same server would have “saved costs and potentially simplified the system architecture,” Petitioner contends that a person of ordinary skill in the art “would have understood that hardware had a cost, and that using one computer instead of two would have saved costs and potentially simplified a system.” *Id.* at 7. Petitioner also points to the testimony of its declarant, Mr. Day, that “[a] single-machine implementation would have been particularly desirable on a system of limited scale, which would not have required the additional processing power of a dedicated authentication server.” *Id.* at 8–9 (citing Pet. 34). Petitioner further contends that Kasso does not teach away from a single server approach merely by describing a different implementation. *Id.* at 10.

The Supreme Court has held that an obviousness evaluation “cannot be confined by a formalistic conception of the words teaching, suggestion, and motivation, or by overemphasis on the importance of published articles and the explicit content of issued patents.” *KSR*, 550 U.S. at 419. Instead, the relevant inquiry is whether Petitioner has set forth “some articulated

reasoning with some rational underpinning to support the legal conclusion of obviousness.” *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006), *cited with approval in KSR*, 550 U.S. at 418. Based on the record developed during trial, we determine Petitioner has shown that one of ordinary skill in the art would have had a sufficient reason to modify Kasso such that login requests would be received at the same server on which application programs are installed and selections of application programs are received. As Petitioner notes, this modification is supported by its declarant’s testimony that this approach would have been “desirable on a system of limited scale, which would not have required the additional processing power of a dedicated authentication server.” Ex. 1008 ¶¶ 26, 28.

Patent Owner faults this testimony for being conclusory, but we determine it reflects the ordinary creativity of a skilled artisan. *See Tyco Healthcare Grp. LP v. Ethicon Endo-Surgery, Inc.*, 774 F.3d 968, 978 (Fed. Cir. 2014) (“[O]ne of ordinary skill is also one of ‘ordinary creativity’ that knows how to combine familiar prior art elements to achieve the same functions.”). Petitioner’s proposed modification simply takes functions performed at separate servers in Kasso’s system and combines them such that one server performs those functions. Petitioner’s contention is supported by its declarant’s testimony (Ex. 1008 ¶¶ 26, 28), and Petitioner provides a rational basis for this modification, namely, reducing costs and simplifying architecture when the scale of the system does not require the processing power of dedicated servers. Pet. 33–34.

We acknowledge that Patent Owner and its declarant present advantages of Kasso’s distributed server system that would allegedly be lost when servers are combined, such as enhanced performance and efficiency,

balanced server upgrades (i.e., the need to only upgrade the server experiencing increased load for its dedicated function), easier scalability, easier maintenance, and enhanced security. Ex. 1008 ¶ 89. Dr. DiEuliis testifies that because the single-server modification would eliminate Kasso’s enhanced security, a person of ordinary skill in the art would have been led away from this modification. *Id.* ¶ 93.

The Federal Circuit has noted “a given course of action often has simultaneous advantages and disadvantages, and this does not necessarily obviate motivation to combine.” *Medichem, S.A. v. Rolabo, S.L.*, 437 F.3d 1157, 1165 (Fed. Cir. 2006); *see also In re Mouttet*, 686 F.3d 1322, 1334 (Fed. Cir. 2012) (“[J]ust because better alternatives exist in the prior art does not mean that an inferior combination is inapt for obviousness purposes.” (citation omitted)). Here, we have considered the advantages of the single server modification shown by Petitioner as well as the disadvantages identified by Patent Owner, and we determine the disadvantages do not obviate the motivation to modify Kasso as discussed above.

We also disagree with Patent Owner that Kasso teaches away from the single server modification. PO Resp. 15. A reference does not teach away “if it merely expresses a general preference for an alternative invention but does not ‘criticize, discredit, or otherwise discourage’ investigation into the invention claimed.” *DePuy Spine, Inc. v. Medtronic Sofamor Danek, Inc.*, 567 F.3d 1314, 1327 (Fed. Cir. 2009) (quoting *In re Fulton*, 391 F.3d 1195, 1201 (Fed. Cir. 2004)). Patent Owner points to Kasso’s “explicit description of separate, dedicated servers,” but does not identify any teaching in Kasso that criticizes, discredits, or otherwise discourages investigation into using a single-server approach. *See* PO Resp. 14–16.

Thus, we determine Kasso does not teach away from a single-server approach. Instead, we find, considering the advantages and disadvantages of such an approach, including Petitioner's asserted reasoning why a person of ordinary skill would have been motivated to use that approach, a person of ordinary skill would have found it obvious to modify Kasso such that the authentication functionality was incorporated on Kasso's HTTP server 208. Accordingly, we find Petitioner has sufficiently shown "receiving at the server a login request from a user at the client," as recited in claim 1 would have been obvious in light of Kasso's teachings.

For the reasons discussed above, Petitioner has demonstrated by a preponderance of the evidence that the subject matter of independent claim 1 would have been obvious over the combined teachings of Kasso and Raduchel. Patent Owner does not separately address dependent claims 7 and 8. PO Resp. 19. We have reviewed the information provided by Petitioner, including the relevant portions of the supporting Day Declaration (Ex. 1008), and we agree with and adopt Petitioner's analysis. *See* Pet. 43–52. Petitioner, therefore, has demonstrated by a preponderance of the evidence that the subject matter of dependent claims 7 and 8 would have been obvious over the combined teachings of Kasso and Raduchel.

b. Claims 15, 16, 22, 23, 35, and 36

For independent claims 15 and 16, we determined above that the corresponding structure for "means for installing a plurality of application programs at the server" includes at least, an algorithm for specifying application program source and destination locations, executing a pre-distribution program (if specified), and distributing the application program software to an on-demand server (and equivalents of such an algorithm).

