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Paper No. 60
Entered: May 12, 2016
(Non-Public Version Entered: February 25, 2016)

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

RPX CORPORATION,
Petitioner,

v.

APPLICATIONS IN INTERNET TIME, LLC,
Patent Owner.

Case IPR2015-01750
Patent 8,484,111 B2

Before LYNNE E. PETTIGREW, MITCHELL G. WEATHERLY, and JENNIFER MEYER CHAGNON, *Administrative Patent Judges*.

CHAGNON, *Administrative Patent Judge*.

DECISION
Institution of *Inter Partes* Review
37 C.F.R. § 42.108

I. INTRODUCTION

RPX Corporation ("Petitioner" or "RPX") filed a Petition for *inter partes* review of claims 13–18 ("the challenged claims") of U.S. Patent No. 8,484,111 B2 (Ex. 1001, "the '111 patent"). Paper 1 ("Pet."). Applications In Internet Time LLC ("Patent Owner") filed a Preliminary Response (Paper 21, Paper 26 (redacted version), "Prelim. Resp."). Pursuant to our authorization (Paper 23), Petitioner filed a Reply (Paper 28, Paper 29 (redacted version), "Reply") and Patent Owner filed a Sur-Reply (Paper 38, Paper 37 (redacted version), "Sur-Reply").

We have authority to determine whether to institute *inter partes* review. *See* 35 U.S.C. § 314(b); 37 C.F.R. § 42.4(a). Upon consideration of the Petition and the Preliminary Response, as well as Petitioner's Reply and Patent Owner's Sur-Reply, and for the reasons explained below, we determine that the information presented shows a reasonable likelihood that Petitioner would prevail with respect to all of the challenged claims. *See* 35 U.S.C. § 314(a). Accordingly, we institute trial as to claims 13–18 of the '111 patent.

A. Related Proceedings

The '111 patent is the subject of the following district court proceeding: *Applications in Internet Time LLC v. Salesforce.com, Inc.*, No. 3:13-cv-00628 (D. Nev.) ("Salesforce litigation"). Pet. 3; Paper 6, 2. Petitioner concurrently seeks *inter partes* review of related U.S. Patent No. 7,356,482 B2 ("the '482 patent"), in IPR2015-01751 and IPR2015-01752. Pet. 3; Paper 6, 2.

B. The '111 Patent

The '111 patent, titled "Integrated Change Management Unit," relates to an "integrated system for managing changes in regulatory and non-regulatory requirements for business activities at an industrial or commercial facility." Ex. 1001, Abstract. The integrated system described in the '111 patent manages data that is constantly changing by (1) "provid[ing] one or more databases that contain information on operations and requirements concerning an activity or area of business," (2) "monitor[ing] and evaluat[ing] the relevance of information on regulatory and non-regulatory changes that affect operations of the business and/or information management requirements," (3) "convert[ing] the relevant changes into changes in work/task lists, data entry forms, reports, data processing, analysis and presentation . . . of data processing and analysis results to selected recipients, without requiring the services of one or more programmers to re-program and/or re-code the software items affected by the change," and (4) "implement[ing] receipt of change information and dissemination of data processing and analysis results using the facilities of a network, such as the Internet." *Id.* at 8:37–52, 9:4–5.

Figure 1 of the '111 patent is reproduced below:

