UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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IRONSOURCE LTD.,
Petitioner,

v.

DIGITAL TURBINE INC.,
Patent Owner.

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PGR2021-00096
Patent 10,782,951 B2

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Before KALYAN K. DESHPANDE, *Vice Chief Administrative Patent Judge*, MONICA S. ULLAGADDI and IFTIKHAR AHMED, *Administrative Patent Judges.*

AHMED, *Administrative Patent Judge.*

JUDGMENT
Final Written Decision
Determining All Challenged Claims Unpatentable
Denying Patent Owner's Contingent Motion to Amend
Granting-in-Part Petitioner's Motion to Exclude
Denying Patent Owner's Motion to Exclude
35 U.S.C. §§ 326(d), 328(a); 37 C.F.R. § 42.64(c)

I. INTRODUCTION

IronSource Ltd. ("Petitioner") requested a post-grant review of claims 1–18 (the "challenged claims") of U.S. Patent 10,782,951 B2 (Ex. 1001, "the '951 patent"). Paper 2 ("Petition" or "Pet."). Digital Turbine Inc. ("Patent Owner") filed a Preliminary Response. Paper 7. Applying the standard set forth in 35 U.S.C. § 324(a), we instituted a post-grant review of the challenged claims. Paper 14 ("Inst. Dec.").

After institution, Patent Owner filed a Patent Owner Response (Paper 18, "PO Resp."), Petitioner filed a Reply to Patent Owner's Response (Paper 23, "Pet. Reply"), and Patent Owner filed a Sur-reply (Paper 26, "PO Sur-reply"). Additionally, Patent Owner filed a Contingent Motion to Amend under 37 C.F.R. § 42.221. Paper 19 ("MTA"). Petitioner filed an Opposition to the MTA (Paper 24, "MTA Opp."), Patent Owner filed a Reply in Support of the MTA (Paper 28, "MTA Reply"), and Petitioner filed a Sur-reply in Opposition (Paper 38, "MTA Sur-reply").

Both parties filed Motions to Exclude. Specifically, Petitioner filed a Motion to Exclude (Paper 39, "Pet. MTE"), which Patent Owner opposed (Paper 44, "PO MTE Opp."). Patent Owner filed a Motion to Exclude (Paper 41, "PO MTE"); Petitioner filed an Opposition (Paper 43, "Pet. MTE Opp."); and Patent Owner filed a Reply to Petitioner's Opposition (Paper 46, "PO MTE Reply").

An oral argument was held in this proceeding on October 4, 2022, and a transcript was entered into the record. Paper 48 ("Tr.").

We have jurisdiction under 35 U.S.C. § 6. This Decision is a final written decision under 35 U.S.C. § 328(a) as to the patentability of claims 1–18 of the '951 patent. For the reasons discussed below, we determine that Petitioner has shown by a preponderance of the evidence that claims 1–18 of

the '951 patent are unpatentable. We deny Patent Owner's Contingent Motion to Amend as to proposed substitute claims 19–36. We deny Patent Owner's motion to exclude, and grant-in-part Petitioner's motion to exclude.

II. BACKGROUND

A. Real Parties in Interest

Petitioner identifies itself as the real party-in-interest. Pet. 1. Patent Owner identifies itself as the real party-in-interest. Paper 6, 1.

B. Related Matters

The parties identify U.S. Patent Application Serial No. 16/992,194 (now issued as U.S. Patent 11,157,256 B2, "the '256 patent") that claims the benefit of the '951 patent. Pet. 1; Paper 6, 1. Petitioner filed a post-grant review petition challenging claims 1–22 of the '256 patent in PGR2022-00053 on July 25, 2022.

C. The '951 Patent (Ex. 1001)

The '951 patent, titled "Instant Installation of Apps," was filed on February 23, 2018, as Application No. 15/903,054 ("the '054 application"). Ex. 1001, codes (21), (22), (54). The patent describes an installation client for installing new software applications ("apps") on a device, without redirecting the device to an app store. *Id.* at 1:45–47. The installation client enables users to download new apps in the background while maintaining interaction with their currently-used application. *Id.* at 1:66–2:5.

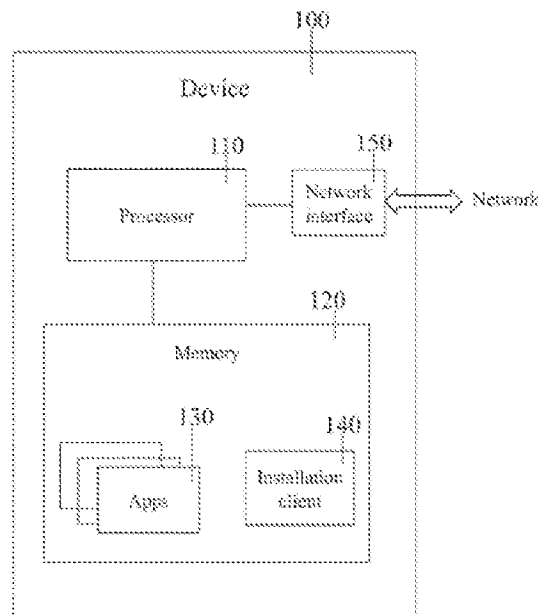Figure 1 of the '951 patent is reproduced below.

Figure 1, above, shows a block diagram of device 100 for running software applications, which includes processor 110 connected to non-transitory memory 120 which stores apps 130 and installation client 140. *Id.* at 9:15–17, 9:29–47. Device 100 may be a mobile device. *Id.* at 9:34–35.

The '951 patent describes the following example of a user using an app running on device 100:

> The current app displays an "instant install" link (e.g. an ad containing a clickable link) for a different app (denoted herein the new app). When the user selects the "instant install" link in order to download the new app, installation client 140 is invoked to run in the background. The current app is not exited. The user may continue to use the current app without being aware that installation client 140 is now active in the background. Installation client 140 automatically downloads an installation file for the new app . . . . The installation file is used to install the new app on the device.

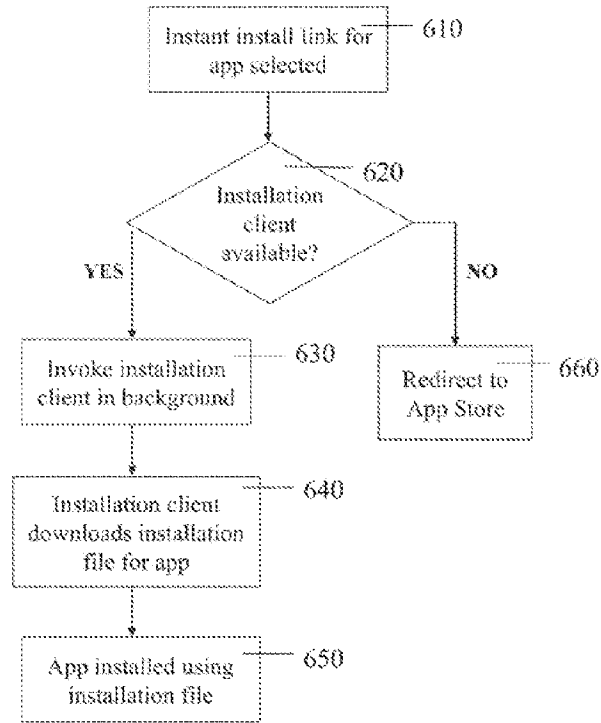*Id.* at 9:36–47. Figure 6 of the '951 patent is reproduced below.

Figure 6, above, shows a flowchart illustrating a method for installing software applications on a device, beginning with selecting an install link for an app (step 610), followed by determining whether an installation client is available (step 620). *Id.* at 13:48–56. If "YES," the installation client is invoked in the background (step 630), and proceeds to download the installation file for the app (step 640) and install the app using the installation file (step 650). *Id.* at 13:57–62. If "NO," the device is redirected to an app store (step 660). *Id.* at 13:63–64.

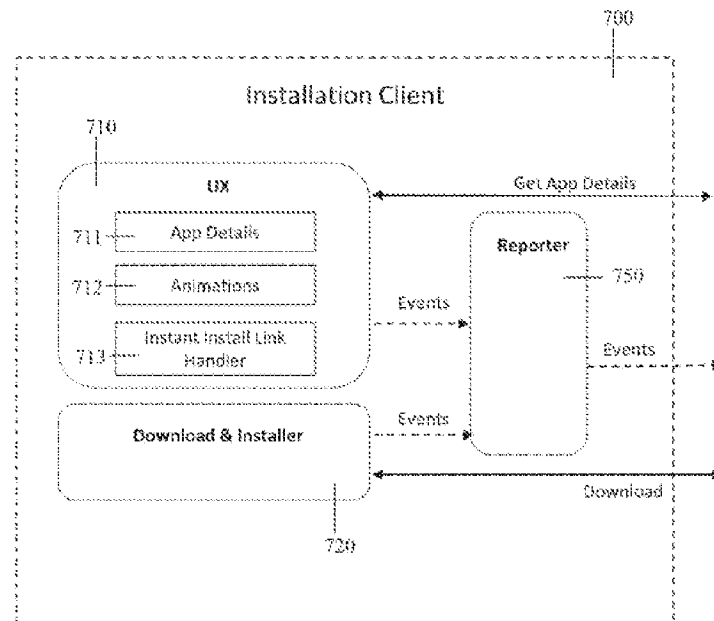Figure 7 of the '951 patent is reproduced below.

Figure 7, above, shows a schematic diagram of installation client 700, including several modules. *Id.* at 14:4–8. User Experience (UX) module UX 710 handles interaction with the user, and supports functionality such as providing app details, handling animations for display, and handling operations when an install link is selected. *Id.* at 14:12–25. Download and Installer 720 downloads and installs the new app when the install link is selected. *Id.* at 14:32–36. Reporter 750 monitors events occurring in the installation client, such as clicks on links, user confirmation to install app, successful download, successful install and other status/failure related events. *Id.* at 14:36–45.

D. *Challenged Claims*

Petitioner challenges claims 1–18, of which claims 1, 12, and 17 are independent claims. Claim 1 is reproduced below.

1. [pre] A mobile device configured for running software applications, comprising:

[a] a network interface configured for communicating over a network;

[b] at least one non-transitory computer readable storage medium storing instructions; and

[c] at least one processor associated with said network interface and said storage medium, configured for executing said instructions to:

[d] identify that a link for installation of a first software application is selected by user interaction with a second software application running on said device, the link being embedded in content displayed on said device by the second software application;

[e] in response to said identifying, determine whether an installation client for downloading and installing applications on said device is available on said device, said installation client comprising a third software application;

[f] when said installation client is available on said device:

[f1] invoke, without exiting said second software application, said installation client for downloading and installing applications on said device to run in the background on said device;

[f2] instruct said installation client to automatically download an installation file of said first software application to said device over said network using said network interface in the background on said device, without directing said user interaction to an app store; and

[f3] using said downloaded installation file, install said first software application on said device in the background on said device while maintaining a user experience of

7

> interaction with said second software application in the foreground; and

> [g] when said installation client is unavailable on said device, redirect said device to an app store for downloading and installing said first software application on said device.

Ex. 1001, 20:64–21:35 (annotations from Pet. 9–10).

E. Prior Art and Instituted Grounds of Unpatentability

We instituted trial based on the following grounds of unpatentability:

Claim(s) Challenged	35 U.S.C. §	Reference(s)/Basis
1–18	101	Eligibility
1, 3–12, 14–18	102(a)	Pasha[1]
2, 4–6, 11, 13, 14, 16, 18	103	Pasha[2]
2, 13	103	Pasha, Yamada[3]
6, 14	103	Pasha, Molinet[4]

Inst. Dec. 8, 53–54. Petitioner supports its arguments with declaration testimony of Kevin C. Almeroth, Ph.D. Exs. 1008, 1023. Patent Owner supports its arguments with declaration testimony of Zhuoqing Morely Mao, Ph.D. Ex. 2005.[5]

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[1] U.S. Patent 10,353,686 B1, issued July 16, 2019 (Ex. 1003, "Pasha").
[2] Although the Petition omits claims 11, 16, and 18 from its listing of challenged claims under Ground 3 (Pet. 4), the Petition challenges these claims as obvious in view of Pasha. *Id.* at 74, 81–82.
[3] U.S. Patent Application No. 2010/0095294 A1, published April 15, 2010 (Ex. 1004, "Yamada").
[4] U.S. Patent Application No. 2016/0142859 A1, published May 19, 2016 (Ex. 1005, "Molinet").
[5] Patent Owner filed a supplemental declaration of Dr. Mao (Ex. 2013) with its Patent Owner Sur-reply, and paragraphs 4–13 of that declaration relate to patentability of the original claims. As discussed below (*infra* § V.A), we exclude those portions of Dr. Mao's supplemental declaration because they do not meet the requirements of 37 C.F.R. § 42.23(b). To the extent Patent

III. ANALYSIS

A. *Eligibility for Post-Grant Review*

Post-grant review is available only for patents that, at one point, contained at least one claim with an effective filing date, as defined by 35 U.S.C. § 100(i), on or after March 16, 2013. Also, the request for post-grant review must be filed *no later than* nine months after the patent is granted. 35 U.S.C. § 321(c). Petitioner asserts that the '951 patent is available for post-grant review. Pet. 3. We agree. The filing date for the '951 patent is February 23, 2018, and the patent issued on September 22, 2020, exactly nine months before the filing date of the petition, June 22, 2021. Ex. 1001, codes (22), (45); Paper 4, 1.

B. *Level of Ordinary Skill in the Art*

The parties generally agree that a person of ordinary skill in the art would have formal education in computer science or a related field, and two or more years of computer programming experience. Pet. 13 (citing Ex. 1008 ¶ 39); PO Resp. 10 (citing Ex. 2005 ¶ 45).

On the complete record, we adopt the parties' definition of the level of skill in the art. We further note that the prior art itself demonstrates the level of skill in the art at the time of the invention. *See Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001) (explaining that specific findings regarding ordinary skill level are not required "where the prior art itself reflects an appropriate level and a need for testimony is not shown") (quoting *Litton Indus. Prods., Inc. v. Solid State Sys. Corp.*, 755 F.2d 158, 163 (Fed. Cir. 1985)).

Owner's arguments below rely on those paragraphs, we do not consider that evidence in arriving at our determinations.

C. Claim Construction

In this post-grant review, claims are construed 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). *See* 37 C.F.R. § 42.200(b) (2020). The claim construction standard includes construing claims in accordance with the ordinary and customary meaning of such claims as understood by one of ordinary skill in the art at the time of the invention. *See Phillips v. AWH Corp.*, 415 F.3d 1303, 1312–14 (Fed. Cir. 2005) (en banc). In construing claims in accordance with their ordinary and customary meaning, we take into account the specification and prosecution history. *Phillips*, 415 F.3d at 1315–17. Additionally, only terms that are in controversy need to be construed, and these need be construed only to the extent necessary to resolve the controversy. *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"); *Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co.*, 868 F.3d 1013, 1017 (Fed. Cir. 2017) (citing *Vivid Techs.* in the context of an AIA proceeding).

Patent Owner proposes constructions for the terms "invoke" and "redirect," which are disputed by Petitioner. *See* PO Resp. 10–16; Pet. Reply 1–6. Accordingly, we address the parties' arguments below.

1. Invoke

a) The Parties' Arguments

Patent Owner argues that the term "invoke" or "invoking" "should be construed as 'invoke to run' or 'invoking to run,' from a state in which the installation client was not previously running." PO Resp. 10–11. Patent Owner argues that the '951 patent specification repeatedly uses the term

"invoked to run" and "does not disclose an instance in which the installation client is invoked to run when it is already running." *Id.* at 11–12 (citing Ex. 1001, code (57), 1:51–52, 3:44–46, 3:60–62, 4:10–12, 6:43–46, 9:39–42, 13:33–34, 13:57–58, claims 1, 12, 17; Ex. 2005 ¶¶ 76–79). Patent Owner argues that a program "is not 'runnable' (i.e., [the program is] stopped, blocked, or unavailable)" before it is invoked. *Id.* at 12 (citing Ex. 2007). According to Patent Owner, invoking "would have been understood by a person of ordinary skill in the art to be an 'action of passing specific arguments/parameters to the program so it can run according to the desired inputs.'" *Id.* (citing Ex. 2005 ¶ 80)

Petitioner argues that "'[i]nvoke' is properly understood under its plain and ordinary meaning, which is to call or activate." Pet. 39 (citing Ex. 1008 ¶ 163). Petitioner argues that the "surrounding claim language gives context and specifies that the installation client runs in the background once it is invoked, but does not place any requirements on the state of the installation client prior to being 'invoked' (e.g., running or not running)." Pet. Reply 1–2 (citing Ex. 1008 ¶ 163). Petitioner contends that the specification never specifies the state of the installation client when it is being invoked, and although the specification uses the phrase "invoked to run" several times, it also uses the term "invoke" without any reference to "run" *eleven* times. *Id.* at 2 (citing Ex. 1001, 4:45–49, 10:22–23, 10:32–33, 12:24–26, 12:50–51, 13:2–4, 14:47–50, Figs. 4A, 4B, 5, 6). Petitioner argues that running the installation client in the background is important to achieving the objectives of the claimed invention, but the state of the client when it is invoked is irrelevant. *Id.*

Petitioner argues that dependent claim 2 supports Petitioner's proposed construction because that claim depends from claim 1 and further

recites that the installation client is *closed* when installation of the first
software application is completed. *Id.* at 2–3; Ex. 1001, 21:36–39.
Petitioner contends that claim 1 does not require closing the installation
client and "the installation client may remain running after the installation of
the first software application is completed," i.e., when the installation client
is subsequently invoked. Pet. Reply 3.

Finally, Petitioner argues that Dr. Mao's testimony does not support
Petitioner's proposed construction because Dr. Mao acknowledged that
something already running in the background could also be invoked. *See id.*
at 3 (citing Ex. 1024, 199:3–200:12, 200:14–23, 201:15–202:4; Ex. 2005
¶ 103). Petitioner further contends that Dr. Mao's testified that passing
specific arguments/parameters to the program so it can run according to the
desired inputs is irrelevant to whether the installation client is already
running or not. *Id.* at 3–4 (citing Ex. 1008 ¶ 163; Ex. 1024, 201:5–202:4,
202:9–203:20; Ex. 2005 ¶ 80).

In its Sur-reply, Patent Owner responds that "'invoking to run' has no
meaning other than to begin running from a state in which the installation
client was not previously running." PO Sur-reply 3–4 (citing Ex. 2005
¶ 80). Patent Owner argues that Petitioner takes Dr. Mao's testimony out of
context, and "[b]eing invoked to run in the background in no way addresses
whether the app is being invoked to run from a state in which the installation
client was not previous running." *Id.* at 4 (citing Ex. 2013 ¶¶ 5–8; Ex. 1024,
200:8–12). Patent Owner argues that claim 2 is irrelevant to the
understanding of the claim term "since the claim only recites a single invoke
step." *Id.* at 4–5 (citing Ex. 2013 ¶ 9).

b)   Analysis

Under the claim construction standard applied in this proceeding, "[t]he words of a claim are generally given their ordinary and customary meaning as understood by a person of ordinary skill in the art when read in the context of the specification and prosecution history." *Thorner v. Sony Comput. Entm't Am. LLC*, 669 F.3d 1362, 1365 (Fed. Cir. 2012) (citing *Phillips*, 415 F.3d at 1313). "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." *Id.* (citing *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1580 (Fed. Cir. 1996)). Neither of those exceptions apply here, and for the reasons below, we find the plain and ordinary meaning of "invoke" or "invoking" to be to call or activate, as proposed by Petitioner.