See Ex. 1001, Fig. 8, steps 112–116, 17:55–67. In the Petition, Petitioner addresses the limitations of claims 1, 15, and 16 together. Pet. 28–52. For this limitation, although Petitioner contends that Kasso has application programs stored at a server’s storage device, Petitioner does not address whether this teaching meets the corresponding structure discussed above (i.e., steps 112–116 of Figure 8 and the associated description (Ex. 1001, 17:55–67) (and their equivalents)). *Id.* at 30–31. For the reasons discussed above, we do not consider the new mapping of Kasso to this corresponding structure that Petitioner asserted for the first time in its Institution Response Brief because that mapping was not presented in the Petition and exceeds the scope of our authorization for the Institution Response Brief.

Because Petitioner has not shown that Kasso describes the corresponding structure for performing “installing a plurality of application programs at the server,” we determine Petitioner has not demonstrated by a preponderance of the evidence that the subject matter of independent claims 15 and 16 and claims 22, 23, 35, and 36 depending therefrom, would have been obvious over the combined teachings of Kasso and Raduchel.

D. Asserted Obviousness over Kasso, Raduchel, and Bennett

Bennett is entitled “System and Methods Including Automatic Linking of Tables for Improved Relational Database Modeling with Interface,” and issued on March 25, 1997. Ex. 1011, at [54], [45]. Petitioner contends that Bennett is prior art at least under 35 U.S.C. § 102(b). Pet. 28.

Claim 2 depends from claim 1 and recites, *inter alia*, “maintaining application management information for the plurality of applications at the server.” Ex. 1001, 21:38–39. For claim 2, Petitioner relies on Kasso as teaching this limitation and cites its expert’s testimony in support. Pet. 53

(citing Ex. 1008 ¶ 73). Patent Owner does not separately address dependent claim 2. PO Resp. 19. We have reviewed the information provided by Petitioner, including the relevant portions of the supporting Day Declaration (Ex. 1008), and we agree with and adopt Petitioner's analysis. *See* Pet. 52–55. Petitioner, therefore, has demonstrated by a preponderance of the evidence that the subject matter of dependent claim 2 would have been obvious over the combined teachings of Kasso, Raduchel, and Bennett.

Claim 17 depends from claim 15, and claim 30 depends from claim 16. Petitioner's contentions in this ground do not cure the deficiency with its contentions for claims 15 and 16 discussed above. Accordingly, we determine that Petitioner has not demonstrated by a preponderance of the evidence that the subject matter of dependent claims 17 and 30 would have been obvious over the combined teachings of Kasso, Raduchel, and Bennett.

E. Asserted Obviousness over Kasso, Raduchel, and Olsen

Olsen is entitled "Fault Tolerant Electronic Licensing System" and was issued on May 18, 1999. Ex. 1012, at [45], [54]. Petitioner contends that Olsen is prior art under at least 35 U.S.C. § 102(e). Pet. 28.

Claim 9 depends from claim 1. Patent Owner does not separately address dependent claim 9. PO Resp. 19. We have reviewed the information provided by Petitioner, including the relevant portions of the supporting Day Declaration (Ex. 1008), and we agree with and adopt Petitioner's analysis. *See* Pet. 57–62. Petitioner, therefore, has demonstrated by a preponderance of the evidence that the subject matter of dependent claim 9 would have been obvious over the combined teachings of Kasso, Raduchel, and Olsen.

Claim 24 depends from claim 15, and claim 37 depends from claim 16. Petitioner's contentions in this ground do not cure the deficiency with its contentions for claims 15 and 16 discussed above. Accordingly, we determine Petitioner has not demonstrated by a preponderance of the evidence that the subject matter of dependent claims 24 and 37 would have been obvious over the combined teachings of Kasso, Raduchel, and Olsen.

IV. CONCLUSIONS

Petitioner has demonstrated by a preponderance of the evidence that claims 1, 7, and 8 are unpatentable under § 103(a) over the combined teachings of Kasso and Raduchel; claim 2 is unpatentable under § 103(a) over the combined teachings of Kasso, Raduchel, and Bennett; and claim 9 is unpatentable under § 103(a) over the combined teachings of Kasso, Raduchel, and Olsen. Petitioner, however, has not demonstrated by a preponderance of the evidence that claims 15, 16, 22, 23, 35, and 36 are unpatentable under § 103(a) over the combined teachings of Kasso and Raduchel; claims 17 and 30 are unpatentable under § 103(a) over the combined teachings of Kasso, Raduchel, and Bennett; and claims 24 and 37 are unpatentable under § 103(a) over the combined teachings of Kasso, Raduchel, and Olsen.

V. ORDER

Accordingly, it is

ORDERED that claims 1, 2, and 7–9 of the '466 patent are held to be *unpatentable*;

FURTHER ORDERED that claims 15–17, 22–24, 30, and 35–37 have not been shown to be unpatentable under any of the asserted grounds; and

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

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