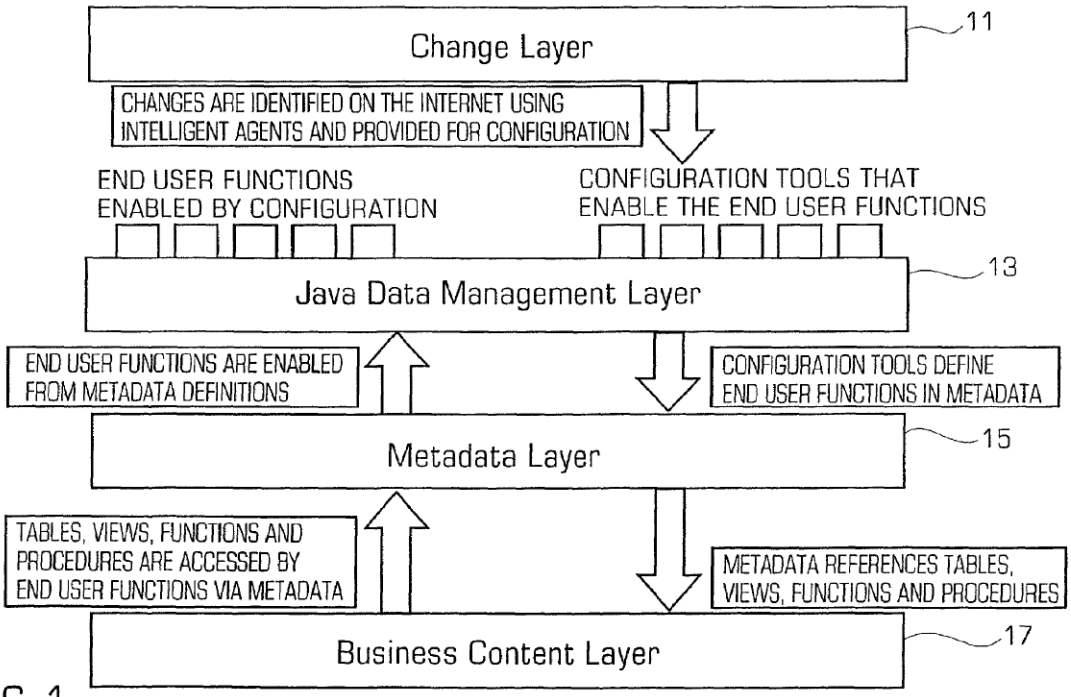

FIG. 1

As shown in Figure 1, the integrated system operates at four layers: (1) a change management layer that identifies on the Internet regulatory and non-regulatory changes that may affect a user's business, (2) a Java data management layer that generates a user interface ("UI"), (3) a metadata layer that provides data about the user interface including "tools, worklists, data entry forms, reports, documents, processes, formulas, images, tables, views, columns, and other structures and functions," and (4) a business content layer that is specific to the particular business operations of interest to the user. *Id.* at 9:38–52. According to the '111 patent, because the system of

the invention is "entirely data driven," the need to write and compile new code in order to update the system is eliminated. *Id.* at 10:24, 12:44–56.

C. Illustrative Claim

Of the challenged claims, claim 13 is the only independent claim. Claims 14–18 depend from claim 13. Claim 13 of the '111 patent, reproduced below, is illustrative of the challenged claims.

> 13. A system, comprising:
>
> a server accessible by a browser executed on a client device, the server including a first portion, a second portion, a third portion, and a fourth portion,
>
> the first portion of the server having information about unique aspects of a particular application,
>
> the second portion of the server having information about user interface elements and one or more functions common to various applications, the various applications including the particular application,
>
> the third portion of the server being configured to dynamically generate a functionality and a user interface for the particular application, the functionality and the user interface of the particular application being based on the information in the first portion of the server and the information in the second portion of the server, the third portion of the server being configured to send the functionality and the user interface for the particular application to the browser upon establishment of a connection between the server and the client device,
>
> the fourth portion of the server being configured to automatically detect changes that affect the information in the first portion of the server or the information in the second portion of the server.

Ex. 1001, 33:19–34:8.

D. The Applied References and Evidence

Petitioner relies on the following evidence. Pet. 4–8, 12–45.

Reference	Date	Exhibit No.
U.S. Patent No. 6,249,291 B1 ("Popp")	June 19, 2001	Ex. 1004
Srdjan Kovacevic, *Flexible, Dynamic User Interfaces for Web-Delivered Training*, in AVI '96 PROCEEDINGS OF THE WORKSHOP ON ADVANCED VISUAL INTERFACES 108–18 (1996) ("Kovacevic")	1996	Ex. 1005
U.S. Patent No. 5,806,071 ("Balderrama")	Sept. 8, 1998	Ex. 1006
Java Complete!, 42 DATAMATION MAGAZINE 5, 28–49 (March 1, 1996) ("Java Complete")	Mar. 1, 1996	Ex. 1007
Glenn E. Krasner & Stephen T. Pope, *A Description of the Model-View-Controller User Interface Paradigm in the Smalltalk-80 System*, ParcPlace Systems (1988) ("Krasner")	1988	Ex. 1008

Petitioner further relies on the Declaration of Mark E. Crovella, Ph.D. (Ex. 1002).

E. The Asserted Grounds

Petitioner sets forth its challenges to claims 13–18 as follows. Pet. 4–5, 12–45.