We begin with the claim language at issue. *TQ Delta, LLC v. DISH Network LLC*, 929 F.3d 1350, 1357 (Fed. Cir. 2019). When considering the language of the claim overall, the usage of "invoke" in the claims does not in any way indicate whether the installation client is previously running or not. Claim 1 recites "*invoke*, without exiting said second software application, said installation client for downloading and installing applications on said device *to run in the background on said device*." Ex. 1001, 21:17–20 (emphasis added). Patent Owner focuses on the phrase "to run," arguing that the "*claims themselves* recite the phrase 'invoke . . . to run,'" but that reading ignores the rest of the claim language. The claim uses the phrase "to run" in context of the installation client running *in the background* on the device. That is, after all, a key goal of the invention described in the disclosure. *See, e.g.*, Ex. 1001, 1:24–31 (discussing the problem with

redirecting a user to an app store); Pet. Reply 2. Thus, we are not persuaded that claim language necessarily ties "invoke" to the phrase "to run" instead of the complete phrase "to *run in the background* on said device."

For the same reason, Patent Owner's argument that "the specification is clear that 'invoke' means 'invoke to run'" is not persuasive. Pet. Reply 3; PO Resp. 11–12 (citing Ex. 1001, code (57), 1:51–52, 3:44–46, 3:60–62, 4:10–12, 6:43–46, 9:39–42, 13:33–34, 13:57–58). In each of Patent Owner's cited instances, the specification uses the words "to run" with "in the background," thus, indicating that the installation client *runs in the background*, and not, as Patent Owner suggests, to mandate that the client be invoked to *run from a non-running state*. *See, e.g.*, Ex. 1001, 1:51–52 ("When an instant install link is selected, the installation client is invoked to run in the background."). Moreover, as Petitioner points out, in many instances, the specification simply uses the term "invoke" without any reference to "run," contradicting Patent Owner's position that "invoke" has to always mean "invoke to run." Pet. Reply 2 (citing Ex. 1001, 4:45–49, 10:22–23, 10:32–33, 12:24–26, 12:50–51, 13:2–4; 14:47–50, Figs. 4A, 4B, 5, 6). Patent Owner further argues that "the specification does not disclose an instance in which the installation client is invoked to run when it is already running," and that "a construction of invoked that requires the installation client to already be running would be improper because it is not supported by the written description of the specification." PO Resp. 12 (citing *Merck Co. v. Teva Pharms. USA, Inc.*, 347 F.3d 1367, 1371 (Fed. Cir. 2003). But neither does the specification expressly disclose an instance in which the installation client is invoked when it is *not* running, and Patent Owner's construction importing such a requirement would also be improper. A construction of the term "invoke" as "to call or activate" *permits* (not

requires) instances where the installation client is invoked from a running state or from a non-running state—both of which are supported by the specification.

We are further persuaded the language of dependent claim 2, that the installation client is "closed" (i.e., in a non-running state) when installation is completed, supports a broader construction of the term "invoke," as recited in the independent claim. *See* Ex. 1001, 21:36–39. Patent Owner argues that a scenario involving a subsequent invoking of the installation client is a hypothetical one that is irrelevant since the claim only recites a single invoke step. PO Sur-reply 4–5. We agree with Patent Owner that claim differentiation does not fully resolve the claim construction issue here, but it does provide guidance as to the scope of claim 1 because dependent claim 2 specifically recites the installation client in non-running state, whereas independent claim 1 is silent.

Nor are we persuaded by Patent Owner's extrinsic evidence to narrowly construe "invoke." Patent Owner relies on Dr. Mao's testimony that the term invoke would have been construed by a person of ordinary skill in the art as invoke to run from a state in which the installation client was not previously running. PO Resp. 12 (citing Ex. 2005 ¶¶ 80–81; Ex. 2007). Relying on a developer guide titled "Running Android tasks in background threads," Dr. Mao testifies that "before the thread (or a program) is invoked, it's not runnable, meaning it's stopped, blocked, unavailable, and waiting for response. This means that before the thread or program is invoked, it is not 'runnable.'" Ex. 2005 ¶¶ 80–81 (citing Ex. 2007). The developer guide, however, does not support Dr. Mao's testimony. The cited portion refers to an interface called "Runnable" with a method that is executed in a thread when invoked; it does not state that the thread is not "runnable" when

invoked. Ex. 2007, 3. Moreover, Dr. Mao contradicts her own testimony in other portions of her declaration by testifying that closing an app "can also mean to allow the app to *run in the background* without terminating the app so that *it can be invoked* in the background again for the next use." Ex. 2005 ¶ 103 (emphasis added); *see also* Ex. 1024, 199:22–200:12 (testifying that installation client "*could be* stopped, paused, or *running in the background*" when invoked (emphasis added)). We therefore do not find Dr. Mao's testimony persuasive to conclude that a person of ordinary skill in the art would have understood the claim term "invoke" to mean invoking the installation client from a state in which it was not previously running. The record simply does not support Patent Owner's position. Invoke, therefore, means to call or activate.

2. *Redirect*

a) *The Parties' Arguments*

Patent Owner argues that "redirect" should be construed as the device causing the user device to be shifted to an app store without requiring a user interaction. PO Resp. 13. Patent Owner points out that the specification expressly defines the term "redirected to an app store" to mean "that user interaction using the device is shifted to a site and/or application for obtaining apps," and argues that the "disclosed 'shift[ing]' of the device to an application for obtaining apps (i.e., app stores) reinforces that the 'redirect' causes the browser to go to an app store *without requiring a user interaction*." *Id.* (quoting Ex. 1001, 11:10–12; Ex. 2005 ¶ 84) (emphasis added). Patent Owner argues that the specification illustrates the lack of user interaction by describing redirecting is done "by a backend element" and that "the browser intercepts the instant install link and redirects to the App Store." *Id.* at 13–14 (citing Ex. 1001, 12:40–43, 16:34–35, 18:36–40;

Ex. 2005 ¶ 85). Further, Patent Owner relies on Dr. Almeroth's testimony that "the processor of the mobile device executes the instructions to perform" the claimed steps, including the redirect step. *Id.* at 14 (citing Ex. 2004, 98:18–24, 94:20–95:8, 107:21–25; 109:10–17). As further support for its proposed construction, Patent Owner asserts that "[t]he Dictionary of Computer and Internet Terms defines 'redirect' as 'a tag causing the browser to go to another web page without requiring the user to click.'" *Id.* at 15 (citing Ex. 2003). Patent Owner also contends that the HTTP protocol uses the term redirect "to ensure that a different URL or web site is selected automatically, without any user interaction." *Id.* (citing Ex. 2011 § 10.3).

Petitioner responds that Patent Owner's proposed construction contradicts the express definition in the specification, which "does not *require* any specific user action, but certainly permits it." Pet. Reply 4–5 (citing Ex. 1001, 11:10–16). Petitioner asserts that the specification "clearly describes a redirection to the app store in response to a user clicking on an advertising link, *i.e.*, a 'user interaction,'" and discloses examples "where user interaction is required to 'redirect to an app store,'" such as in the flow chart of Figure 10 (e.g., steps 1110 and 1120). *Id.* at 5 (citing Ex. 1001, 1:15–31, Fig. 10).

Patent Owner responds that Figure 10 shows an "ad click" that "refers to the original click in step 1040, *not an additional interaction by the user.*" PO Sur-reply 5–6 (citing Ex. 1001, 17:25, Fig. 10). Patent Owner argues that "when the ['951 patent] applicant wished to specify conditions related to user interaction in the claims, it knew how to do so," but "intentionally did not specify that a subsequent user interaction was involved with the redirect" in the claims. *Id.* at 6 (emphasis omitted). Rather, Patent Owner argues, the

applicant "made sure the claim was directed to the same prior single user interaction." *Id.* at 7 (citing Ex. 2013 ¶ 11).

b) Analysis

For the reasons below, we construe of "redirect" on the complete record to mean "to shift user interaction on the device," and disagree with Patent Owner that the claim term requires the shifting to take place *without* requiring a user interaction. We begin with the language of the independent claims. Claim 1 recites "redirect said device to an app store for downloading and installing said first software application on said device." Ex. 1001, 21:32–35. The claim language, therefore, does not recite *any* requirement relating to user interaction during the redirect.

Because claim 1 recites "user interaction" in context of other limitations, Patent Owner argues that the claim drafting in the redirect limitation is deliberate and the patentees "intentionally *did not specify that a subsequent user interaction was involved with the redirect* — which . . . [the patentees] did specify when [they] wanted such a condition to apply." PO Sur-reply 6–7. Patent Owner argues that no additional interaction being recited in this limitation must mean that the redirection happens without an additional user interaction. *Id.* at 7. Those other recitations of user interaction in claim 1, however, recite detailed aspects of the interaction, not merely whether user interaction is permitted or not. *See, e.g.,* Ex. 1001, 21:6–7 ("selected by user interaction with a second software application"), 21:25–26 ("without directing said user interaction to an app store"). We

therefore decline to read the silence in the claim language as a requirement disallowing any further interaction by the user.[6]

Turning to the specification, both parties agree that it includes an explicit definition of the term "redirected to an app store" as "user interaction using the device is shifted to a site and/or application for obtaining apps." Pet. 24; PO Resp. 13; Ex. 1001, 11:10–12. If the specification "reveal[s] a special definition given to a claim term by the patentee that differs from the meaning it would otherwise possess[,] . . . the inventor's lexicography governs." *Phillips*, 415 F.3d at 1316 (citing *CCS Fitness, Inc. v. Brunswick Corp.*, 288 F.3d 1359, 1366 (Fed. Cir. 2002)). There is no support in this lexicographic definition to import a requirement that the "shifting" take place "without requiring a user interaction." Thus, the patentees defined the term but did not include any mention of user interaction, further rejecting Patent Owner's proposed requirement to exclude any interaction.

Patent Owner points to disclosure that "a backend element" or a "browser" performs the redirection, arguing that "the specification describes that the 'redirect' causes the device to go the App Store without any user interaction." PO Resp. 13–14 (citing Ex. 1001, 12:40–43, 16:34–35, 18:36–40). None of the cited disclosures mention any requirement to include or

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[6] On the other hand, claim 1 recites negative limitations similar to those in Patent Owner's proposed construction multiple times, which demonstrates that the patentees knew how to restrict the scope of the claim where desired. *See, e.g.*, Ex. 1001, 21:17–18 ("*without* exiting said second software application"), 21:25–26 ("*without* directing said user interaction to an app store") (emphasis added). If the patentees had intended to restrict the redirect limitation in the manner proposed by Patent Owner, they could have done so using a similar "without" clause, but did not.

preclude user interaction during the redirect. And, even if we understand these disclosures in the manner that Patent Owner argues, the specification makes clear that these are alternate or optional embodiments. *See, e.g.*, Ex. 1001, 12:38–43 ("In alternate embodiments, . . ."), 16:32–35 ("Optionally, the device has an installed browser . . ."). Given the specification's express description of those embodiments as non-limiting examples, nothing in the specification indicates "a clear intention to limit the claim scope using 'words or expressions of manifest exclusion or restriction.'" *Liebel-Flarsheim Co. v. Medrad, Inc.*, 358 F.3d 898, 906–08 (Fed. Cir. 2004) (declining to limit claim scope to disclosed embodiments where the specification did "not expressly or by clear implication reject the scope of the invention" to those embodiments); *i4i Ltd. P'ship v. Microsoft Corp.*, 598 F.3d 831, 843–44 (Fed. Cir. 2010) ("[A] claim is not limited to the embodiments described in the specification unless the patentee has demonstrated a clear intention to limit the claim's scope with words or expressions of manifest exclusion or restriction." (internal quotation marks omitted)).

As Petitioner points out, the specification provides other examples where user interaction *is* required to "redirect to an app store." Pet. Reply 5 (citing Ex. 1001, Fig. 10, 1:15–31). The flow chart of Figure 10, for example, shows the step "click ad" 1110 *preceding* the "redirect to app store" in step 1120. *Id.*; *see also* Ex. 1001, 17:20–27 (describing Figure 10). Patent Owner contends that "[t]his 'ad click' refers to the original click in step 1040, not an additional interaction by the user," and that Figure 10 supports Patent Owner's position. PO Sur-reply 5–6 (citing Ex. 1001, 17:25) (emphasis omitted). We disagree because the original click in step 1040 is labelled "Click 'Single Tap Install' Ad" and the later click in step

20

1110 is labelled "Click Ad." *See* Ex. 1001, Fig. 10. Moreover, the specification describes this portion of the flow chart as "[a]n alternate flow [that] occurs if the device does not in fact have an installation client or if the installation client *does not respond to the deep link click.*" *Id.* at 17:20–27 (emphasis added). Figure 10 therefore requires a second click, i.e., further user interaction, prior to redirection to the app store. Patent Owner's proposed construction, excluding this embodiment, is thus improper.

We turn now to Patent Owner's extrinsic evidence. Patent Owner argues that the Dictionary of Computer and Internet Terms and the HTTP protocol specification support Patent Owner's proposed construction of "redirect." PO Resp. 15 (citing Ex. 2003; Ex. 2005 ¶ 88; Ex. 2011 § 10.3). The HTTP protocol specification cited by Patent Owner includes a section titled "Redirection 3xx," that states "[t]he action *MAY* be carried out by the user agent without interaction with the user *if and only if. . . .*" *See* Ex. 2011, 61 (emphasis added). Neither Patent Owner nor its expert explain why the "redirect" action recited in the claims is limited to this "Redirection 3xx" action listed in the HTTP protocol specification, nor does the disclosure in this protocol specification mandate that *all* redirect actions occur without requiring user interaction. Similarly, the dictionary definition relied upon by Patent Owner specifically defines "redirect *in HTML*," while the claims are not limited in that manner. *See* Ex. 2003. We give this extrinsic evidence no weight, and because the intrinsic evidence clearly supports an understanding of "redirect" as permissive of further user interaction, we do not adopt a narrower construction based on the extrinsic evidence selected by Patent Owner. *See Phillips*, 415 F.3d at 1317 ("[W]hile extrinsic evidence 'can shed useful light on the relevant art,' we have explained that it is 'less significant than the intrinsic record in

determining 'the legally operative meaning of claim language.'") (quoting *C.R. Bard, Inc. v. U.S. Surgical Corp.*, 388 F.3d 858, 862 (Fed. Cir. 2004)); *id.* at 1322–23 (stating that a tribunal may "'rely on dictionary definitions when construing claim terms, so long as the dictionary definition does not contradict any definition found in or ascertained by a reading of the patent documents'") (quoting *Vitronics*, 90 F.3d at 1584 n.6). The record therefore does not support Patent Owner's position.

3. *Other Claim Terms*

As part of its arguments relating to the prior art, Patent Owner also proposes that claim interpretations for other claim terms, such as the "link for installation." *See, e.g.*, PO Resp. 34 (arguing that "a downloading link does not always lead to installation, and is not considered a link for installation"). We address these arguments as part of our anticipation and obviousness analysis below.[7]

D. *Subject Matter Eligibility under 35 U.S.C. § 101*

Petitioner asserts that the challenged claims are unpatentable under 35 U.S.C. § 101 because they are directed to ineligible subject matter. Pet. 26–52. For the reasons that follow, we are not persuaded that Petitioner establishes by a preponderance of the evidence that the claims are directed to ineligible subject matter.

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[7] In the Institution Decision, we determined that "the proper construction of the term 'installation client' does not limit the number or arrangement of components required to meet the claim element, and more specifically, does not limit installation client to only a single component or functional block." Inst. Dec. 11–12 (citing Ex. 1001, 2:64–3:4, 14:4–45; Fig. 7). Neither party addresses our construction in the post-trial briefing, and we, therefore, do not find it necessary to revisit our preliminary construction.

1. Principles of Law

35 U.S.C. § 101 defines patentable subject matter, but the Supreme Court has "long held that this provision contains an important implicit exception" that "[l]aws of nature, natural phenomena, and abstract ideas are not patentable." *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 70 (2012). "Eligibility under 35 U.S.C. § 101 is a question of law, based on underlying facts." *SAP Am., Inc. v. InvestPic, LLC*, 898 F.3d 1161, 1166 (Fed. Cir. 2018). To determine patentable subject matter, the Supreme Court has set forth a two-part test.

"First, we determine whether the claims at issue are directed to one of those patent-ineligible concepts" of "laws of nature, natural phenomena, and abstract ideas." *Alice Corp. v. CLS Bank Int'l*, 573 U.S. 208, 217 (2014). A court must be cognizant that "all inventions at some level embody, use, reflect, rest upon, or apply laws of nature, natural phenomena, or abstract ideas" (*Mayo*, 566 U.S. at 71), and "describing the claims at . . . a high level of abstraction and untethered from the language of the claims all but ensures that the exceptions to § 101 swallow the rule." *Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1337 (Fed. Cir. 2016). Instead, "we evaluate the focus of the claimed advance over the prior art to determine if the character of the claim as a whole, considered in light of the specification, is directed to excluded subject matter." *Trading Techs. Int'l, Inc. v. IBG LLC*, 921 F.3d 1084, 1092 (Fed. Cir. 2019) (internal quotations omitted). "The inquiry often is whether the claims are directed to 'a specific means or method' for improving technology or whether they are simply directed to an abstract end-result." *RecogniCorp, LLC v. Nintendo Co.*, 855 F.3d 1322, 1326 (Fed. Cir. 2017).

If the claims are directed to an abstract idea or other ineligible concept, then we continue to the second step and "consider the elements of each claim both individually and 'as an ordered combination' to determine whether the additional elements 'transform the nature of the claim' into a patent-eligible application." *Alice*, 573 U.S. at 217 (quoting *Mayo*, 566 U.S. at 79, 78). The Supreme Court has "described step two of this analysis as a search for an 'inventive concept'—*i.e.*, an element or combination of elements that is sufficient to ensure that the patent in practice amounts to significantly more than a patent upon the ineligible concept itself." *Id.* at 217–18 (brackets omitted). However, "[t]he abstract idea itself cannot supply the inventive concept, no matter how groundbreaking the advance." *Trading Techs.*, 921 F.3d at 1093 (internal quotations omitted).

In January 2019, the U.S. Patent and Trademark Office ("USPTO") published revised guidance on the application of § 101.[8] Patent Examining Procedure ("MPEP") now incorporates this revised guidance and subsequent updates at § 2106 (9th ed. Rev. 10.2019, rev. June 2020).[9]

Under the Guidance, we first look to whether the claim recites:

(1) any judicial exceptions, including certain groupings of abstract ideas (i.e., mathematical concepts, certain methods of organizing human activity such as a fundamental economic practice, or mental processes) ("Step 2A, Prong One"); and

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[8] 2019 Revised Patent Subject Matter Eligibility Guidance, 84 Fed. Reg. 50 (Jan. 7, 2019) ("Guidance"). In response to received public comments, the Office issued further guidance on October 17, 2019, clarifying the 2019 Revised Guidance. USPTO, *October 2019 Update: Subject Matter Eligibility* (the "October 2019 Update"). "All USPTO personnel are, as a matter of internal agency management, expected to follow the guidance." 84 Fed. Reg. at 51; *see also* October 2019 Update at 1.

[9] All references to the MPEP are to the Ninth Edition, Revision 10.2019 (Last Revised June 2020), unless otherwise indicated.

(2) additional elements that integrate the judicial exception into a practical application ("Step 2A, Prong Two").[10]

MPEP § 2106.04(a), (d).

Only if a claim (1) recites a judicial exception and (2) does not integrate that exception into a practical application, do we then look, under Step 2B, to whether the claim:

(3) adds a specific limitation beyond the judicial exception that is not "well-understood, routine, conventional activity" in the field; or

(4) simply appends well-understood, routine, conventional activities previously known to the industry, specified at a high level of generality, to the judicial exception.

MPEP § 2106.05(d); *See* Guidance, 84 Fed. Reg. at 52, 55, 56.

We evaluate the parties' arguments using the Guidance's framework. Our reviewing court has warned that "the Office Guidance is not, itself, the law of patent eligibility" and "does not carry the force of law." *In re Rudy*, 956 F.3d 1379, 1382 (Fed. Cir. 2020); *see also cxLoyalty, Inc. v. Maritz Holdings Inc.*, No. 2021-1307, 2021 WL 416719, *6 n.1 (Fed. Cir. Feb. 8, 2021); *Cleveland Clinic Found. v. True Health Diagnostics LLC*, 760 F. App'x 1013, 1020 (Fed. Cir. 2019). Rather, "it is our [reviewing court's] case law, and the Supreme Court precedent it is based upon, that must control." *Rudy*, 956 F.3d at 1383. Thus, although our analysis here is framed in terms of the Guidance, our decision is based upon governing

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[10] "Examiners evaluate integration into a practical application by: (1) identifying whether there are any additional elements recited in the claim beyond the judicial exception(s); and (2) evaluating those additional elements individually and in combination to determine whether they integrate the exception into a practical application." MPEP § 2106.04(d)(II).

precedent of the United States Supreme Court and our reviewing court's interpretation and application thereof.

Alice Step One asks whether the claims are directed to a judicial exception, such as an abstract idea. *See Alice*, 573 U.S. at 217. The Guidance frames this question as a two prong inquiry under Step 2A: Prong 1, whether the claims recite any of the groupings of abstract ideas listed in the Guidance, and if so, Prong 2, whether the abstract idea is integrated into a practical application. *See* Guidance, 84 Fed. Reg. at 54–55.

2. *The Parties' Contentions*

Petitioner contends that the claims recite the abstract idea of "improving a user experience by downloading and installing software as a background task."[11] Pet. 27 (emphasis omitted). Petitioner further contends that "the essence of all of the claims of the '951 patent is revealed in the express claim language in element [f3]: '*install said first software application on said device in the background on said device while maintaining a user experience of interaction with said second software application in the foreground.*'" *Id.* at 28–29. Petitioner argues that the objective of the '951 patent is to improve advertising performance by reducing interruption to a user and thus improving conversion rates. *Id.* at 29 (citing Ex. 1001, 1:67–2:2). Petitioner contends that "the purported improvement of the '951 patent is the user experience, and not the underlying technology that facilitates such a user experience." *Id.* Petitioner

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[11]Although Petitioner refers to generally to the "claims of the '951 patent" in its contentions relating to *Alice Step 1*, our analysis is directed to limitations recited in independent claims 1, 12, and 17. Because we conclude that these independent claims are not directed to patent-ineligible subject matter, we do not separately address patent eligibility of dependent claims 2–11, 13–16, and 18 under § 101.

also argues that the claimed "abstract idea is not only a fundamental computer operation, but is an example of multitasking, which represents a basic task in organizing human activity." *Id.* at 30.

Patent Owner responds that Petitioner's proposed abstract idea overgeneralizes the claims and omits the limitations that led to allowance. PO Resp. 18–22. Patent Owner argues that Petitioner articulates the abstract idea as "directed to a multitasking operation," which is an overgeneralization of the claims at a high level of abstraction. *Id.* at 18–19 (citing *Enfish*, 822 F.3d at 1337). Patent Owner argues that, instead, "the claims are directed, *inter alia,* to invoking an installation client for download and installation of software—and such installation—without redirecting the user to an app store when the installation client is available, and redirecting the user to an app store when the installation client is not available." *Id.* at 20. Patent Owner contends that the claims recite "the specific solution for accomplishing the benefits described in the specification" and not the desired improved result. *Id.* at 20 (citing *Koninklijke KPN N.V. v. Gemalto M2M GMBH*, 942 F.3d 1143, 1151 (Fed. Cir. 2019)).

Second, Patent Owner argues that Petitioner's proposed abstract idea omits the limitations leading to allowance. *Id.* at 21–22. Patent Owner argues that the patent examiner cited the "invoking" limitation as distinguishing the prior art in the notice of allowance, but Petitioner fails to even include it in its articulation of what the claim does. *Id.* at 22 (citing Ex. 1002, 213). Accordingly, Patent Owner contends that "Petitioner's abstract idea articulation fails because it omits core concepts of the claim limitations." *Id.* (citing *Apple, Inc. v. Mirror World Tech., LLC*, CBM2016-00019, Paper 12, 12–17 (PTAB May 26, 2016)).

Third, Patent Owner argues the '951 patent claims are directed to a technical solution to a problem particular to the Internet—interrupting of user interaction with an application upon redirection to an app store. *Id.* at 22–25. Patent Owner contends that the problem being solved is nearly identical to that from *DDR Holdings*, which itself was a problem particular to the Internet. *Id.* at 24 (citing *DDR Holdings, LLC v. Hotels.com, L.P.*, 773 F.3d 1245, 1257 (Fed. Cir. 2014); Ex. 1001, 1:15–31). Patent Owner further argues that the patent claims "provide an additional technical solution to a problem 'particular to the Internet,'" which is online fraud in "the pay per click context with malware used to simulate ad clicks or intercept referral IDs." *Id.* at 25 (citing Ex. 1001, 1:32–41, 2:47–54).

Petitioner responds that downloading and installing software to a device is a longstanding and fundamental function of a computer that predates the Internet, and although the claims recite a series of steps to achieve this functionality, "these recitations are merely routine steps to perform this abstract concept." Pet. Reply 20–21. Petitioner further argues that "the '951 Patent does not disclose or claim any technical improvements in downloading and installing software," and instead recites performing these tasks in the background, which is an abstract concept. *Id.* at 21 (citing Ex. 1024, 136:4–13). Petitioner contends that recent decisions from the Federal Circuit support its argument. *See id.* at 21–23. For example, Petitioner argues, the Federal Circuit has held that claims "directed to the use of an algorithm-generated content-based identifier to perform the claimed data-management functions" are directed to an abstract idea. *See id.* at 21–22 (citing *PersonalWeb Techs. LLC v. Google LLC*, 8 F.4th 1310, 1316 (Fed. Cir. 2021)). According to Petitioner, *PersonalWeb* expressly rejects the notion that a claim is not directed to an abstract idea simply

because it is "necessarily rooted in computer technology in order to overcome a problem specifically arising in the realm of computer networks." *Id.* at 22 (citing *PersonalWeb*, 8 F.4th at 1318). Petitioner also points to a decision where the Federal Circuit found a method of modifying a toolbar displayed on a user device to be directed to an abstract idea. *Id.* at 22 (citing *MyMail, Ltd. v. ooVoo, LLC*, 2021 WL 3671364, *4–*6 (Fed. Cir. Aug. 19, 2021)). Petitioner argues that it is not enough that the claims at issue here are similar to the ones in *DDR Holdings* because "not all claims purporting to address Internet-centric challenges are eligible for patent." *Id.* (citing *DDR Holdings*, 773 F.3d at 1258)

In its Sur-reply, Patent Owner reiterates that the problem being solved by the '951 patent claims is "nearly identical to that from *DDR Holdings.*" PO Sur-reply 8 (citing *DDR Holdings*, 773 F.3d at 1257). Patent Owner argues that the claims here are easily distinguishable from those in *PersonalWeb*, which were directed to "the use of an algorithm to the use of content based identifiers to control access to data," as well as those in *MyMail*, which were directed to "modifying a toolbar." *Id.* at 8–9.

3. Analysis

On the full record developed during trial, we are persuaded by Patent Owner's argument. Petitioner's analysis of the independent claims described above only loosely corresponds to the actual limitations recited in the claim. The Federal Circuit has "cautioned that courts 'must be careful to avoid oversimplifying the claims' by looking at them generally and failing to account for the specific requirements of the claims." *McRO, Inc. v. Bandai Namco Games America Inc.*, 837 F.3d 1299, 1313 (Fed. Cir. 2016) (quoting *In re TLI Commc'ns LLC Patent Litig.*, 823 F.3d 607, 611 (Fed. Cir. 2016)).

But "failing to account for the specific requirements of the claims" is what Petitioner's analysis of the claim limitations appears to do. Petitioner's argument that "the essence of all the claims" is captured by a *single* claim element (f3) not only ignores that that limitation recites performing two *specific* software tasks simultaneously—which we are not persuaded is an abstract idea—but also asks us to disregard multiple technical aspects recited in the claims, such as identifying a link, determining whether an installation client is available on the device, invoking the installation client, and redirecting to the device an app store. *See, e.g.*, Ex. 1001, 21:6–35. That is, under Step 2A of the Guidance, we are neither persuaded that limitation f3, which Petitioner points us to, recites an abstract idea (Prong 1), nor that the other limitations recited in the independent claims fail to integrate the alleged abstract idea into a practical application (Prong 2).

Petitioner characterizes the claims as directed to *multitasking*, which Petitioner describes as representing a basic task in *organizing human activity*. Pet. 30. Although the Guidance recognizes certain methods of organizing human activity, including certain activity between a person and a computer, as constituting a patent-ineligible abstract idea, we are not persuaded that the claims here fall within the scope of such activity. *See* Guidance, 84 Fed. Reg. at 52 (listing fundamental economic principles or practices, commercial or legal interactions, and managing personal behavior or relationships as *organizing human activity*); October 2019 Update at 5 ("this grouping is limited to activity that falls within the enumerated sub-groupings . . . , and is not to be expanded beyond these enumerated sub-groupings except in rare circumstances"). The claimed invention may *result in* multitasking on the device, but the claims are directed to downloading and installing an application in the background instead of directing the user to an

app store, thereby maintaining user experience with the foreground application, and do not recite an abstract idea. And although that process does result in improving user experience, the claims recite more than that mere result; they recite specific steps—invoking, without exiting the foreground software application, the installation client for downloading and installing applications on the device to run in the background—that accomplish the desired result. *See Finjan, Inc. v. Blue Coat Sys., Inc.*, 879 F.3d 1299, 1305–06 (Fed. Cir. 2018) (finding a method that employs a new kind of file in a computer security system directed to a non-abstract improvement in computer functionality, rather than the abstract idea of computer security writ large). Petitioner thus fails to establish sufficiently that the claims are directed patent ineligible subject matter under Step 2A of the Guidance.

We also agree with Patent Owner that the challenged claims are somewhat similar to those that the Federal Circuit held patentable in *DDR Holdings*. The claims there were directed to a method of generating a composite webpage that combined visual elements of a host website with content from a third-party, e.g., by combining the logo, background color, and fonts of the host website with product information from a merchant. *DDR Holdings*, 773 F.3d at 1248. When a user clicked on a link on the host website, the system would construct the composite web page comprising a look and feel description from the host website along with content based on product information from the merchant's product catalog. *Id.* at 1250. The court held those claims were not directed at an abstract idea because they addressed the problem of retaining website visitors that, absent the claimed invention, would be instantly *transported away* from a host's website *after clicking on an advertisement* and activating a hyperlink. *Id.* at 1257.

31

Because the claims addressed the challenge of retaining control over the attention of the customer in the context of the Internet, the court found them patent-eligible under section 101. *Id.*

The challenged claims here solve an analogous problem. The '951 patent specification explains that a significant problem with the conventional use of an app store to install advertised apps is poor ad conversion. *See* Ex. 1001, 1:15–25. Specifically, the problem is that a user would be instantly *transported away* from the app being used to an app store *after clicking on an advertisement* for the advertised app, and that redirection would interrupt user interaction with the current app, often resulting in the user deciding not to install the new app or even to install a competing app advertised by the app store. *Id.* at 1:25–31. The claims address that problem of retaining the user's attention to the current app even as the advertised app is installed, resulting in better ad conversion. *Id.* at 1:66–2:5. Thus, similar to the invention in *DDR Holdings*, the claimed invention here relates to control of the user's attention and addresses a challenge particular to the Internet. *See DDR Holdings*, 773 F.3d at 1257–58. On the other hand, Petitioner's reliance on decisions such as *PersonalWeb* and *MyMail* is unhelpful because the claims at issue there do not address similar Internet-centric challenges. *See PersonalWeb*, 8 F.4th at 1316 (claims directed to the use of an algorithm-generated content-based identifier to perform the claimed data-management function); *MyMail*, 2021 WL 3671364, at *5 (claims directed to updating toolbar software over a network without user intervention).

Accordingly, we determine that Petitioner has failed to meet its burden to establish by a preponderance of the evidence that claims 1–18 are directed to patent ineligible subject matter under section 101.

E. Overview of the Asserted Art for Anticipation and Obviousness

1. Pasha (Ex. 1003)

Pasha discloses a method for installing applications on computing devices, including mobile devices. Ex. 1003, 1:5–6, 1:36–38. Specifically, Pasha discloses a "direct application install feature" that allows a user to download and install a downloadable application, while interacting with a host application. *Id.* at 1:36–50. The downloadable application may be downloaded directly without requiring the user to interact with an app store. *Id.* at 1:50–54.
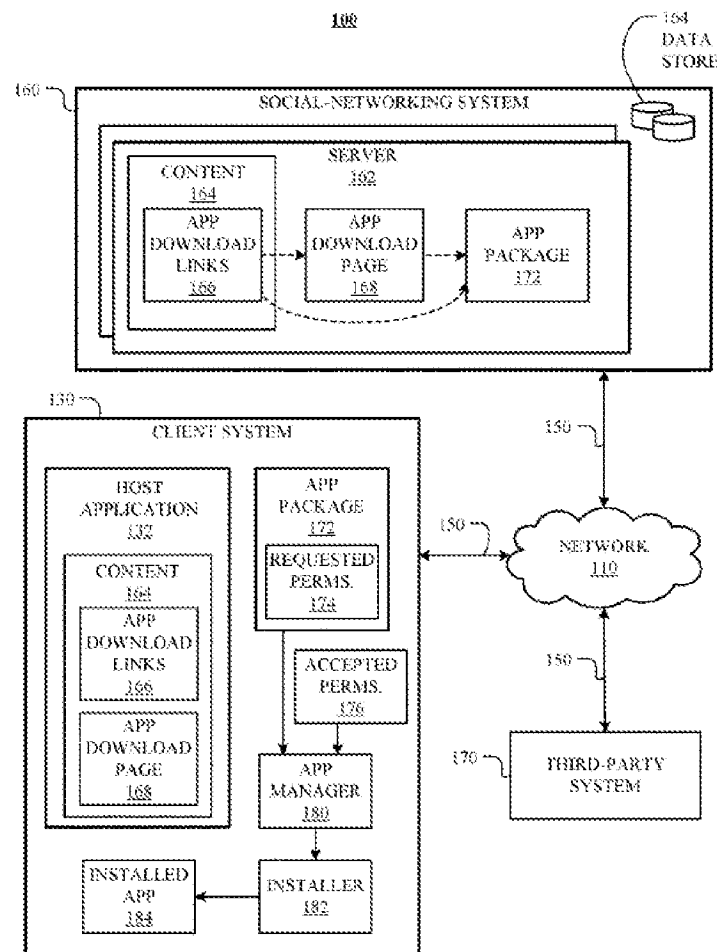
Figure 1 of Pasha is reproduced below.

FIG. 1

Figure 1, above, shows computer network environment 100, including client system 130, social-networking system 160, and third-party system 170, all connected by network 110. *Id.* at 2:31–35. Client system 130 includes host application 132 which includes app download links 166. *Id.* at 8:6–31. Client system 130 also includes App Manager 180 and Installer 182. *Id.* at 8:59–9:38.

Pasha explains that App Manager 180 may control portions of the application download and install process. *Id.* at 17:21–24. Specifically, Pasha discloses that "App Manager 180 may perform at least a portion of one or more of the steps 310–350 of FIG. 3, and the Installer may perform at least the portion of step 350 that involves requesting the operating system of the client device 130 to install the application package on the client device 130." *Id.* at 17:35–39.

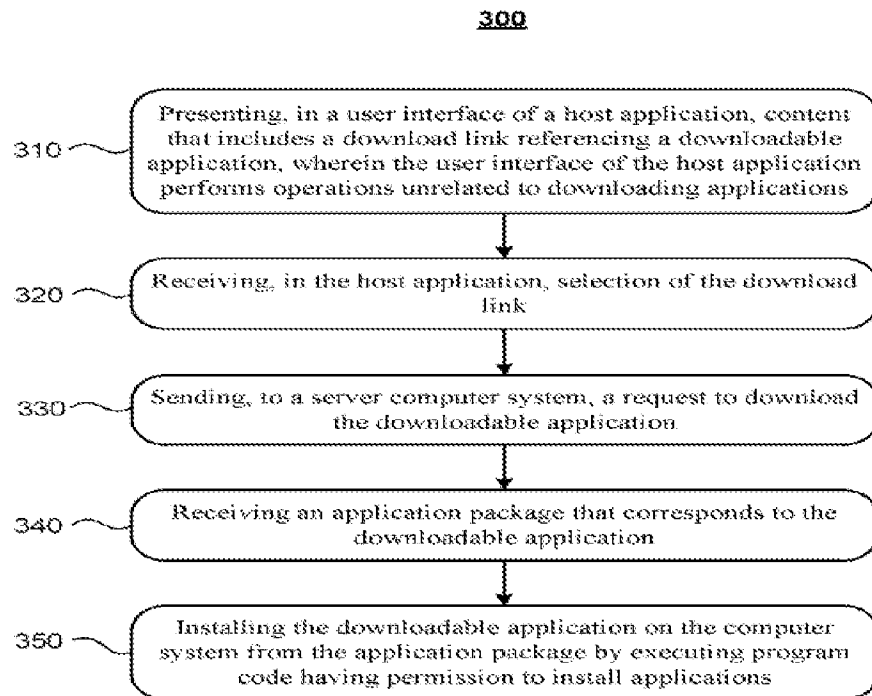Figure 3 of Pasha is reproduced below.

FIG. 3

Figure 3, above, shows method 300 for downloading and installing applications. *Id.* at 16:28–60. The method begins when a user interface presents a download link for an application in a host application (step 310). *Id.* Next, the host application receives selection of the download link (step 320) and sends a request to download the application to a server computer system (step 330). *Id.* at 18:59–19:5, 19:51–61. The downloadable application is then received as an application package in step 340, and the application package is installed (step 350). *Id.* at 19:54–65. During installation, the user may continue to use host application 132 while application package 172 is downloaded and installed. *Id.* at 19:65–20:4.