References	Basis	Claims Challenged
Popp	§ 102	13–18
Kovacevic	§ 102	13–18
Balderrama and Java Complete	§ 103	13–18

II. ANALYSIS

A. Real Parties-in-Interest

The statute governing *inter partes* review proceedings sets forth certain requirements for a petition for *inter partes* review, including that "the petition identif[y] all real parties in interest." 35 U.S.C. § 312(a); *see also* 37 C.F.R. § 42.8(b)(1) (requirement to identify real parties-in-interest ("RPIs") in mandatory notices). In accordance with 35 U.S.C. § 312(a)(2) and 37 C.F.R. § 42.8(b)(1), Petitioner identifies RPX Corporation as the "sole real party-in-interest in this proceeding." Pet. 2. In its Preliminary Response, Patent Owner raises the issue of whether Petitioner has identified all RPIs. *See* Prelim. Resp. 2–20. In particular, Patent Owner asserts that Salesforce.com, Inc. ("Salesforce") is an unnamed RPI. *Id.*

As noted above, the '111 patent has been asserted against Salesforce in a district court action. *See* Paper 6, 2. Patent Owner asserts that "[b]ecause the Salesforce Litigation is more than one year old, Salesforce is barred from filing an inter partes review under 37 C.F.R. § 42.101(b)." Prelim. Resp. 8; *see also* 35 U.S.C. § 315(b) ("An inter partes review may not be instituted if the petition requesting the proceeding is filed more than 1 year after the date on which the petitioner, real party in interest, or privy of the petitioner is served with a complaint alleging infringement of the patent."); Ex. 2003 (showing service of the complaint in the Salesforce litigation was effected on November 20, 2013 (more than one year prior to the August 17, 2015 filing date of the instant Petition)). Thus, as an initial

matter, we must determine whether Salesforce should have been identified as an RPI in this proceeding.

Whether an entity that is not named as a participant in a given proceeding constitutes an RPI is a highly fact-dependent question that takes into account how courts generally have used the terms to "describe relationships and considerations sufficient to justify applying conventional principles of estoppel and preclusion." Office Patent Trial Practice Guide, 77 Fed. Reg. 48,756, 48,759 (Aug. 14, 2012). According to the Trial Practice Guide,

> the spirit of that formulation as to IPR . . . proceedings means that, at a general level, the "real party-in-interest" is the party that desires review of the patent. Thus, the "real party-in-interest" may be the petitioner itself, and/or it may be the real party or parties at whose behest the petition has been filed.

Id. As stated in the Trial Practice Guide, there are "multiple factors relevant to the question of whether a non-party may be recognized as" an RPI. *Id.* (citing *Taylor v. Sturgell*, 533 U.S. 880, 893–895, 893 n.6 (2008)). There is no "bright line test." *Id.* Considerations may include, for example, whether a non-party exercises control over a petitioner's participation in a proceeding, or whether a non-party is funding the proceeding or directing the proceeding. *Id.* at 48,759–60.

A petition is presumed to identify accurately all RPIs. *See Zerto, Inc. v. EMC Corp.*, Case IPR2014-01295, slip op. at 6–7 (PTAB Mar. 3, 2015) (Paper 34). When a patent owner provides sufficient evidence prior to institution that reasonably brings into question the accuracy of a petitioner's

identification of RPIs, the overall burden remains with the petitioner to establish that it has complied with the statutory requirement to identify all RPIs. *Id.*

Patent Owner argues that RPX is acting as a proxy for Salesforce in filing the Petition and Salesforce should, therefore, be identified as an RPI. In this regard, Patent Owner argues that "RPX is in the business of acting as a proxy for accused infringers like Salesforce." Prelim. Resp. 6. As support for this assertion, Patent Owner quotes from portions of RPX's website and public filings. For example, Patent Owner points to a portion of RPX's website, which indicates "'RPX Corporation is the leading provider of patent risk solutions, offering defensive buying, acquisition syndication, patent intelligence, insurance services, and advisory services.'" *Id.* (quoting Ex. 2016). Patent Owner further argues that "RPX states that its interests are '100% aligned' with those of clients [redacted]," *id.* at 6–7 (quoting Ex. 2015); that "RPX serves as 'an extension of the client's in-house legal team,'" *id.* at 7 (quoting Ex. 2006); and that "RPX . . . act[s] as [its clients'] proxy to 'selectively clear' liability for infringement as part of RPX's 'patent risk management solutions,'" *id.* (quoting Ex. 2006; Ex. 2008).