Pasha discloses checking for App Manager 180 and Installer 182 when a download is requested. *Id.* at 18:50–54. If the App Manager and Installer are not present, "the ordinary app store for the operating system may be used as a fallback." *Id.* at 18:55–58.

Pasha discloses that client system 130 may be an electronic device, including hardware, software, or a combination of components capable of carrying out the described method. *Id.* at 3:20–25. The client system may be a computer system connected to a network. *Id.* at 3:25–30. More specifically, Pasha discloses computer system 600, which may be a mobile telephone, with software to perform the disclosed method. *Id.* at 23:29–46.

2. *Yamada (Ex. 1004)*

Yamada teaches master installer software that sequentially runs a plurality of software installers allowing a user to perform all of the installation operations as if installing one piece of software. Ex. 1004 ¶ 14. Yamada teaches closing the installation software when the installation operation commands are completed. *Id.* ¶ 66.

3. *Molinet (Ex. 1005)*

Molinet discloses contextual deep linking of mobile applications. Ex. 1005 ¶ 3. Molinet discloses that the development of app stores on smartphones has created a system where users can easily install new applications and add functions to their devices. *Id.* ¶ 5. Molinet describes a method for improving the cohesiveness between applications using contextual deep linking. *Id.* ¶¶ 5, 16. Molinet describes a contextual deep link as indicating a particular configuration for an application, for example a reference to a location in an application. *Id.* ¶ 25. Other configurations may include particular settings, parameters, variables, and other options for the application. *Id.*

F. *Principles of Law*

As in an *inter partes* review, the petitioner in a post-grant review "has the burden from the onset to show with particularity why the patent it challenges is unpatentable." *Harmonic Inc. v. Avid Tech., Inc.*, 815 F.3d 1356, 1363 (Fed. Cir. 2016); 35 U.S.C. § 322(a)(3) (requiring post-grant review petitions to identify "with particularity . . . the evidence that supports the grounds for the challenge to each claim"). This burden of persuasion never shifts to Patent Owner. *See Dynamic Drinkware, LLC v. Nat'l Graphics, Inc.*, 800 F.3d 1375, 1378 (Fed. Cir. 2015) (discussing the burdens of proof).

To establish anticipation, each and every element in a claim, arranged as recited in the claim, must be found in a single prior art reference. *Net MoneyIN, Inc. v. VeriSign, Inc.*, 545 F.3d 1359, 1369 (Fed. Cir. 2008). Although the elements must be arranged or combined in the *same way* as in the claim, "the reference need not satisfy an *ipsissimis verbis* test," i.e., identity of terminology is not required. *In re Gleave*, 560 F.3d 1331, 1334

(Fed. Cir. 2009). Further, to be anticipating, a prior art reference must be enabling and must describe the claimed invention sufficiently to have placed it in possession of a person of ordinary skill in the field of the invention. *Helifix Ltd. v. Blok-Lok, Ltd.*, 208 F.3d 1339, 1346 (Fed. Cir. 2000).

> As set forth in 35 U.S.C. § 103(a),
>
> > [a] patent may not be obtained . . . 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.

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 evidence, objective evidence of nonobviousness.[12] *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966). 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 Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 418 (2007). However, Petitioner cannot satisfy its burden of proving obviousness by employing "mere conclusory statements." *In re Magnum Oil Tools Int'l, Ltd.*, 829 F.3d 1364, 1380 (Fed. Cir. 2016). Instead, Petitioner must articulate a reason why a person of ordinary skill in the art would have combined the prior art references. *In re NuVasive*, 842 F.3d 1376, 1382 (Fed. Cir. 2016).

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[12] Neither party presents evidence of objective indicia of nonobviousness.

G. *Anticipation by Pasha*

Petitioner contends that claims 1, 3–12, and 14–18 are unpatentable under 35 U.S.C. § 102(a) as anticipated by Pasha. Pet. 52–74. To support its contentions, Petitioner provides, among other things, explanations as to how the prior art discloses each claim limitation. *Id.* Petitioner also relies upon Dr. Almeroth's testimony (Exs. 1008, 1023) to support its positions.

Patent Owner argues that Pasha does not disclose multiple elements of independent claims 1, 12 and 17. PO Resp. 30–45. Patent Owner further argues that Pasha does not disclose certain claim elements recited by dependent claims 6, 10, and 14. *Id.* at 45–48; Ex. 2005. On the complete record, we are persuaded by Petitioner's explanations and evidence in support of the anticipation ground for claims 1, 3–12, and 14–18 over Pasha. We address below, the evidence, analysis, and arguments presented by the parties.

1. *Independent Claim 1*

a) *"A mobile device configured for running software applications, comprising:"*

Petitioner contends that Pasha discloses computer system 600, which may include a mobile device, for running software applications. Pet. 52–53 (citing Ex. 1003, 1:36–38; 23:14–56).

Patent Owner does not present arguments as to the preamble of claim 1. *See generally* PO Resp. Based on the entirety of the record and for the reasons explained by Petitioner, we determine that Petitioner has proved by a preponderance of the evidence that, to the extent the preamble is limiting, Pasha discloses the preamble of claim 1.

b) *"a network interface configured for communicating over a network; at least one non-transitory computer readable storage medium storing instructions; and at least one processor associated with said network interface and said storage medium, configured for executing said instructions to:"*

Petitioner contends that Pasha discloses computer system 600 (a mobile device) which includes processor 602 for executing instructions, memory 604 for storing the instructions, and communication interface 610. Pet. 53–56 (citing Ex. 1003, 23:57–24:65, 29:31–30:36, Fig. 6). Petitioner further contends that Pasha's communication interface 610 includes an interface for communicating over a network. *Id.* at 53–54 (citing Ex. 1003, 25:50–26:15).

Patent Owner does not present arguments as to these limitations. *See generally* PO Resp. Based on the entirety of the record and for the reasons explained by Petitioner, we determine that Petitioner has proved by a preponderance of the evidence that Pasha discloses these limitations.

c) *"identify that a link for installation of a first software application is selected by user interaction with a second software application running on said device, the link being embedded in content displayed on said device by the second software application;"*

Petitioner contends that Pasha describes a mobile device (client device 130) executing previously-installed host application 132. Pet. 56 (citing Ex. 1003, 7:61–66). Petitioner further contends that Pasha discloses the user interface of host application 132 (second application) presents content to the user that includes a download link 166 referencing a downloadable application (first software application). *Id.* (citing Ex. 1003, 16:31–34, 1:50–54). Petitioner argues that "download link 166 presented in the content of host application 132 for download of another application discloses the

claimed 'link for installation of a first software application' which is 'embedded in content displayed on said device by the second application.'" *Id.* at 56–57 (citing Ex. 1003, 6:67–7:8, 16:61–17:3). According to Petitioner, Pasha discloses that a user may select the link by "touch or click on a hyperlink that has the text 'Download Now'" displayed in the host application while the user is interacting with the host application. *Id.* at 57 (citing Ex. 1003, 18:59–19:9, 8:44–58, 21:53–57).

(1) Patent Owner's Response

Patent Owner argues a person of ordinary skill in the art would "have understood that downloading and installing are two distinct concepts," and Pasha's *download* link 166 is not a link for installation. PO Resp. 31–32 (citing Ex. 2005 ¶¶ 107, 108). According to Patent Owner, the "claims themselves highlight the distinction between downloading and installing by using two different terms 'download' and 'install,' and reciting these actions in two separate claim elements." *Id.* at 32. Patent Owner further argues that the specification supports this distinction by repeatedly referring to the "instant install link," as opposed to Pasha's repeated use of "download link." *Id.* at 33 (citing Ex. 1001, 1:51, 1:54, 9:50, 10:5–20, 10:28, 10:30, 10:49, 11:24, 11:25, 11:26, 11:42; 12:1, 12:2, 12:6, 12:8, 12:35, 12:39, 12:50, 12:53, 12:60, 13:2, 13:3, 13:8, 13:18, 13:51, 14:20, 14:21, 14:27, 14:48, 14:66, 15:5, 15:6, 15:19, 15:28, 15:44, 15:51, 15:55, 15:60, 16:31, 16:33, 16:34, 17:30, Figs. 4A, 4B, 5, 6, 7; Ex. 2005 ¶¶ 110, 111). Patent Owner argues that Pasha "acknowledges the difference between downloading an app, which can be performed with no regard for 'permissions,' and installing an app, which must account for 'permissions.'" *Id.* at 33–34 (citing Ex. 1003, 9:33–38). Thus, Patent Owner argues, "a downloading link does

not always lead to installation, and is not considered a link *for* installation."
Id. at 34.

(2) Petitioner's Reply

Petitioner responds that downloading and installing are "closely coupled" in the '951 patent. Pet. Reply 7. Petitioner contends that "[a]s claimed, selection of the 'link for installation' may lead to invoking 'an installation client for downloading and installing applications,' and ultimately results in the desired application being both downloaded and installed." *Id.* (citing Ex. 1001, 21:16–20) (emphasis omitted). Petitioner further contends that the '951 patent specification defines "instant install link" as "a link which when selected causes the installation client to become active in order to perform actions necessary to *download and install an app*." *Id.* (citing Ex. 1001, 10:5–8; Ex. 1024, 162:22–163:16).

Petitioner argues that Pasha's download link results in both downloading and installing an application. *Id.* at 8. Specifically, Petitioner contends that Pasha discloses a "direct install feature . . . used to provide download links or buttons in third-party applications that *may download and install applications* in response to a single user action, such as touching the link or button." *Id.* (quoting Ex. 1003, 1:38–42). Because Pasha's download link is used for both downloading and installing applications, Petitioner argues that Pasha's download link is "a link *for installation* of a first software application." *Id.* (citing Ex. 1003, 15:52–58; Ex. 1008 ¶¶ 69–71; Ex. 1024, 165:13–168:8, 170:12–171:23; Ex. 2004, 230:5–231:13).

(3) Patent Owner's Sur-Reply

In its Sur-reply, Patent Owner reiterates that "downloading and installation are distinct concepts, and one does not anticipate the other."

PO Sur-reply 11–12 (citing PO Resp. 32; Ex. 2005 ¶ 108; Ex. 2004, 126:16–127:4). Patent Owner argues that "showing only disclosure of a first concept, even if 'closely coupled' to a second concept, cannot meet the threshold for showing anticipation of the second concept." *Id.* at 12 (citing *Net MoneyIN*, 545 F.3d at 1371). Patent Owner asserts that Petitioner did not argue obviousness for claims 1, 12, and 17. *See id.* at 12–13.

Patent Owner further argues that "download does *not* always lead to installation, so a link to download may not result in installation." *Id.* at 13 (citing PO Resp. 33; Ex. 2004, 232:23–233:5, 153:8–12). *Id.* Patent Owner points to an example in Pasha when installation would not follow download "if the set of accepted permissions does not match the set of requested permissions." *Id.* (citing PO Resp. 33–34; Ex. 1003, 9:33–38). Patent Owner contends that "Dr. Mao's expert testimony on this element stands uncontested" because the Petition lacks citation to any expert opinion related to this element of the claim, "and attorney argument alone cannot refute expert testimony." *Id.* at 11–13.

(4) *Our Analysis*

Having fully considered the parties' arguments and evidence, we conclude that Petitioner has shown by a preponderance of the evidence that Pasha discloses this limitation.

Patent Owner's argument that downloading and installing are two distinct concepts misses the point. The disputed claim limitation is neither downloading nor installing, it is instead a "*link* for installation," and Pasha discloses the same functionality for the "download link" as the '951 patent discloses for the claimed "link for installation." The fact that Pasha gives it a different name is irrelevant. *See In re Gleave*, 560 F.3d at 1334 ("[An anticipatory] reference need not satisfy an *ipsissimis verbis* test.").

The specification defines the term "instant install link"—which Patent Owner argues is the same as the claimed link—as "a link which when selected causes the installation client to become active in order to perform actions necessary to *download* and install an app." Ex. 1001, 10:5–8 (emphasis added); PO Resp. 33; Pet. Reply 7. That link simply activates the installation client to perform the necessary actions. We see nothing in the claim language or the specification that mandates Patent Owner's proposed requirement that selection of the link download *"always* lead to installation" for it to be "considered a link for installation." PO Resp. 34. In fact, the plain language of claims itself rejects Patent Owner's proposed construction; in response to identifying that the link has been selected, claim 1, for example, requires determining whether an installation client is available, and if not available, redirecting said device to an app store for downloading and installing the app. Ex. 1001, 21:11–35. As the specification acknowledges, such redirection often results the user deciding *not* to install the app. *Id.* at 1:29–30; *see also id.* at 12:53–55 ("When the instant install link is selected and the installation client cannot be invoked, the device is redirected to the app store."), 13:8–10.

We agree with Petitioner that "Pasha's 'download link,' like the '951 Patent's 'instant install link,' is a user-actuated link which when selected results in both the download and installation of an application in the background without the user exiting the first application." Pet Reply 8 (citing Ex. 1008 ¶¶ 69–71; Ex. 2004, 230:5–231:13).[13] Pasha discloses that

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[13] Patent Owner argues that Petitioner's reliance on Dr. Almeroth's testimony is improper since that testimony was not cited in the Petition. PO Sur-reply 11 n.1. We disagree. Dr. Almeroth's declaration was submitted with the Petition and Petitioner's reliance on portions of that declaration is

a "user may perform a single action, such as touching the link or an associated button on a touch screen, *to download and install an application.*" Ex. 1003, 15:55–58; *see also id.* at 1:38–42 ("This direct install feature can be used to provide download links or buttons in third-party applications that *may download and install applications* in response to a single user action, such as touching the link or button.") (emphasis added).

Because we reject Patent Owner's interpretation of "link for installation," Patent Owner's argument that Pasha's disclosure of verifying permissions before proceeding to installation distinguishes Pasha's download link from the claimed link is also unpersuasive. Moreover, verifying permissions prior to installation seems hardly unique to Pasha; neither Patent Owner nor Dr. Mao provide any basis to support that the claimed invention works any differently from Pasha's method in this regard. *See, e,g.,* Ex. 1024, 169:15–22 (Dr. Mao agreeing that that is the purpose of permissions), 176:7–16 (testifying, without any basis, that installation disclosed in the '951 patent "attempts to find application that is much more likely to meet the permission requirements of the device").

Based on the entirety of the record, we determine that Petitioner has proved by a preponderance of the evidence that Pasha discloses this claim limitation.

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squarely in response to arguments raised by Patent Owner based on its narrow construction of this claim limitation.

   d) *"in response to said identifying, determine whether an installation client for downloading and installing applications on said device is available on said device, said installation client comprising a third software application;"*

  Petitioner argues that "Pasha discloses that the host application 132 may use an App Manager 180 and Installer 182 'to perform the installation and download operations' associated with downloading the application from the host application user interface." Pet. 58 (citing Ex. 1003, 17:21–34). Thus, Petitioner argues that App Manager 180 and Installer 182 disclose the claimed "installation client for downloading and installing applications on said device." *Id.* Petitioner further argues that Pasha discloses that when "a download is requested," checking to determine whether App Manager 180 and Installer 182 are "present and accessible on the client device," and thus discloses determining whether an installation client is available. *Id.* at 58–59 (citing Ex. 1003, 8:53–67, 18:50–54).

  Patent Owner does not present arguments as to this limitation. *See generally* PO Resp. Based on the entirety of the record and for the reasons explained by Petitioner, we determine that Petitioner has proved by a preponderance of the evidence that Pasha discloses this limitation.

   e) *"when said installation client is available on said device:"*

  Petitioner argues that "element [f] is a transitional statement regarding the availability of the installation client that, when true, proceeds to elements [f1]–[f3]." Pet. 59. Petitioner argues that Pasha discloses that, when available, App Manager 180 and Installer 182 may be executed on the client device. *Id.* (citing Ex. 1003, 18:36–58, 22:24–25; Ex. 1008 ¶ 75).

  Patent Owner does not present arguments as to this limitation. *See generally* PO Resp. Based on the entirety of the record and for the reasons

explained by Petitioner, we determine that Petitioner has proved by a preponderance of the evidence that Pasha discloses this limitation.

> f) *"invoke, without exiting said second software application, said installation client for downloading and installing applications on said device to run in the background on said device;"*

Petitioner contends that Pasha discloses this limitation. Pet. 59–60. Petitioner argues that Pasha discloses that, when the App Manager 180 and the Installer 182 are available, the user may continue to use the host application 132 in the foreground while downloading and installing application package 172 in the background. Pet. 59–60 (citing Ex. 1003, 19:62–20:9). Petitioner argues that "Pasha discloses that the claimed 'installation client' (the App Manager 180 and the Installer 182) is invoked to 'run in the background' during the downloading and installing of the application package 132." *Id.* at 60 (citing Ex. 1003, 19:67–20:4).

(1) Patent Owner's Response

Patent Owner argues that Pasha does not disclose the "invoke" limitation for multiple reasons.

First, Patent Owner contends that Petitioner conflates two different parts of the invoking limitation: "[f] when said installation client is available on said device; and [f1] invoke . . . said installation client for downloading and installation application on said device to run in the background on said device." PO Resp. 36 (citing Ex. 1001, 21:16–20; Ex. 2005 ¶ 115). Patent Owner asserts that "[t]he first part indicates that the invoke step is responsive to a positive determination that the installation client is available on the device. The second part is an action taken that invokes the installation client." *Id.* (citing Ex. 2005 ¶ 116). Patent Owner faults Petitioner for "equat[ing] the *availability* of the App Manager 180 and

Installer 182 during the downloading and installation of application package 172 to the claimed invoking." *Id.* at 37 (citing Pet. 59–60; Ex. 2005 ¶ 118). Patent Owner argues that, apart from availability, Petitioner does not point to any affirmative action that could be considered invoking. *Id.* Patent Owner further argues that "Dr. Almeroth admitted that in his analysis of Pasha, the availability of element [f] and the unavailability of element [g] referred to the same availability that is determined in element [e]." *Id.* (citing Ex. 2004, 197:13–21).

Second, Patent Owner argues that "Petitioner fails to provide any evidence of invoking by Pasha." *Id.* at 38 (emphasis omitted). According to Patent Owner, Pasha does not disclose the affirmative steps of calling or activating under Petitioner's construction of "invoke." *Id.* at 39 (citing Ex. 1008 ¶ 163; Ex. 2004, 276:1–13). Rather, Patent Owner contends, "the App Manager 180 and Installer 182 are simply available or unavailable; Pasha fails to disclose any action that would cause the App Manager 180 and Installer 182 to run." *Id.* (citing Ex. 2005 ¶ 121).

Third, relying on its proposed claim construction, Patent Owner argues that Pasha does not disclose "invoking to run." *Id.* at 39. Patent Owner argues, instead, "Pasha relies on the App Manager 180 and Installer 182 already running or being available irrespective of any action taken by the user." *Id.* (citing Ex. 1003; 18:50–56; Ex. 2005 ¶ 123).