We are not persuaded, however, that the evidence supports Patent Owner's argument that "Petitioner's business model is built upon petitioner acting as an agent or proxy for third parties in cases just like this." Prelim. Resp. 6. At the outset, we note that Patent Owner provides several of these quotations out-of-context and/or mischaracterizes them. Nowhere in the evidence of record does Patent Owner point to any portion of RPX's website

or public filings that expressly indicates that RPX acts as a proxy for its clients, [redacted].

Further, in response to additional discovery authorized in this proceeding (Paper 11), RPX provided declaration testimony that, contrary to Patent Owner's assertions that RPX is acting as a proxy for Salesforce,

Ex. 1019 ¶ 47; *see* Reply[1] 1, 6–7 (citing Ex. 1019 ¶¶ 7–13, 34–44, 47; Ex. 1024). RPX further provided declaration testimony and evidence that "RPX did not have any contractual obligation to file [this and the related] IPRs or any 'unwritten,' implicit or covert understanding with Salesforce that it would do so." Reply 5 (citing Ex. 1019 ¶ 45); *see also* Exs. 1020–1022 ([redacted] which do not include any discussion of filing petitions for *inter partes* review). We are not persuaded that the generic statements on RPX's website cited by Patent Owner prove otherwise.

Patent Owner points to other *inter partes* review proceedings in which RPX was a petitioner as evidence that "RPX has a history of acting as a

[1] The Reply does not include page numbers. We cite to the Reply counting the page starting with the "Introduction" section as page 1.

proxy." Prelim. Resp. 8–9; *see RPX Corp. v. VirnetX, Inc.*, Case IPR2014-00171 (and six other related proceedings); *RPX Corp. v. ParkerVision*, Case IPR2014-00946 (and two other related proceedings). These cases are distinguishable from the present case. In *RPX Corp. v. VirnetX, Inc.*, the Board found that Apple (the alleged unnamed RPI) had both suggested that RPX challenge the specific patents, as well as paid for it to do so. Case IPR2014-00171, slip op. at 4, 7 (PTAB June 5, 2014) (Paper 49). Additionally, the petitions included grounds that were "substantially identical" to those in Apple's time-barred petition. *Id.* at 5–6. In *RPX Corp. v. ParkerVision*, contrary to Patent Owner's assertion, the Board did not find that RPX acted as a proxy for any unnamed RPI. Rather, although the Board authorized additional discovery on this issue, Case IPR2014-00946 (Paper 25), no additional briefing on the issue of RPI was ever submitted.

Patent Owner's argument questioning RPX's motives for challenging only two of three of Patent Owner's patents (i.e., only the two asserted in the Salesforce litigation) also is unpersuasive. *See* Sur-Reply 4–5. RPX addresses this third patent (U.S. Patent No. 6,341,287 ("the '287 patent"), which is the ultimate parent of both the '111 patent and the '482 patent) in the Petition, stating that "[t]he '287 patent issued with a single independent claim, which is much narrower than the claims of the '111 patent, and closely tied to the issues of environmental, health, or safety regulations described in the specification." Pet. 8 (citing Ex. 1011, 32:9–34:8). We are not persuaded, based on the facts now before us, that RPX's decision to

challenge only certain of Patent Owner's patents is evidence sufficient to show that RPX is acting as a proxy on behalf of Salesforce in this IPR proceeding.

Patent Owner further argues that RPX has "adopted a 'willful blindness' strategy" and that "it intentionally operates its business to circumvent the PTAB's RPI case law." Prelim. Resp. 8–10 (citing e.g., Ex. 2018). We are not persuaded that the evidence of record supports this assertion. Further, RPX has provided declaration testimony that explains RPX's "best practices" for identifying RPIs that contradicts Patent Owner's assertion. Ex. 1019 ¶¶ 14–19; Reply 6–8.

As additional evidence that Salesforce should be named an RPI in this proceeding, Patent Owner argues that "[redacted] Because we find Patent

Owner's argument to be based on conjecture without evidentiary support, we are not persuaded that Salesforce is funding this proceeding.

Patent Owner further argues that Mr. Sanford Robinson, who is on the Board of Directors of both RPX and Salesforce, "has the opportunity to exert significant but hidden control over this proceeding." Prelim. Resp. 12. There is no evidence in the record, however, that Mr. Robinson has exerted any such control. The fact that "RPX produced nothing," *id.* at 13, in response to a production request to produce "[d]ocuments sufficient to show how [he] separates his fiduciary duties to RPX and Salesforce despite serving simultaneously as a Board Member of RPX and as a Board Member of Salesforce," Ex. 2001, is not dispositive. *See* Paper 11. In response to the discovery requests, RPX provided declaration testimony that Mr. Robinson was not involved in the decision to file the instant Petition. Reply 11–12 (citing Ex. 1019 ¶¶ 51–52). An overlapping Board member alone, without evidence of his involvement, is not sufficient to demonstrate an unnamed entity had control over or was involved in an IPR. *See Butamax Advanced Biofuels LLC v. Gevo, Inc.*, Case IPR2013-00214, slip op. at 4 (PTAB Sept. 30, 2013) (Paper 11).

Patent Owner further provides [redacted]

[redacted]

[redacted] RPX, however, provides declaration testimony expressly stating that:

> RPX had no communication with Salesforce whatsoever regarding the filing of IPR petitions against [Patent Owner's] patents before [this and the related] IPRs were filed. Salesforce did not request that RPX file [this and the related] IPRs, was not consulted about the decision by RPX to file the IPRs, and did not communicate with RPX about the searching for or selection of prior art asserted in [this and the related] IPRs, or any other aspect of the IPRs.

Ex. 1019 ¶ 20; *see* Reply 1–2. [redacted]

To summarize, Patent Owner argues that, because [redacted] because the '111 patent has been asserted against Salesforce, and because Salesforce is time-barred under 35 U.S.C. § 315(b) from challenging the '111 patent, RPX must have filed the instant Petition as a proxy for Salesforce, and, thus, Salesforce must be an RPI in this proceeding. However, as discussed above, Patent Owner has not provided persuasive evidence to support this assertion. Accordingly, based on the evidence currently before us, we are not persuaded that Salesforce should

have been identified as an RPI in this proceeding.[2] We now turn to the substantive issues presented in the Petition.

B. Claim Construction

In an *inter partes* review, claim terms in an unexpired patent are given their broadest reasonable construction in light of the specification of the patent in which they appear. *See* 37 C.F.R. § 42.100(b); *In re Cuozzo Speed Techs., LLC*, 793 F.3d 1268, 1275–79 (Fed. Cir. 2015), *cert. granted sub nom. Cuozzo Speed Techs., LLC v. Lee*, 84 U.S.L.W. 3218 (Jan. 15, 2016) (No. 15-446). Under the broadest reasonable construction standard, claim terms generally are given their ordinary and customary meaning, as would be understood by one of ordinary skill in the art in the context of the entire disclosure. *See In re Translogic Tech., Inc.*, 504 F.3d 1249, 1257 (Fed. Cir. 2007). The claims, however, "'should always be read in light of the specification and teachings in the underlying patent,'" and "[e]ven under the broadest reasonable interpretation, the Board's construction 'cannot be

[2] In its Preliminary Response, Patent Owner also requests we impose sanctions on Petitioner for "misrepresentation of a fact," 37 C.F.R. § 42.12(a)(3), or for "abuse of process," 37 C.F.R. § 42.12(a)(6). *See* Prelim. Resp. 40–41. A motion for sanctions based on alleged misconduct may not be filed without prior Board authorization. *See* 37 C.F.R. § 42.20(b). Patent Owner improperly has embedded such a motion for sanctions within its Preliminary Response, without our authorization. Because we are not, at this juncture, persuaded by Patent Owner's arguments on the issue of RPI, rather than expunge the Preliminary Response, we deny Patent Owner's unauthorized motion for sanctions.

divorced from the specification and the record evidence.'" *Microsoft Corp. v. Proxyconn, Inc.*, 789 F.3d 1292, 1298 (Fed. Cir. 2015) (citations omitted).

Upon review of the parties' contentions and supporting evidence, we determine no issue in this Decision requires express construction of any claim term. *See, e.g., Wellman, Inc. v. Eastman Chem. Co.*, 642 F.3d 1355, 1361 (Fed. Cir. 2011) ("[C]laim terms need only be construed 'to the extent necessary to resolve the controversy.'") (quoting *Vivid Techs., Inc. v. Am. Sci. & Eng'g, Inc*., 200 F.3d 795, 803 (Fed. Cir. 1999)). Accordingly, for purposes of this Decision, we do not provide any express claim construction.

C. Principles of Law

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. *See Net MoneyIN, Inc. v. VeriSign, Inc.*, 545 F.3d 1359, 1369 (Fed. Cir. 2008); *Karsten Mfg. Corp. v. Cleveland Golf Co.*, 242 F.3d 1376, 1383 (Fed. Cir. 2001). 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); *accord In re Bond*, 910 F.2d 831, 832 (Fed. Cir. 1990).