(2) Petitioner's Reply

In response to Patent Owner's argument on conflating availability and invoking, Petitioner argues that an application must be available to be invoked. *See* Pet. Reply 9–10. (citing Ex. 1023 ¶¶ 48–50; Ex. 1001, 14:57–60). Petitioner argues:

> Dr. Almeroth testified that once Pasha makes the determination
> that the App Manager 180 and Installer 182 is/are "available,"
> these components are subsequently used by a system to perform
> the downloading and installation operations, making it clear to a
> [person of ordinary skill in the art] that these components were
> "invoked" by the system.

Id. (citing Ex. 2008 ¶¶ 76, 77; Ex. 2004, 276:1–13). Petitioner asserts that
Dr. Mao confirmed that Pasha both determines availability and invokes,
questioning, "if it's not invoked to run, it's not clear how the app manager
and installer can be used for downloading and installing." *Id.* at 10 (citing
Ex. 1024, 224:1–8, 226:8–13, 227:2–9).

Petitioner also addresses Patent Owner's claim construction of
"invoked" by pointing out that Patent Owner's expert "repeatedly testified
that having something 'running in the background' does not preclude the
application from being 'invoked to run.'" *Id.* at 9 (citing Ex. 1024,
199:3–200:12, 200:14–23, 201:15–202:4).

Finally, Petitioner argues that "Pasha expressly discloses that the App
Manager is 'invoked.'" *Id.* at 10. Specifically, Petitioner cites Pasha's
claim 5, which discloses "that the 'the downloading and installing are
performed by application manager program code *invoked* by the host
application.'" *Id.* at 10–11 (citing Ex. 1003, 28:8–10).

(3) Patent Owner's Sur-Reply

Patent Owner reiterates that Pasha does not disclose an affirmative
step taken by the system to invoke. PO Sur-reply 14 (citing PO Resp. 39;
Ex. 2005 ¶ 121). Patent Owner further argues that Petitioner cannot rely on
new citations in the Reply to support its argument. *Id.* (citing Pet. Reply
9–10; Ex. 2008 ¶¶ 76, 77; Ex. 1023 ¶¶ 48–50). Patent Owner argues that
this evidence should be excluded, and that Dr. Mao's testimony for this

limitation stands unrebutted. *Id.* at 14–15 (citing PO Resp. 34–42; Ex. 2005 ¶¶ 113–125).

> *(4) Analysis*

Having fully considered the parties' arguments and evidence, we conclude that Petitioner has shown by a preponderance of the evidence that Pasha discloses this limitation.

To the extent Patent Owner's arguments are based on its proposed construction of "invoke" as requiring invoking from a state in which the installation client was *not* previously running, we do not adopt Patent Owner's construction, and therefore, find those arguments unpersuasive.

As to Patent Owner's argument that Petitioner conflates availability and invoking, and that the actual invoking is not disclosed in Pasha, we are persuaded that there is ample teaching of both steps. Patent Owner does not dispute that Pasha discloses checking to "determine whether the App Manager 180 and installer 182 are present and accessible on the client device 130." *See* Ex. 1003, 18:50–55; PO Resp. 37. Nor does Patent Owner dispute that these applications are used for downloading and installation of the application package in Pasha. *See* PO Resp. 38–39; Ex. 1003, 17:39–43, 8:44–67; Pet. 59–61. Patent Owner instead contends that claims require an affirmative action to invoke these applications and mere disclosure of downloads and installations performed by these applications is insufficient. PO Resp. 38–39; PO Sur-reply 14. We disagree. In Dr. Mao's words, "[i]f [these applications are] not invoked to run, it's not clear how the app manager and installer can be used for downloading and installing." *See* Ex. 1024, 227:2–9. Moreover, as Petitioner points out, Pasha expressly discloses that the App Manager is invoked because Pasha's claim 5 recites that "the downloading and installing are performed by application manager

49

program code *invoked* by the host application." Pet. Reply 11–12 (citing
Ex. 1003, 27:20–66, 28:8–10).[14]

Lastly, Patent Owner argues that the "invoking" limitation
distinguished similar prior art disclosure during the prosecution of the '951
patent and its continuation application. *See* PO Resp. 40–42. As to the
prosecution of the '951 patent, Patent Owner argues that "Pasha and [the
prior art of record, Cayre] both include a similar disclosure that the
Examiner found failed to anticipate the claimed invoking element." *See id.*
at 9–10, 40–41 (citing Ex. 1002, 164, 173, 210, 213; Ex. 1003, 18:50–54;
Ex. 2010, 213; Ex. 2005 ¶¶ 124–125). We are not persuaded that Pasha and
Cayre include similar disclosure because Cayre does not teach installing an
application in response to *a user selecting a link*. *See* Ex. 1019 ¶¶ 42–46;
Ex. 1002, 173; *see also* Inst. Dec. 50–51.

Patent Owner also argues that during prosecution of a continuation of
the '951 patent (App. No. 16/992,194 "the '194 application"), the same
examiner found similar claims allowable over Pasha. *See* PO Resp. 41–42
(citing Ex. 2001, 4–5, 177–181); PO Sur-reply 15. We agree, however, with
Petitioner that the examiner appears to have only nominally considered
Pasha there, and thus, there is no basis for us to give any weight to the
examiner's allowance of those claims. *See* Ex. 2001, 4–5; Pet. Reply 19.

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[14] Patent Owner argues that Petitioner's reliance on this additional citation to
Pasha is improper since it was not cited in the Petition. PO Sur-reply 14.
We find Petitioner's arguments and reliance on additional portions of Pasha
to be squarely in response to arguments raised in the Patent Owner
Response, and not in support of contentions different from those in the
Petition. *See Apple Inc. v. Andrea Elecs. Corp.*, 949 F.3d 697, 707 (Fed.
Cir. 2020) (finding that the Board abused its discretion in ignoring
petitioner's responsive arguments to issues raised by patent owner during
trial).

Based on the entirety of the record, we determine that Petitioner has proved by a preponderance of the evidence that Pasha discloses this claim limitation.

> g) *"instruct said installation client to automatically download an installation file of said first software application to said device over said network using said network interface in the background on said device, without directing said user interaction to an app store; and"*

Petitioner argues that Pasha discloses that selecting app download link 166 initiates download of Application Package 172 by App Manager 180 via network 150. Pet. 60–61 (citing Ex. 1003, Fig. 3, 8:44–64, 17:39–43). Petitioner argues that Pasha also discloses installing applications in the background and without requiring the user to interact with an app store. *Id.* at 61–62 (citing Ex. 1003, 1:50–57, 17:4–20, 19:67–20:9).

Patent Owner does not present arguments as to this limitation. *See generally* PO Resp. Based on the entirety of the record and for the reasons explained by Petitioner, we determine that Petitioner has proved by a preponderance of the evidence that Pasha discloses this limitation.

> h) *"using said downloaded installation file, install said first software application on said device in the background on said device while maintaining a user experience of interaction with said second software application in the foreground; and"*

Petitioner argues that Pasha discloses that Installer 182 installs application package 172 on client device 130 in the background while the user interacts with host application 132 in the foreground. Pet. 63 (citing Ex. 1003, 9:22–25, 16:35–48, 19:62–65, 19:67–20:9).

Patent Owner does not present arguments as to this limitation. *See generally* PO Resp. Based on the entirety of the record and for the reasons

51

explained by Petitioner, we determine that Petitioner has proved by a preponderance of the evidence that Pasha discloses this limitation.

> i) *"when said installation client is unavailable on said device, redirect said device to an app store for downloading and installing said first software application on said device."*

Petitioner contends that Pasha discloses this limitation. Pet. 64. Petitioner contends that Pasha discloses that when "a download is requested . . . a check may be performed to determine whether the App Manager 180 and installer 182 are present and accessible on the client device 130." Pet. 64 (citing Ex. 1003, 18:50–58) (alteration in original). "If the App Manager 180 and Installer 182 are not 'present and accessible' during the check, 'the ordinary app store for the operating system may be used as a fallback.'" *Id.* Petitioner argues that Pasha's use of the app store as a fallback discloses redirecting the device to an app store. *Id.*

(1) Patent Owner's Response

Patent Owner argues that Pasha's mere use of the app store as a fallback does not disclose the claimed "redirect." PO Resp. 43. Patent Owner argues that the claims require an affirmative redirect step, and "Pasha provides no disclosure of how such a redirect would occur, including whether it might require user interaction (*e.g.*, selection of a link or visiting the app store icon) to access the app store." *Id.* (citing Ex. 2005 ¶¶ 128, 129).

Patent Owner also argues the claims require the redirecting to be undertaken by the mobile device and Pasha fails to disclose that its fallback is a result of an action by the mobile device. *Id.* at 44 (citing Ex. 2004, 98:18–24, 94:20–95:8, 107:21–25, 109:10–17; Ex. 2005 ¶ 130). Patent Owner asserts that Pasha lacks any description beyond "the ordinary app

store for the operating system may be used as a fallback," and "provides no disclosure of this step being performed by the processor of the mobile device, as required by the claims." *Id.* (citing Ex. 1003, 18:55–58; Ex. 2005 ¶ 131).

(2) Petitioner's Reply

Petitioner responds that, beyond the single selection of a link, the claims "do not preclude other user interactions. Nothing in the claims of the '951 Patent require that the redirection to an app store take place without some additional user interaction." Pet. Reply 11. Petitioner argues that "Pasha describes exactly how the app store can be used to download applications based on the selection of a link in an advertisement," and Pasha's description of using the ordinary app store as a fallback, "clearly implicates this earlier description." *Id.* at 12 (citing Ex. 1003, 15:25–42, 17:4–19; Ex. 1023 ¶ 60). Petitioner further argues that it is "beyond reasonable dispute that Pasha discloses software executing on mobile devices, including during the redirection to an app store to download software," in the same manner as the claimed steps of the '951 patent. *Id.* at 12–13 (citing Ex. 1003, 15:25–42, 17:4–19; Ex. 1024, 123:21–126:5, 220:17–222:2).

(3) Patent Owner's Sur-Reply

Patent Owner reiterates that "simply stating that 'the ordinary app store . . . may be used as a fallback' cannot 'describe[] exactly how the app store can be used,'" or disclose the claimed "redirecting." *See* PO Sur-reply 15–17 (citing Ex. 1001, 18:55–58; Ex. 2005 ¶¶ 126–133) (alterations in original). Patent Owner further contends, based on its claim construction position, that "the claimed 'redirecting' is an automatic process performed *by the mobile device* itself without any user interaction." *Id.* at 17.

(4) Analysis

Having fully considered the parties' arguments and evidence, we conclude that Petitioner has shown by a preponderance of the evidence that Pasha discloses this limitation.

To the extent Patent Owner's arguments are based on its proposed construction of "redirect" as requiring no further user interaction, we do not adopt Patent Owner's construction, and therefore, find those arguments unpersuasive. As to Patent Owner's argument that Pasha is deficient in disclosing the redirecting limitation as claimed, we disagree. Pasha repeatedly describes exactly how the app store can be used to download applications based on the selection of a link in an advertisement. *See* Ex. 1003, 15:25–42 ("selecting a link in the advertisement may display an app store download page that includes another link the user may select to download and install the application on their mobile device. When the user selects the link, the app store opens, thereby supplanting the application the user was using on the mobile device."), 17:4–7 ("Previously, when a user selected a link 166 to the downloadable application, an app store would open in the user interface of the client device 130 and replace the host application in the user interface."); Pet. Reply 12. Thus, Pasha discloses how redirecting to an app store works using link selection. Pasha then discloses using the "ordinary app store for the operating system as a fallback" when App Manager 180 and Installer 182 are not present. Ex. 1003, 18:55–58. That Pasha does not repeat for a third time in column 18 the steps of opening the app store supplanting the current application being used does not render Pasha's disclosure deficient.

Patent Owner's argument that "Pasha provides no disclosure of this step being performed by the processor of the mobile device" (PO Resp. 44)

is puzzling given that Pasha is titled "Application Installation *System*" and relates to "installing applications on *computing devices*." Ex. 1003, code (54), 1:5–6, 1:36–38 ("a direct application install feature may be used by third-party applications to download and install additional applications onto a mobile device.") (emphasis added); *see also* Ex. 1024, 221:25 ("Ultimately it is performed by the mobile device.").[15]

Based on the entirety of the record, we determine that Petitioner has proved by a preponderance of the evidence that Pasha discloses this claim limitation. Petitioner has thus established by a preponderance of the evidence that Pasha anticipates the subject matter of claim 1.

2. *Independent Claims 12 and 17*

Claim 12 recites "a method for installation of software applications on a mobile device, comprising: executing, by at least one hardware processor operating in said device," and also recites other limitations that are similar to those in claim 1. *See* Ex. 1001, 22:7–39. Petitioner contends that Pasha discloses the preamble because it discloses "software running on one or more computer systems 600 performs one or more steps of one more method described." Pet. 52–53 (citing Ex. 1003 23:14–56, Fig. 6; Ex. 1008 ¶¶ 61–62). Petitioner further contends that Pasha discloses that the computer system 600 may be "a mobile telephone, a personal digital assistant (PDA), [or] a tablet computer system," with "a direct application install feature that may be used by third-party applications to download and install additional

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[15] For the reasons discussed above with regard to the "invoking" limitation, we find no basis here to give any weight to the examiner's allowance of the '194 application's claims. *See* PO Resp. 44 (citing Ex. 2001, 4–5, 177–181); PO Sur-reply 17.

applications onto a mobile device." *Id.* at 53 (citing Ex. 1003, 1:36–38). For the remaining limitations of claim 12, Petitioner combines its arguments with those directed to the limitations of claim 1, discussed above. *Id.* at 55–64 (Pet. §§ X.B.1(d)–(k)); Ex. 1008 ¶¶ 61–87.

Claim 17 recites "a non-transitory computer readable medium including instructions that, when executed by at least one processor, cause the at least one processor to perform operations for installing software applications on a mobile device," and also recites other limitations that are similar to those in claim 1. Ex. 1001, 22:55–23:22. Petitioner contends that Pasha discloses the recited instructions because it discloses a computer system 600 with "software running on one or more computer systems 600 performs one or more steps of one more method described." Pet. 52–53 (citing Ex. 1003 23:14–56). Petitioner further contends that Pasha discloses that the computer system 600 includes memory 604 and storage 606 and which both may contain "instructions for processor 602 to execute or data for processor 602 to operate on." *Id.* at 54 (citing Ex. 1003, 23:57–65, 24:35–65, 29:31–30:36). For the remaining limitations of claim 17, Petitioner combines its arguments with those directed to the limitations of claim 1, discussed above. *Id.* at 54–64 (Pet. §§ X.B.1(c), X.B.1(e)–(k)); Ex. 1008 ¶¶ 61–87.

Patent Owner does not present separate argument for claims 12 and 17. *See* PO Resp. 30–45 (arguing the three independent claims together). For the reasons discussed above with regard to claim 1, and because Petitioner sufficiently shows that Pasha discloses the additional elements recited in claims 12 and 17, we determine that Petitioner has established by a preponderance of the evidence that Pasha anticipates the subject matter of claims 12 and 17.

3. *Dependent Claims 6 and 14*

Petitioner argues that Pasha additionally anticipates dependent claims 6 and 14. Pet. 68–69. Claims 6 and 14 depend from independent claims 1 and 12, respectively, and further recite "wherein said installation client is invoked when said link comprises a deep link linking said installation of said first software application to said installation client." Ex. 1001, 21:51–54, 22:43–46. Petitioner contends that Pasha discloses the application download link 166 displayed in the content of the host application may be in the form of a URL hyperlink "identifying the network location . . . from which an application package 172 may be downloaded by the client system 130," and that selection of that link *automatically* initiates the download of the associated application package 172. Pet. 68–69 (citing Ex. 1003, 7:2–9, 8:44–58, 17:35–43; Ex. 1008 ¶ 98) (alteration in original). Petitioner argues that although Pasha does not explicitly use the term "deep link," Pasha's download link 166 is functionally a deep link because selection of the link causes automatic download to ensue, without any additional user input, by invocation of App Manager 180. *Id.* at 69 (citing Ex. 1008 ¶¶ 98–99). Petitioner further contends that "[b]ecause the app download link 166 is associated with the application to be downloaded (as it specifies the network address from where the application can be downloaded from), and that selection of the link automatically invokes the App Manager 180 to download the application," Pasha discloses this limitation. *Id.*

Patent Owner argues once again that download links in Pasha are not links for installation (PO Resp. 45–46), a claim construction position that we decline to adopt. Patent Owner also argues that "Pasha does not explicitly or inherently disclose the 'deep link' recited in claims 6 and 14," and that

Petitioner "relies exclusively on Dr. Almeroth's declaration." *Id.* at 46.[16]
Patent Owner argues "Dr. Almeroth in no way ties this 'deep link' to an
installation link that allows for automatic installation of an app," and "[t]o a
person of ordinary skill in the art, 'it is not obvious that a deep link can be
constructed without requiring an interaction by the user.'" *Id.* at 46–47
(citing Ex. 2005 ¶ 135). In its Sur-reply, Patent Owner further argues that
"[a]s explained by Dr. Mao, 'deep links' in mobile devices is a difficult task
to achieve because the 'link allows for installation of the app to be created
on the fly, without disrupting the user's interaction with the active app.'"
PO Sur-reply 19 (citing Ex. 2005 ¶¶ 93–94).

Neither Patent Owner nor Dr. Mao offer any support for reading all of
these limitations into the claim term "deep link"—and Patent Owner fails to
propose a construction for the term. Dr. Almeroth testifies that "a 'deep
link' is a link that directs a user past a particular homepage of a website or
application to specific location or content within that website or
application." Ex. 1008 ¶ 56 (citing Ex. 1007, 2), ¶ 58 ("a 'deep link' is
properly understood as a link with sufficient address information or
functionality to direct the user to a specific location on a webpage, a specific
location within local storage, or a specific location within an app."),
Pet. Reply 13 (citing Ex. 1008 ¶¶ 56–58). The '951 patent specification
seems consistent with Dr. Almeroth's opinion on the meaning of this term.
See, e.g., Ex. 1001, 16:65–67 ("If the device is enabled, the third party

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[16] Patent Owner's arguments and Dr. Mao's testimony appear to address
Petitioner's obviousness ground instead of the anticipation ground. PO
Resp. 45–46 (citing Pet. 79; Ex. 1008 ¶ 126; Ex. 1007); *see also* Ex. 2005
¶¶ 135–136 (same). To the extent relevant, we consider these arguments and
testimony to apply to Petitioner's anticipation ground and address them.

presents the banner with an embedded deep link (instead of the app store URL)."). Dr. Mao, on the other hand, while agreeing with this general understanding of the term (*see, e.g.,* Ex. 1024, 190:21–23), has little to offer in support of a narrower construction (*see id.* at 190:7–197:7). At times, Dr. Mao's testimony also contradicts the '951 patent specification. *Compare* Ex. 2005 ¶ 94 ("The claims 'deep link,' on the other hand, is not a standard URL that is easy to find . . .") with Ex. 1001, 18:41–42 ("Tapping the banner fires the deep link URL which is a standard https URL.")). We therefore give little weight to Dr. Mao's testimony and decline to construe the term "deep link" in the manner proposed by Patent Owner.

In view of the above discussed understanding of the term, Pasha sufficiently discloses a "deep link" as recited in claims 6 and 14. Pasha discloses "application download links 166, which may be, e.g., hyperlinks that may include Uniform Resource Locator(s) ('URLs') identifying the network location (e.g., network host name or address, and *path on the host.*" Ex. 1003, 7:5–7 (emphasis added). Pasha further discloses that "the application 132 may automatically use the application download link 166 . . . to initiate the download," and that

> [t]his automatic initiation of the download may simplify the process of downloading applications because the download may be initiated in response to a single user action, e.g., the selection of the app download link 166 presented in the content 164, without the user selecting the second download link from the app download page 168.

Id. at 8:44–58. Dr. Almeroth testifies that a person of ordinary skill in the art would have understood that "the application download link 166 is an example of a deep link because selection of the link necessarily includes additional address and functional information that causes 'automatic'

download to ensue, without any additional user input, by invocation of the App Manager 180." Ex. 1008 ¶ 99. We credit Dr. Almeroth's testimony because it is supported by the disclosure in Pasha.

Based on our review of the current record, and in particular, Petitioner's arguments set forth above as well as portions of Pasha and Dr. Almeroth's testimony cited above, we determine that Petitioner has established by a preponderance of the evidence that Pasha discloses the additional limitation recited claims 6 and 14, and anticipates the subject matter of claims 6 and 14.

4. Dependent Claim 10

Petitioner argues that Pasha additionally anticipates dependent claim 10. Pet. 73. Claim 10 depends on claim 1 and further recites "wherein said installation client comprises integrated security processes." Ex. 1001, 22:1–2. Petitioner contends that Pasha discloses that "application package 172 may be encrypted and signed, e.g., using public-key encryption, to prevent unauthorized modification," and that "an encrypted application package may be decrypted using appropriate decryption keys at the time it is installed" on the client device 130. Pet. 73 (citing Ex. 1003, 7:53–57); Ex 1008 ¶ 109. Petitioner further contends that application package 172 may be provided on a server of a social-networking system 160 or other third-party system 170 and signed with a digital signature using a private key associated with either the social-networking system 160 or other third-party system 170, and Pasha's client may verify the downloaded application package. Pet. 73 (citing Ex. 1003, 17:35–50, 18:4–6).

Patent Owner responds that "Petitioner argues that 'integrated security processes' are 'popular and conventional,'" and that Dr. Almeroth's declaration cited in support of the argument are not supported by Pasha's

cited disclosure. PO Resp. 47 (citing Pet. 50–51; Ex. 1003, 9:65–10:38; Ex. 1008 ¶ 109; Ex. 2005 ¶ 137). Patent Owner argues "Petitioner, therefore, fails to point to any disclosure in Pasha that discloses the 'integrated security processes' recited in claim 10, or the benefits derived therefrom." *Id.* at 47–48 (citing Ex. 2005 ¶¶ 137, 138). Dr. Mao's declaration mirrors Patent Owner's arguments. *See* Ex. 2005 ¶¶ 138–139.

In its Reply, Petitioner points out that Patent Owner's "arguments, citing pages 50–51 of the Petition and paragraph 180 of Dr. Almeroth's declaration, are completely misplaced as they do not address Petitioner's anticipation argument," and are instead "directed to Petitioner's position in Ground 1 (ineligible subject matter)." Pet. Reply 15 (citing PO Resp. 47; Pet. 50–51, 73; Ex. 1008 ¶ 109).

We agree with Petitioner that Patent Owner's arguments are non-responsive to Petitioner's contentions relating to anticipation of claim 10 by Pasha. Although Patent Owner presents an argument as to claim 10 in its Sur-reply (*see* PO Sur-reply 19–20), we consider that argument to be untimely.[17] *See NuVasive*, 842 F.3d at 1380–81 (holding that the patent owner waived arguments that were not raised in its response after institution); Paper 15, 8 ("Patent Owner is cautioned that any arguments not raised in the response may be deemed waived.").

Based on our review of the current record, and in particular, Petitioner's arguments set forth above as well as portions of Pasha and

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[17] Even if not waived, we find no basis in the claim language or the '951 patent specification to narrowly construe the term "integrated security processes" in the manner proposed by Patent Owner. *See* PO Sur-reply 20 (arguing that the "claimed 'integrated security process' relates to the 'installation client,' which would occur *before* any downloading or installing is initiated").

Dr. Almeroth's testimony cited above, we determine that Petitioner has established by a preponderance of the evidence that Pasha discloses the additional limitation recited claim 10 and anticipates the subject matter of claim 10.

5. *Dependent Claims 3–5, 7–9, 11, 15–16, and 18*

Petitioner argues that Pasha additionally anticipates dependent claims 3–5, 7–9, 11, 15–16, and 18. Pet. 64–68, 69–72, 74.

Claim 3 depends on claim 1 and additionally recites "wherein, upon being instructed to automatically download said installation file, said installation client downloads said installation file onto said device from a respective network address of said installation file." Ex. 1001, 21:40–44. Petitioner contends that Pasha discloses download links 166 which are displayed in the content 164 of the host application 132 may be hyperlinks that include "Uniform Resource Locator(s) ('URLs') identifying the network location (e.g., network host name or address, and path on the host)" from which an application package 172 may be downloaded by the client device 130. Pet. 65 (citing Ex. 1003, 7:2–8). Petitioner further contends that Pasha discloses that the "App Manager [180] may download the application package 172 . . . from the server 162," i.e., the network address contained in the hyperlink URL. *Id.* (alterations in original).

Claim 4 depends on claim 3 and additionally recites "wherein said installation client retrieves said respective network address over said network from an app information server." Ex. 1001, 21:45–47. Petitioner contends that Pasha discloses that the content of host application 132, which may include one or more application download links 166 in the form of URL hyperlinks having network address information contained therein, may be provided by "a third party system 170." Pet. 65–66 (citing Ex. 1003,

7:2–17). According to Petitioner, third party system 170 may be hosted by an app store operator, such as a vendor of the client device 130 or the client device's operating system. *Id.* at 66 (citing Ex. 1003, 7:18–20). Petitioner contends that Pasha therefore discloses the network address contained in the URL provided in the content of the host app 132 is received over network 150 from the app store operator, i.e., an app information server. *Id.* (citing Ex. 1003, 7:18–20, 17:35–43, Fig. 3).

Claim 5 depends on claim 3 and further recites "wherein said installation client constructs said respective network address using information included in said link." Ex. 1001, 21:48–50. Petitioner contends that "constructing" could be "for example by retrieving the address for the app specified by the link from a non-transitory internal memory device 100." Pet. 66–67 (quoting Ex 1001, 9:57–59) (emphasis omitted). Petitioner further contends that App Manager 180 of Pasha "constructs" the network address using information contained in a URL of an application download link 166, so that App Manager 180 can download the application package 172 from that network address. *Id.* at 67 (citing Ex. 1001, 7:2–8, 8:44–67, 17:35–18:3; Ex. 1008 ¶¶ 95–96).

Claims 7 and 15 depend on independent claims 1 and 12, respectively, and further recite "wherein said installation client prompts for user confirmation of said installation of said first software application prior to said automatic download and performs said automatic download only when said confirmation is obtained." Ex. 1001, 21:55–59, 22:47–51. Petitioner contends that Pasha discloses that the "App Manager 180 may control the download process by checking permissions," and may "present a request to the user for approval to perform operations corresponding to the requested permissions." Pet. 69–70 (citing Ex. 1003, 8:67–9:14, 16:8–17, 22:22–51).

Petitioner further contends that Pasha discloses that if the set of permissions accepted by the user 176 does not match the set of requested permissions 174, "then the application is not downloaded and installed," and "[i]f the lists match, then the application download and install process may be initiated." *Id.* (citing Ex. 1003, 20:21–38, 9:15–38). Petitioner further contends that Pasha discloses that the permission request may be performed at any suitable point in the download and install operations prior to execution of the installed application 184, including prior to downloading the application package. *Id.* at 70–71 (citing Ex. 1003, 17:39–43, 20:28–31, 22:43–51).

Claim 8 depends on claim 7 and further recites "wherein said prompting for user confirmation comprises retrieving information associated with said first software application from a server over said network using said network interface and displaying said information on a display of said device." Ex. 1001, 21:60–64. Petitioner contends that Pasha discloses that the "application developer may include in the downloaded application package 172, a list of requested permissions 174," which meets the claimed "information associated with said first software application." Pet. 71 (citing Ex. 1003, 7:42–50, 8:59–67, 17:39–43, 20:10–14). Petitioner further contends that Pasha's download of the application packages uses its communication interface 610, which interfaces with one or more networks. *Id.* at 71–72 (citing Ex. 1003, 16:28–31, 17:39–43, 23:14–28, 25:50–26:15). According to Petitioner, the requested permissions in Pasha are displayed in a dialogue box or other user interface in the host application. *Id.* at 72 (citing Ex. 1003, 8:67–9:7, 16:8–13, 22:22–42).

Claim 9 depends on claim 7 and further recites "wherein said installation client resumes running in the background when a response is

received to said prompting." Ex. 1001; 21:65–67. Petitioner contends that Pasha discloses that if the accepted permissions 176 and requested permissions 174 match, "then the application download and install process may be initiated." Pet. 72 (citing Ex. 1003, 19:67–20:9, 20:31–38; Pet. § X(B)(1)(h)).

Claims 11, 16 and 18 depend from independent claims 1, 12, and 17, respectively. Claim 11 further recites "wherein said at least one processor is further configured for executing said instructions to redirect said device to said app store when said invocation of the installation client fails," and claims 16 and 18 recite a similar limitation. Ex. 1001, 22:3–6, 22:52–54, 23:23–26. Petitioner contends that Pasha discloses that when "a download is requested, or at other times, e.g. when the host application is opened, a check may be performed to determine whether the App Manager 180 and Installer 182 are present and accessible on the client device 130," and if not accessible, then "the ordinary app store for the operating system may be used as a fallback." Pet. 74 (citing Ex. 1003, 18:50–54, 18:55–58). Petitioner contends that Pasha does not specify all of the conditions that may cause App Manager 180 and Installer 182 not to be accessible, but this broad range of conditions includes the specific condition of having the invocation of App Manager 180 and Installer 182 fail. *Id.* (citing Ex. 1008 ¶ 110).

Patent Owner does not present separate arguments directed specifically at dependent claims 3–5, 7–9, 11, 15–16, and 18. *See* PO Resp. 45 ("The above arguments apply to dependent claims 3–11, 14, and 18, which directly or indirectly depend upon claims 1, 12, and 17, and inherit all of their respective limitations."). Based on our review of the current record, and in particular, Petitioner's arguments set forth above as well as portions of Pasha and Dr. Almeroth's testimony cited above, we determine that

Petitioner has established by a preponderance of the evidence that Pasha anticipates the subject matter of claims 3–5, 7–9, 11, 15–16, and 18.

H. Obviousness of Dependent Claims 2, 4–6, 11, 13, 14, 16, and 18 over Pasha

Petitioner argues that dependent claims 2, 4–6, 11, 13, 14, 16, and 18 are unpatentable under 35 U.S.C. § 103 as obvious in view of Pasha. Pet. 74–82. For the reasons that follow, we are persuaded that Petitioner shows by a preponderance of the evidence that Pasha renders claims 2, 4–6, 11, 13, 14, 16, and 18 obvious.

Claims 2 and 13 depend on claims 1 and 12, respectively. Claim 2 recites "wherein said at least one processor is further configured for executing said instructions to close said installation client when said installation of said first software application is completed," and claim 13 recites a similar limitation. Ex. 1001, 21:36–39, 22:40–42. Petitioner contends that although Pasha does not explicitly disclose closing the installation client, it would have been an obvious design choice to a person of ordinary skill in the art to have Pasha's App Manager 180 and Installer 182 close after installation of the application is complete. Pet. 75 (citing Ex. 1008 ¶¶ 117–118). Petitioner contends that a person of ordinary skill in the art "would have understood a choice between speed (having the app remain open and ready to perform its function again) or conserving resources (closing the app), such as storage, processing power, and battery life." Id. (citing Ex. 1008 ¶ 118). Petitioner further contends that a person of ordinary skill in the art "would have understood that computers have limited computational power, and running applications, processes, and other modules on mobile devices which are not active and/or not providing any utility to the computer would waste those limited computational resources,"

and would have been motivated to close Pasha's App Manager and Installer after an application package had been downloaded and installed. *Id.* at 75–76 (citing Ex. 1008 ¶ 118).

Claim 4 depends from claim 3 and further recites "wherein said installation client retrieves said respective network address over said network from an app information server." Ex. 1001, 21:45–47. Petitioner contends that to the extent Pasha does not anticipate this claim, it renders it obvious. Pet. 76. Petitioner contends that to the extent Pasha may be considered lacking explicit language regarding whether the network address is received by the App Manager, (1) it was well known that the functionality provided by separate software applications, modules, or components which all run on the same device in parallel could readily be substituted for one another, or combined into a single application, and (2) the App Manager would be a routine design choice to retrieve the network address. *Id.* at 76–77 (citing Ex. 1008 ¶¶ 119–121). Petitioner points out that the '951 patent describes that UX module 710, which provides App Details 711 for display, and the Download & Installer Module 720, which downloads and installs the new app when the instant install link is selected, are separate modules "performing separate functions." *Id.* (citing Ex. 1001, 14:4–31, 9:55–63). Petitioner therefore contends that the specific functional block that performs this routine operation would have merely been a matter of design choice for a person of ordinary skill in the art, and that in the case of Pasha, the App Manager, which ultimately uses the retrieved network address, would have clearly been a logical choice for performing this function. *Id.* (citing Ex. 1008 ¶ 121).

Claim 5 depends on claim 3 and further recites "wherein said installation client constructs said respective network address using

information included in said link." Ex. 1001, 21:48–50. Petitioner contends that Pasha renders claim 5 obvious for the reasons discussed relating to obviousness of claim 4. Pet. 77–78.

Claims 6 and 14 depend on claims 1 and 12, respectively, and further recite "wherein said installation client is invoked when said link comprises a deep link linking said installation of said first software application to said installation client." Ex. 1001, 21:51–54, 22:43–46. Petitioner contends that to the extent Pasha does not anticipate these claims, it renders them obvious. Pet. 79–80. Petitioner further contends that even if Pasha does not explicitly use the term "deep link," a person of ordinary skill in the art would have understood that application download link 166 to functionally be a deep link because selection of the application download link 166 causes "automatic" download to ensue, without any additional user input. *Id.* at 80 (citing Ex. 1008 ¶ 126). Petitioner further contends that "deep links" were well understood for specifying a specific page within a website and/or a specific location within an app, and such use in Pasha would have been recognized by a person of ordinary skill in the art as an obvious design choice. *Id.* (citing Ex. 1007; Ex. 1008 ¶ 127).

Claims 11, 16 and 18 depend on claims 1, 12 and 17, respectively. Claim 11 further recites "wherein said at least one processor is further configured for executing said instructions to redirect said device to said app store when said invocation of the installation client fails," and claims 16 and 18 recite a similar limitation. Ex. 1001, 22:3–6, 22:52–54, 23:23–26. Petitioner contends that to the extent Pasha does not anticipate these claims, it renders them obvious. Pet. 81. Petitioner contends that a person of ordinary skill in the art would clearly have understood that if App Manager 180 and Installer 182 are not present and accessible, an invocation of these

apps would certainly fail. *Id.* at 81–82 (citing Ex. 1008 ¶ 126). Petitioner contends that a person of ordinary skill in the art would have understood that redirecting the device to the app store when invocation of App Manager 180 and Installer 182 failed was an obvious modification to Pasha. *Id.* at 82 (citing Ex. 1008 ¶¶ 129–130).

Patent Owner does not present separate arguments directed specifically at Petitioner's obviousness ground based on Pasha, but instead refers to its arguments relating to the Petitioner's anticipation ground based on Pasha. *See* PO Resp. 49 (citing PO Resp. §§ VA–VE; Ex. 2005 ¶ 140). Based on our review of the current record, and in particular, Petitioner's arguments set forth above as well as portions of Pasha and Dr. Almeroth's testimony cited above, we determine that Petitioner has established by a preponderance of the evidence that Pasha renders obvious the subject matter of claims 2, 4–6, 13, and 14.

I.   *Obviousness of Dependent Claims 2 and 13 over Pasha and Yamada*

Petitioner argues that dependent claims 2 and 13 are unpatentable under 35 U.S.C. § 103 as obvious in view of Pasha combined with Yamada. Pet. 82–86. We do not reach this alleged ground of unpatentability of claims 2 and 13 because we determine that Petitioner has proved by a preponderance of the evidence that claims 2 and 13 would have been obvious over Pasha.

J.   *Obviousness of Dependent Claim 6 and 14 over Pasha and Molinet*

Petitioner argues that dependent claims 6 and 14 are obvious in view of Pasha combined with Molinet. Pet. 86–89. We do not reach this alleged ground of unpatentability of claims 6 and 14 because (1) we determine that Petitioner has proved by a preponderance of the evidence that claims 6 and

14 are anticipated by Pasha, and (2) we determine that Petitioner has proved by a preponderance of the evidence that claims 6 and 14 would have been obvious over Pasha.

IV. MOTION TO AMEND

Having determined that Petitioner has shown by a preponderance of the evidence that original claims 1–18 of the '951 patent are unpatentable, we proceed to address Patent Owner's Motion to Amend. Patent Owner contingently moves to allow proposed substitute claims 19–36, should we determine that any of the original claims are unpatentable. MTA 1. For the reasons below, we find that Petitioner has met its burden in proving by a preponderance of the evidence that proposed substitute claims 19–36 are unpatentable as obvious over the asserted prior art.

A. Proposed Substitute Claims

Patent Owner proposes claims 19–36 as substitute claims for original claims 1–18. MTA 1. Patent Owner proposes claims 19, 30, and 35 as substitute claims for original independent claims 1, 12, and 17, respectively. *Id.* at 25–32. Patent Owner proposes claims 20–29, 31–34, and 36 as substitute claims for original dependent claims 2–11, 13–16, and 18, respectively. *Id.*

Proposed substitute claim 19 is representative, and reproduced below, using underscoring to indicate text added to original independent claim 1.

> 19. (Substitute for claim 1) A mobile device configured for running software applications, comprising:
>
> a network interface configured for communicating over a network;
>
> at least one non-transitory computer readable storage medium storing instructions; and

at least one processor associated with said network interface and said storage medium, configured for executing said instructions to:

identify that a link for installation of a first software application is elected by user interaction with a second software application running on said device, the link being embedded in content displayed on said device by the second software application;

in response to said identifying, determine whether an installation client for downloading and installing applications on said device is available on said device, said installation client comprising a third software application;

when said installation client is <u>determined to be</u> available on said device <u>in response to said identifying</u>:

invoke, without exiting said second software application, said installation client for downloading and installing applications on said device to run in the background on said device, <u>wherein the invoking comprises authenticating the link for the installation of the first software</u>;

instruct said installation client to automatically download an installation file of said first software application to said device over said network using said network interface in the background on said device, without directing said user interaction to an app store; and

using said downloaded installation file, install said first software application on said device in the background on said device while maintaining a user experience of interaction with said second software application in the foreground; and

when said installation client <u>is determined to be</u> unavailable on said device <u>in response to said identifying, using an ad server request to</u> redirect said device to an app store for downloading and

71

installing said first software application on said
device.

Id. at 25–26. Substitute claims 30 and 35 have also been amended to include
the same new limitations, but are otherwise identical to the independent
claim they would replace. *Id.* at 28–29, 30–32.

B. Statutory and Regulatory Requirements

Before considering the patentability of any substitute claims, the
Board first must determine whether the motion to amend meets the statutory
and regulatory requirements set forth in 35 U.S.C. § 326(d) and 37 C.F.R.
§ 42.221. *See Lectrosonics, Inc. v. Zaxcom, Inc.*, IPR2018-01129, Paper 15,
4 (PTAB Feb. 25, 2019) (precedential). Specifically, Patent Owner must
demonstrate that: (1) the amendment proposes a reasonable number of
substitute claims; (2) the amendment responds to a ground of unpatentability
involved in the trial; (3) the amendment does not seek to enlarge the scope
of the claims of the patent or introduce new subject matter; and (4) the
proposed claims are supported in the original disclosure. *See* 35 U.S.C.
§ 326(d); 37 C.F.R. § 42.221. We are persuaded that Patent Owner has
satisfied these requirements.

1. Reasonable Number of Substitute Claims

"By statute, in a motion to amend, a patent owner may cancel
challenged claims or propose a reasonable number of substitute claims for
each challenged claim. There is a rebuttable presumption that a reasonable
number of substitute claims per challenged claim is one (1) substitute
claim." *Lectrosonics*, Paper 15, 4 (citations omitted); 35 U.S.C.
§ 326(d)(1)(B); 37 C.F.R. § 42.221(a)(3).

Patent Owner proposes no more than one substitute claim for each challenged claim. *See* MTA 25–32. We find the proposed substitution reasonable, and Petitioner does not assert otherwise.

2. *Respond to Ground of Unpatentability*

A motion to amend may be denied where the amendment "does not respond to a ground of unpatentability involved in the trial." 37 C.F.R. § 42.221(a)(2)(i). "[I]n considering the motion, we review the entirety of the record to determine whether a patent owner's amendments respond to a ground of unpatentability involved in the trial." *Lectrosonics*, Paper 15 at 5.

Patent Owner asserts that by reciting additional details for the "invoking" and "redirecting" claim limitations, the proposed amendments address the issues raised in the Petition and the Institution Decision regarding whether the asserted prior art teaches these claim elements. MTA 7–23. According to Patent Owner, none of the cited references discloses authenticating the link for the installation of the first software as part of the invoking step, nor the use of an ad server request to redirect the device to the app store as part of the redirecting step. *See id.* Thus, the amendments respond to a ground of unpatentability involved in the trial. Petitioner does not contest Patent Owner's arguments on this point.

3. *Scope of the Claims*

A motion to amend may not present substitute claims that enlarge the scope of the claims of the challenged patent. 35 U.S.C. § 326(d)(3); *see also* 37 C.F.R. § 42.221(a)(2)(ii) ("A motion to amend may be denied where . . . [t]he amendment seeks to enlarge the scope of the claims of the patent."). A substitute claim will meet the requirements of § 42.221(a)(2)(i) and (ii) if "it narrows the scope of at least one claim of the patent, for example, the

challenged claim it replaces, in a way that is responsive to a ground of unpatentability involved in the trial." *Lectrosonics*, Paper 15, 6–7.

Each of the proposed substitute claims include narrowing limitations or depends from a claim that includes narrowing limitations as compared to the original claims. *See* Mot. 25–32. Petitioner does not argue otherwise. *See* generally MTA Opp.

4. *Support in the Original Disclosure*

A motion to amend may not present substitute claims that introduce new subject matter. 35 U.S.C. § 326(d)(3); 37 C.F.R. § 42.221(a)(2)(ii) ("A motion to amend may be denied where . . . [t]he amendment seeks . . . introduce new subject matter."). "Normally, a claim element without support in the original disclosure (i.e., the application as originally filed) merits a rejection under 35 U.S.C. § 112 for lack of written description support." *Lectrosonics*, Paper 15, 7. Accordingly, a motion to amend must set forth written description support in the originally filed disclosure of the subject patent for each proposed substitute claim." *Id.*

Patent Owner identifies citations in the original disclosure of Application Serial No. 15/903,054 (Ex. 1002, 4–57 "the '054 application")[18] that it asserts provide support for the proposed amendment of each claim. MTA 3–6. Particularly, as to the added limitation of "wherein the invoking comprises authenticating the link for installation of the first software," Patent Owner identifies the following disclosure:

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[18] Patent Owner cites to the original pagination of Application No. 15/903,054 ("the '054 application"), which has not separately been made of record in this proceeding. We, therefore, cite to the pagination of Exhibit 1002, which is the prosecution history of the '951 patent and includes a copy of the '054 application.

> Optionally the installation client includes integrated security measures that authenticate the instant install link when the installation client is invoked, in order to prevent malicious use of instant installation capabilities.

Id. at 4 (citing '054 application, 21:2–4); *see also* Ex. 1002, 30–31 ('054 application, 27:25–28:5) (describing embodiments of authentication and eligibility processes in Figures 11 and 12).

Petitioner argues that the specification does not support the newly added limitation. MTA Opp. 9–10 (citing Ex. 1023 ¶¶ 32–36). Specifically, Petitioner argues that Patent Owner's "proposed addition of 'authenticating the link' is modifying the 'invoking' operation," and the specification does not describe the host application, which invokes the installation client, also invoking the authenticating step. *Id.* Instead, Petitioner argues, the specification only describes the installation client performing authentication. *Id.* (citing Ex. 1001, 21:2–4); *see also* MTA Sur-reply 1–2 ("In the claims, the installation client is being invoked; the installation client is not performing the invoking operation.").

We do not agree with Petitioner's interpretation of the proposed substitute claims, which in fact seems inconsistent with Petitioner's position on the construction of the term "invoke." Petitioner argues, and we agree, that the term "invoke" is properly understood to mean "to call or activate," and that the claim language "does not place any requirements on the state of the installation client prior to being 'invoked' (e.g., running or not running)." Pet. Reply 1–2; Pet. 39; *supra* § III.C.1.b. Moreover, the claim language requires invoking the installation client to run in the background of the device. *See* MTA 25–26. Thus, the claim language allows the installation client to be running when invoked, and the amended limitation adds an additional authenticating limitation to that invoking process. Petitioner

argues that "the installation client is being invoked; the installation client is not performing the invoking operation." MTA Sur-reply 1. Regardless of which component "invokes" the installation client, the claim language does not limit the entirety of the "invoking" step to be performed by *same* component, in the manner that Petitioner proposes. *See, e.g.*, MTA 25 (merely requiring a processor configured for executing said instructions). We therefore find no basis to exclude the installation client from authenticating the link. The specification describes the installation client as optionally including security measures to authenticate the installation link. *See* Ex. 1002, 24 ('054 application, 21:2–4). Accordingly, the specification supports the plain meaning of the claim, wherein the invoking step includes authenticating the installation link.

Upon review of the citations identified by Patent Owner, we are persuaded that proposed substitute claims 19–29 are supported by the original disclosure of the '054 application.

5. Conclusion

On this record, we determine that Patent Owner's Contingent Motion to Amend meets the statutory and regulatory requirements set forth in 35 U.S.C. § 326(d) and 37 C.F.R. § 42.221 with respect to proposed substitute claims 19–36.

C. Patentability Analysis of the Proposed Substitute Claims

"A petitioner bears the burden of persuasion to show, by a preponderance of the evidence, that any proposed substitute claims are unpatentable." 37 C.F.R. § 42.221(d)(2); *see also Lectrosonics*, Paper 15 at 4 (citing *Aqua Prods. Inc. v. Matal*, 872 F.3d 1290 (Fed. Cir. 2017); *Bosch Auto. Serv. Sols. LLC v. Iancu*, 878 F.3d 1027 (Fed. Cir. 2017)).

In determining whether a petitioner has proven unpatentability of the proposed substitute claims, the Board focuses on "arguments and theories raised by the petitioner in its petition or Opposition to the Motion to Amend." *Nike, Inc. v. Adidas AG*, 955 F.3d 45, 51 (Fed. Cir. 2020).

We are persuaded that Petitioner has shown, by a preponderance of the evidence, that the subject matter of proposed substitute claims 19–36 would have been obvious; however, Petitioner has not shown that any of the proposed substitute claims are directed to patent ineligible subject matter under 35 U.S.C. § 101. MTA Opp. 2–25.

1. Subject Matter Eligibility under 35 U.S.C. § 101

Petitioner argues that the substitute claims are ineligible under section 101 for the same reasons as the original claims. *See* MTA Opp. 24–25. Specifically, Petitioner argues that the claims are "directed to an abstract concept of improving a user experience by downloading and installing software as a background task." *Id.* Petitioner argues that the amendments in the proposed substitute claims add known limitations that "merely recite more routine computer functionality." *Id.* at 25. "Adding routine and generic computer functions to the claims," Petitioner contends, does not constitute an "improvement" of computer technology. *Id.*

Patent Owner responds that "the substitute claims undoubtedly provide a technical solution to a technical problem with the Internet and recite an inventive concept." MTA Reply 12. Accordingly, Patent Owner argues that the claims are patent eligible under the *Alice* test. *Id.*

As discussed above, Petitioner's arguments on patent eligibility of the original claims ignore many of detailed claim limitations and ask us to disregard multiple technical aspects recited in the claims, such as identifying

a link, determining whether an installation client is available on the device, invoking the installation client, and redirecting the device to an app store. *See supra* § III.A. Additionally, we determine that "the claims are directed to downloading and installing an application in the background instead of directing the user to an app store, thereby maintaining user experience with the foreground application, and do not recite an abstract idea." *Id.* Petitioner's arguments as to the proposed substitute claims fare no better. If anything, the proposed amendments to the original claims recite specific technical details of the claimed invention, adding additional elements that further integrate any alleged judicial exception into a practical application and support a finding of eligibility under Step 2A of the Guidance. *See, e.g.*, MTA 24 (adding the use of an ad server request to redirecting step). Accordingly, we are not persuaded that Petitioner establishes by a preponderance of the evidence that the proposed substitute claims are directed to ineligible subject matter under section 101.

2. Anticipation and Obviousness

Petitioner asserts in its Opposition that the proposed substitute claims are unpatentable on the following prior art grounds:

Claim(s) Challenged	35 U.S.C. §	Reference(s)/Basis
19, 21–30, 32–36	102(a)	Pasha
20, 22–24, 29, 31, 32, 34, 36	103	Pasha
19–36	103	Pasha, Wyatt[19], Farm[20]
20, 31	103	Pasha, Yamada, Wyatt, Farm
24, 32	103	Pasha, Molinet, Wyatt, Farm

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[19] U.S. Patent Application No. 2017/0346853, published November 30, 2017 (Ex. 1020, "Wyatt").
[20] U.S. Patent 9,348,572 B2, issued May 24, 2016 (Ex. 1022, "Farm").

Petitioner supports its arguments with declaration testimony of Dr. Almeroth, Ph.D. (Ex. 1023), and Patent Owner relies on declaration testimony of Dr. Mao (Ex. 2013).

For the reasons explained below, we are persuaded that Petitioner has shown that all of the proposed substitute claims are unpatentable as obvious over the combination of Pasha, Wyatt, and Farm. As a result, we decline to address the other grounds identified in the table above.

3. Obviousness Based on Pasha, Wyatt, and Farm

a) Proposed Independent Claims 19, 30, and 35

Petitioner contends that the combination of Pasha, Wyatt, and Farm renders proposed substitute claims 19, 30, and 35 obvious for the reasons discussed in connection with original claim 1, 12, and 17. MTA Opp. 1–2; *see id.* at 15–19. Petitioner argues the amendments to these claims are superficial and do not render the proposed substitute claims patentable. *Id.* at 2. We address the new claim limitations argued by the parties below. Our determination as to Pasha's disclosure of the remaining claim limitations, addressed above, is incorporated here with regard to the proposed substitute claims.

(1) *wherein the invoking comprises authenticating the link for the installation of the first software*

Petitioner argues that Wyatt discloses SSL (Secure Sockets Layer) pinning as a well-known security process to authenticate that a link is directed to an authorized server. MTA Opp. 16 (citing Ex. 1020 ¶ 72; Ex. 1001, 14:46–63). Petitioner argues that a person of ordinary skill would have been motivated to use Wyatt's SSL pinning functionality to authenticate Pasha's "download link" to provide additional security

measures and mitigate known security risks, including man-in-the-middle ("MITM") attacks. *Id.* at 17 (citing Ex. 1023 ¶¶ 71–72).

Patent Owner responds that Petitioner fails to identify specific paragraphs in Wyatt that disclose SSL pinning functionality as a method of authentication. MTA Reply 5–6 (citing MTA Opp. 15–17). Accordingly, Patent Owner argues that "Petitioner has not met its burden to show Wyatt discloses this limitation." *Id.* Moreover, Patent Owner argues, Wyatt does not actually disclose any "SSL pinning functionality," it "merely discloses 'SSL strip' and 'SSL intercept,' which are both network attacks using SSL," and "neither of these render obvious 'SSL pinning' as described in the ['951 patent] specification, and thus they do not disclose the claimed authenticating." *Id.* at 6 (citing Ex. 1001, 14:53–63; Ex. 2013 ¶¶ 16, 18). Dr. Mao's testimony mirrors Patent Owner's arguments. *See* Ex. 2013 ¶ 18.

Patent Owner's arguments, however, fail to consider Petitioner's cited disclosure of Wyatt:

> Certificate or key pinning is a well-known method in which an application has prior knowledge of pinning information, i.e., the certificates, or the certificate chain information, or the public key information contained in such certificates, that are considered allowable for connection to a particular destination host.

Ex. 1020 ¶ 72. Dr. Almeroth testifies that this disclosure of Wyatt is the *same* as "SSL pinning" disclosed in the '951 patent as an exemplary authenticating process. *See* Ex. 1023 ¶ 70 (citing Ex. 1001, 14:46–63; Ex. 1020 ¶ 72; Ex. 1021, 27:41–47); MTA Sur-reply 5–6. And in spite of her declaration testimony, when deposed, Dr. Mao agreed with Dr. Almeroth as to Wyatt's disclosure. Ex. 1027, 98:3–99:17, 102:19–103:6. The combination of Pasha with Wyatt therefore discloses this claim limitation.

Next, Patent Owner argues that a person of ordinary skill in the art would have had no reason to combine these two references because Pasha is directed to "installing application[s] on computing devices" whereas Wyatt is directed to "detecting and preventing compromise of computing device network connections, including man-in-the-middle attacks." MTA Reply 6 (citing Ex. 1003, 1:5–6; Ex. 1020 ¶ 2; Ex. 2013 ¶¶ 14–17). Patent Owner argues that the references are "not-combinable" because the man-in-the-middle attacks described in Wyatt are not applicable to Pasha given that "Pasha's application installation involves interaction with a trusted server (e.g., Google Playstore server, Apple's App Store) with well-known certificates, which are preinstalled with the mobile operating system." *Id.* at 6–7 (citing Ex. 1020 ¶ 182; Ex. 2013 ¶¶ 16–17). Even if combined, Patent Owner contends, the resulting combination "would result in *authenticating the network connection* rather than the link." *Id.* at 7 (citing Ex. 2013 ¶¶ 18–19).

We are persuaded that Petitioner sufficiently shows that an ordinarily skilled artisan would have had reason to combine the teachings of Pasha with Wyatt. Dr. Almeroth testifies that an ordinarily skilled artisan would have understood that downloading a software application to a device introduces security risks, and such an artisan would have been motivated to apply Wyatt's security measures, e.g., SSL pinning functionality, to authenticate Pasha's download link, thereby enhancing security in Pasha's app download process. *See* Ex. 1023 ¶ 71; MTA Sur-reply 6. Patent Owner's arguments ignore that the *primary* method of installation in Pasha uses App Manager 180 and Installer 182 to install software *without* requiring a trusted app store, such as Apple's App Store, and that a person of ordinary skill in the art would have considered the security measures disclosed in

81

Wyatt to be applicable at least to Pasha's primary method, and thus, would have combined it with Wyatt. *See* MTA Sur-reply 8.

Patent Owner's argument that the combination would have resulted in in authenticating the network instead of the link is unpersuasive because, as the experts agree, Wyatt's method is the *same* as that disclosed in the '951 patent as one way of authenticating the instant install link, and Petitioner's combination proposes to use that same method to authenticate Pasha's download link. *See* Ex. 1023 ¶ 70 (citing Ex. 1001, 14:46–63; Ex. 1020 ¶ 72); Ex. 1027, 98:3–99:17; MTA Sur-reply 8–9.

Having considered Petitioner's contentions and evidence, and Patent Owner's arguments, we find that Petitioner's proposed combination teaches or suggests this limitation of proposed substitute claims 19, 30, and 35.

> (2) *when said installation client is determined to be unavailable on said device in response to said identifying, using an ad server request to redirect said device to an app store for downloading and installing said first software application on said device*

Petitioner argues that Farm teaches redirecting to an app store using an ad server request. MTA Opp. 17–18. Specifically, Petitioner argues that Farm teaches a sequence of operations including: (1) sending a request to an ad server, (2) the ad server displaying an ad promoting a second app, (3) a user selecting the ad for the second app, and in response, sending a message to the ad server, and (4) opening the app store on the device and displaying information prompting the user to download and install the second app. *Id.* at 18 (citing Ex. 1022, 15:35–42).

Farm discloses that

At operation 3, the user selects the ad for the second app 710, at which point, the SDK 706 sends a message to the ad server 714 specifying that the ad was selected. The ad server 714 then

> creates an SDK-less click ID from this action.
>
> At operation 4, the SDK 706 opens the APP STORE app 708 on the device 702 and displays information prompting the user to approve the download and installation of the second app 710.

Ex. 1022, 15:39–46, Fig. 7. Dr. Almeroth testifies that it would have been obvious to a person of ordinary skill in the art "to apply Farm's details regarding redirection of a client device to an app store using an ad server request to Pasha's redirection to the app store" because Farm discloses that it is beneficial to utilize an ad server to "track the activities of users that download and engage with computer program applications ('apps') for mobile computing devices," which is an important goal of app vendors. Ex. 1023 ¶ 75 (citing Ex. 1022, 1:22–47).

Patent Owner responds that "Farm discloses only sending a message to ad server 714 specifying that the ad was selected," and does not disclose or suggest "a redirect based on the 'installation client determined [to be] unavailable.'" MTA Reply 8 (citing Ex. 1022, 15:39–46, 1:35–47; Ex. 2013 ¶¶ 20–21). Patent Owner further argues that Farm's opening an app store does not qualify as the claimed redirect, because Farm specifically requires another action by the user. *See id.* at 9 (citing Ex. 1022, 15:39–46, Fig. 7; Ex. 2013 ¶ 22).

We are persuaded that Petitioner's proposed combination teaches or suggests this limitation. First, Patent Owner's arguments are based on its proposed claim construction of the term "redirect," which we do not adopt. Second, to the extent Patent Owner's argues that Farm alone does not expressly disclose a redirect based on the installation client being unavailable, "the test for obviousness is what the combined teachings of the references would have suggested to those having ordinary skill in the art."

See In re Mouttet, 686 F.3d 1322, 1333 (Fed. Cir. 2012) (citing *In re Keller*, 642 F.2d 413, 425 (CCPA 1981)).

Next, Patent Owner argues that there would be no reason to combine Pasha and Farm because the communication in Farm is already conducted over secure communication channels using HTTPS. MTA Reply 9–10 (citing Ex. 1020 ¶ 2; Ex. 1022, 1:15–18; Ex. 2013 ¶¶ 14–15).[21] According to Patent Owner, "Farm is directed to connecting data associated with mobile web browsing activities (of trusted applications that users willingly interact with)," and "[s]uch communication is already conducted over secure communication channels using HTTPS." *Id.* at 10. Patent Owner contends that "Wyatt, on the other hand, is directed to detecting and preventing network connection compromise with the applicability to wireless/mobile networks," and given "the default use of HTTPS" in Farm, a person of ordinary skill in the art would not have combined Wyatt with Farm because "if HTTPS is used, the MITM attack covered is no longer applicable." *Id.* (citing Ex. 1020 ¶ 14).

We are persuaded that Petitioner sufficiently shows that an ordinarily skilled artisan would have had reason to combine the teachings of Pasha with Wyatt and Farm. Patent Owner's argument is based on the premise the Farm teaches a "default use of HTTPS," but we find no reliable evidentiary support for this claim. *See* MTA Sur-reply 10–11. Dr. Mao's testimony that Farm "assumes trusted applications using HTTPS" (Ex. 2013 ¶ 15), which Patent Owner relies upon, is in fact inconsistent with the disclosure of Farm. As Petitioner points out, Farm expressly references the non-secure HTTP

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[21] We consider Patent Owner's citations to Exhibit 1021 to be in error where Patent Owner intended to cite to Wyatt, which is Exhibit 1020.

protocol *five* times, yet does not have a single reference to the HTTPS protocol. *See* MTA Sur-reply 11 (citing Ex. 1022, 5:40, 5:51, 7:25, 9:25, 10:16). When deposed, Dr. Mao testified that "Farm uses HTTPS even though it states HTTP . . . that's the interpretation of a [person of ordinary skill in the art]." Ex. 1027, 36:2–12. Dr. Mao's interpretation is, however, contrary to the Farm's disclosure and has no basis in fact. Moreover, Dr. Mao's claim that "HTTPS *is* becoming the default network protocol for communication with web servers" is irrelevant to how a person of ordinary skill in the art would have understood Farm's disclosure at the time of the '951 patent invention. Ex. 2013 ¶ 15 (emphasis added). We therefore conclude that Dr. Mao's testimony is simply unreliable.

Because we reject Patent Owner's premise and Dr. Mao's testimony that Farm's disclosure is limited to secure connections, we are also not persuaded by Patent Owner's argument that "if a [person of ordinary skill in the art] would think to modify Pasha in view of Farm, the modification of Wyatt would then be redundant as a secure connection would be provided." MTA Reply 11 (citing Ex. 2013 ¶ 15). On the other hand, we credit Dr. Almeroth's testimony and conclude that Petitioner sufficiently shows that an ordinarily skilled artisan would have had reason to combine the teachings of Pasha with Wyatt and Farm. *See* MTA Sur-reply 10–12 (citing Ex. 1023 ¶¶ 69–77).

Having considered Petitioner's contentions and evidence, and Patent Owner's arguments, we find that Petitioner's proposed combination teaches or suggests this limitation. We thus determine that Petitioner has shown by a preponderance of the evidence that the subject matter of proposed substitute claims 19, 30, and 35 would have been obvious over the combination of Pasha, Wyatt, and Farm.

(3) Dependent Claims

Petitioner does not propose amendments to dependent claims 20–29, 31–34, and 36. *See* MTA 24–32. Petitioner maintains its contentions regarding limitations from the original claims that have not been amended. MTA Opp. 1, 23–24. We have analyzed all limitations of proposed substitute claims 20–29, 31–34, and 36 in the context of original claims 2–11, 13–16, and 18 above. *See supra* §§ III.G–J. For the same reasons, we determine that Pasha teaches or suggests the additionally-recited limitations of proposed substitute claims 20–29, 31–34, and 36.

Accordingly, we determine Petitioner has shown, by a preponderance of the evidence, that the subject matter of proposed substitute claims 20–29, 31–34, and 36 would also have been obvious over Pasha in combination with Wyatt and Farm.

4. Petitioner's Remaining Grounds

Petitioner also contends that, similar to the its grounds as to the original claims, proposed substitute claims 19, 21–30, 32–36 are anticipated by Pasha (*see* MTA Opp. 1–15, 19–21, 23–24); the subject matter of proposed substitute claims 20, 22–24, 29, 31, 32, 34, and 36 would have been obvious over Pasha alone, (*id.*); the subject matter of proposed substitute claims 20 and 31 would have been obvious over Pasha in combination with Yamada, or over Pasha in combination with Yamada, Wyatt, and Farm, (*id.* at 23–24); and the subject matter of proposed substitute claims 24 and 32 would have been obvious over Pasha in combination with Molinet, or over Pasha in combination with Molinet, Wyatt, and Farm (*id.*). We already have found the subject matter of proposed substitute claims 19–36 to be obvious over the combination of

Pasha, Wyatt, and Farm. *See supra* §§ IV.C.3.a. As a result, we do not reach these other grounds.

V. MOTIONS TO EXCLUDE

A. *Petitioner's Motion to Exclude*

Petitioner's motion seeks to exclude the supplement declaration of Dr. Mao, which is Exhibit 2013. Pet. MTE 1.

First, Petitioner argues that Exhibit 2013, paragraphs 4–13, should be excluded because they do not meet the requirements of 37 C.F.R. § 42.23(b). *Id.* at 3. Petitioner asserts that Dr. Mao's supplement declaration begins by noting that it was submitted in connection with Patent Owner's Sur-reply as well as the Reply to Petitioner's MTA Opposition, and that Patent Owner's Sur-reply includes multiple citations to Exhibit 2013. *Id.* at 2 (citing Ex. 2013 ¶ 1; PO Sur-reply 4–7). Petitioner contends that paragraphs 4–13 of the declaration address claim construction for the terms "invoke" and "redirect," which are found in the original claims of the '951 patent. *Id.* at 3 (citing Ex. 2013 ¶¶ 5–13). Petitioner contends that "Dr. Mao is arguing in favor of her prior opinions and presenting arguments attacking positions taken in Petitioner's reply." *Id.* (citing Ex. 2013 ¶ 9). Accordingly, Petitioner argues, paragraphs 4–13 of Dr. Mao's declaration are outside the scope of § 42.23(b), and are improper. *Id.*

Second, Petitioner argues that paragraphs 15, 16, and 18 of Dr. Mao's supplemental declaration addressing the combination of Pasha with both Wyatt and Farm are inadmissible under Rule 702. *Id.* at 3–8. Petitioner argues that Dr. Mao's testimony is not based on sufficient facts or data because Dr. Mao's statements as to the combination of Wyatt and Farm contradict the explicit disclosure of Farm and lack relevant evidentiary

support. *Id.* at 3–5 (citing Ex. 2013 ¶ 15; Ex. 1027, 21:4–22, 43:4–45:25).
Petitioner contends that "Dr. Mao's opinions in paragraph 16 regarding the
combination of Wyatt with Pasha are similarly flawed." *Id.* at 7–8 (citing
Ex. 2013 ¶16). Petitioner further contends that during her deposition Dr.
Mao contradicted the opinions set forth in paragraph 18. *Id.* at 8 (citing
Ex. 2013 ¶ 18; Ex. 1027, 98:3–99:17, 102:19–103:6).

Petitioner contends that Dr. Mao's testimony is unreliable because
Dr. Mao reviewed Patent Owner's Sur-reply as well as Patent Owner's
Reply on its Contingent Motion to Amend in preparing her supplemental
declaration. *Id.* at 9–10 (citing Ex. 2013 ¶ 3; Ex. 1027, 7:4–9:18). Petitioner
argues that by reviewing Patent Owner's briefs while forming her own
opinions, her testimony was tainted and not "the product of reliable
principles and methods," and thus, should be excluded. *Id.* (citing
FRE 702(a), 702(c)).

Patent Owner responds that Petitioner's Motion to Exclude was
untimely. PO MTE Opp. 1–3. Patent Owner contends that Exhibit 2013
was filed and served on August 5, 2022, and the deadline to challenge its
admissibility as evidence was August 12, 2022, five business days after
service. *Id.* at 2 (citing 37 C.F.R. § 42.64(b)(1)). Patent Owner argues that
Petitioner "objected to this evidence in its Sur-Reply in Opposition to Patent
Owner's Contingent Motion to Amend," which was filed and served much
later, on September 12, 2022. *Id.* at 1–2 (citing MTA Sur-reply 6 n.1).
Patent Owner argues that since the objection to Exhibit 2013 was not filed
and served until the day the Motion to Exclude was filed, Patent Owner was
denied the ability to serve such supplemental evidence that may have
obviated the need for the Motion to Exclude entirely. *Id.* at 3. Patent Owner

argues that timely exchange of such supplemental evidence could have possibly rendered some of Dr. Mao's cross-examination moot. *Id.*

Patent Owner further argues that Petitioner's argument that Exhibit 2013 "represent[s] new evidence" is an improper basis for a Motion to Exclude. *Id.* (citing Patent Trial and Appeal Board Consolidated Trial Practice Guide ("CTPG") at 79 (Nov. 2019)) (alteration in original). Lastly, Patent Owner argues that Petitioner's merits-based arguments also improper and that arguments regarding weight to be given to evidence should be not be addressed through a motion to exclude. *Id.* at 4.

Petitioner, as the moving party, "has the burden of proof to establish that it is entitled to the requested relief." 37 C.F.R. § 42.20. We agree with Patent Owner that Petitioner's objections to Exhibit 2013 were untimely. 37 C.F.R. § 42.64(b)(1) provides that "[o]nce a trial has been instituted, any objection must be filed within five business days of service of evidence to which the objection is directed." But as Patent Owner recognizes, the purpose of the objection filing timing is to allow the opposing party to timely serve supplemental evidence that might be available to cure the objection. PO MTE Opp. 2–3 (citing 37 C.F.R. § 42.64(b)(2)). Here, Petitioner's first objection, relating to paragraphs 4–13 of Dr. Mao's supplemental declaration, is one that could *not* have been cured by timely service of supplemental evidence. Moreover, the objection relates to a blanket prohibition that our rules place on patent owners filing new exhibits with a sur-reply—as Patent Owner has done here. We will therefore excuse Petitioner's failure to serve timely objection to paragraphs 4–13 of Dr. Mao's supplemental declaration and grant the motion as to this new evidence.

As set forth above, 37 C.F.R. § 42.23(b) specifies, in relevant part, that "[a] sur-reply may only respond to arguments raised in the corresponding reply and *may not be accompanied by new evidence* other than deposition transcripts of the cross-examination of any reply witness." 37 C.F.R. § 42.23(b) (emphasis added). The Consolidated Trial Practice Guide repeats the above-quoted language of the rule and also explains that

> Sur-replies should only respond to arguments made in reply briefs, comment on reply declaration testimony, or point to cross-examination testimony. As noted above, a sur-reply may address the institution decision if necessary to respond to the petitioner's reply. This sur-reply practice essentially replaces the previous practice of filing observations on cross-examination testimony.

CTPG at 73–74. Accordingly, Rule 42.23(b) prohibits filing of new evidence other than deposition transcripts of the cross-examination of any reply witness with a sur-reply. Patent Owner does not argue that the opinions presented in paragraphs 4–13 of Dr. Mao's declaration are within the scope of §42.23(b). *See generally* PO MTE Opp. Nor do we find it in the interests of justice to allow this evidence in the case file. Accordingly, we grant in part Petitioner's Motion to Exclude paragraphs 4–13 of Exhibit 2013 pursuant to 37 C.F.R. § 42.23(b).[22]

As to Petitioner's remaining objections, Petitioner did not file a Reply in support of its Motion to Exclude and does not offer any reason for its untimely objections. *See generally* Pet. MTE. Petitioner objections under

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[22] We are not persuaded by Patent Owner's argument that proper procedure for objecting to Patent Owner's Sur-reply evidence is only through a motion to strike. The Board routinely grants motions to exclude evidence improperly filed with a patent owner's sur-reply. *See, e.g., Intel Corp. v. ParkerVision, Inc.*, IPR2020-01265, Paper 44, 75 (PTAB Jan. 21, 2022); *Netflix, Inc. v. Divx, LLC*, IPR2020-00511, Paper 46, 56 (PTAB Aug. 13, 2021).

Fed. R. Evid. 702 are ones that Patent Owner should have been afforded an opportunity to serve supplemental evidence on—which Petitioner's untimely objections did not allow. We see no reason to excuse Petitioner's untimeliness as to these objections, and therefore, deny Petitioner's motion as to the remaining objections.

B.   *Patent Owner's Motion to Exclude*

Patent Owner filed a Motion to Exclude seeking to exclude "portions of Exhibits 1008, 1023, 1024, and 2004" under Fed. R. Evid. 401–403 and 702. PO MTE 1. Patent Owner, as the moving party, has the burden of proof to establish that it is entitled to the requested relief. 37 C.F.R. §§ 42.20(c), 42.62(a).

Generally, Patent Owner identifies portions of Exhibits 1008, 1023, 1024, and 2004 that Petitioner does not cite in Petitioner's papers. *See* PO MTE 1–6. Patent Owner contends that these portions are irrelevant and should be excluded under Fed. R. Evid. 402 because "Petitioner's failure to cite . . . demonstrates that these portions do not have a tendency to make any fact of consequence more or less probable." *Id.* at 2–5; PO MTE Reply 1–2. As to Exhibit 1023, Patent Owner additionally argues that our preliminary determinations in the Preliminary Guidance on Patent Owner's Motion to Amend (Paper 25) indicate that Dr. Almeroth's testimony is inadmissible under Fed. R. Evid. 702, and should be excluded. PO MTE 2; PO MTE Reply 2–3.

Petitioner responds that "PO's Motion is largely based on the incorrect premise that if every paragraph or sentence of an admissible exhibit is not expressly cited in the parties' papers, the uncited portions are necessarily irrelevant. This notion is undermined by the very definition of

relevant evidence." Pet. MTE Opp. 1 (citing Fed. R. Evid. 401). Petitioner argues that the rule intentionally sets a low threshold for admissibility, and such threshold for relevance is far exceeded by the evidence identified by Patent Owner. *Id.* Petitioner discusses each of the portions of the four exhibits that Patent Owner objects to and explains why those portions are relevant and satisfy the standard under Fed. R. Evid. 402. *Id.* at 1–6, 8–9. As to Patent Owner's objection under Fed. R. Evid. 702 to Exhibit 1023, Petitioner responds that our Preliminary Guidance determinations "simply indicate that the Board, acting as a finder of fact, was not persuaded by this admissible evidence," and do not provide a basis to exclude Dr. Almeroth's testimony under Fed. R. Evid. 702. *Id.* at 7–8.

We are not persuaded by any of Patent Owner's objections. Although Petitioner's papers may not cite every single portion of these exhibits, it makes little sense to carve out portions of declarations and deposition testimony as inadmissible based on Patent Owner's relevance objections. Patent Owner's arguments ignore that evidence is relevant if "it has any tendency to make a fact more or less probable than it would be without the evidence." Fed. R. Evid. 401. For the reasons provided by Petitioner (Pet. MTE Opp. 1–6, 8–9), we determine that the portions of exhibits that Patent Owner objects to meet this threshold for relevance, and we discern no risk of unfair prejudice, confusion, or waste of time. For example, paragraph 37 of Dr. Almeroth's declaration, that Patent Owner objects to, relates to the expert's assessment of the level of skill in the art leading up to his opinions on the level of skill in the art of the '951 patent. *See* Ex. 1008 ¶¶ 37–39. The testimony in paragraph 37 is clearly relevant to Dr. Almeroth's level of skill opinions, which Petitioner relies upon in its papers.

Patent Owner's objections to one of *its own* exhibits (Exhibit 2004) are also without merit. As Petitioner points out, Fed. R. Evid. 106 requires that the entirety of the exhibit be admitted into evidence, not just the portions of Patent Owner's exhibit that Patent Owner relies upon.

We are also not persuaded that portions of Exhibit 1023 should be excluded under Fed. R. Evid. 702. As a threshold matter, our Preliminary Guidance provides "our initial, preliminary, and non-binding views" on Patent Owner's proposed amendments without considering admissibility on any of the evidence at trial. *See* Prelim. Guidance 2–3 (citing 84 Fed. Reg. 9,497 (Mar. 15, 2019)). Contrary to Patent Owner's assertion, our views of Dr. Almeroth's testimony do not suggest that the testimony is inadmissible under Fed. R. Evid. 702; instead, they go to the weight to be given to the testimony. We find no basis to exclude portions of Exhibit 1023.

Patent Owner's motion is therefore denied in its entirety.

VI. CONCLUSION[23]

Petitioner has proved by a preponderance of the evidence that claims 1–18 of the '951 patent are unpatentable. The outcome for the challenged claims of the '951 patent is set forth in the table below. In summary:

Claims	35 U.S.C. §	Reference(s)/Basis	Claims Shown Unpatentable	Claims Not shown Unpatentable
1–18	101	Eligibility		1–18
1, 3–12, 14–18	102(a)	Pasha	1, 3–12, 14–18	
2, 4–6, 11, 13, 14, 16, 18	103	Pasha	2, 4–6, 11, 13, 14, 16, 18	
2, 13	103	Pasha, Yamada[24]		
6, 14	103	Pasha, Molinet		
Overall Outcome			**1–18**	

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[23] Should Patent Owner wish to pursue amendment of the challenged claims in a reissue or reexamination proceeding subsequent to the issuance of this decision, we draw Patent Owner's attention to the April 2019 *Notice Regarding Options for Amendments by Patent Owner Through Reissue or Reexamination During a Pending AIA Trial Proceeding. See* 84 Fed. Reg. 16,654 (Apr. 22, 2019). If Patent Owner chooses to file a reissue application or a request for reexamination of the challenged patent, we remind Patent Owner of its continuing obligation to notify the Board of any such related matters in updated mandatory notices. *See* 37 C.F.R. § 42.8(a)(3), (b)(2).
[24] As explained above, given our disposition of the grounds based on Pasha alone, we do not reach Petitioner's alternative grounds based on the combinations of Pasha with Yamada or Molinet.

The table below summarizes our conclusions as to Patent Owner's Motion to Amend the claims.

Motion to Amend Outcome	Claim(s)
Original Claims Cancelled by Amendment	
Substitute Claims Proposed in the Amendment	19–36
Substitute Claims: Motion to Amend Granted	
Substitute Claims: Motion to Amend Denied	19–36
Substitute Claims: Not Reached	

VII. ORDER

In consideration of the foregoing, it is hereby:

ORDERED that Petitioner has shown by a preponderance of the evidence that claims 1–18 of the '951 patent are unpatentable;

FURTHER ORDERED that Patent Owner's Motion to Amend (Paper 19) is denied;

FURTHER ORDERED that Patent Owner's Motion to Exclude Evidence (Paper 41) is denied;

FURTHER ORDERED that Petitioner's Motion to Exclude Evidence (Paper 39) is granted-in-part; and

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

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