A claim is unpatentable under 35 U.S.C. § 103(a) if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. *See KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 406

(2007). The question of obviousness is resolved on the basis of underlying factual determinations including: (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; (3) the level of ordinary skill in the art; and (4) objective evidence of nonobviousness. *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).

In that regard, an obviousness analysis "need not seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ." *KSR*, 550 U.S. at 418; *accord In re Translogic Tech., Inc.*, 504 F.3d at 1259. The level of ordinary skill in the art may be reflected by the prior art of record. *See Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001); *In re GPAC Inc.*, 57 F.3d 1573, 1579 (Fed. Cir. 1995); *In re Oelrich*, 579 F.2d 86, 91 (CCPA 1978).

We analyze the asserted grounds of unpatentability in accordance with these principles.

D. Asserted Anticipation by Popp

Petitioner asserts that claims 13–18 are unpatentable under 35 U.S.C. § 102(e) as anticipated by Popp. Pet. 13–23. Patent Owner argues that Popp does not disclose all elements of independent claim 13. Prelim. Resp. 32–34. We have reviewed the parties' contentions and supporting evidence. Given the evidence on this record, and for the reasons explained below, we determine that the information presented shows a reasonable likelihood that Petitioner would prevail on this asserted ground.

1. Summary of Popp

Popp relates to an "object-oriented approach [that] provides the ability to develop and manage Internet transactions." Ex. 1004, Abstract. According to Popp, "[l]ocal applications can be accessed using any workstation connected to the Internet regardless of the workstation's configuration." *Id.* Popp describes that "[o]nce [a] connection is established, the present invention is used with an application on the server side of the connection to dynamically generate Web pages [that] contain application information and provide the ability for the user to specify input." *Id.* at 3:55–59. Web pages can be generated in response to the user input. *Id.* at 3:61–63.

Figure 2 of Popp is reproduced below:

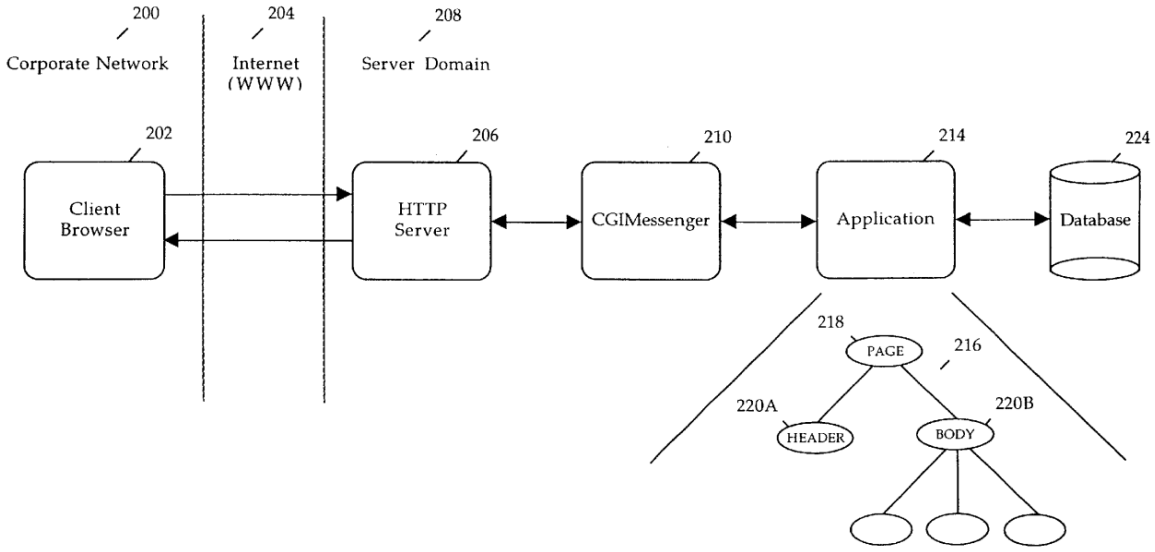

Figure 2

As seen in Figure 2 of Popp, Client Browser 202 is connected via Internet 204 to Server Domain 208, which includes among other things Application 214 and Database 224. Ex. 1004, 6:40–7:23, 7:31–34. Application 214 includes objects 216 that correspond to the HTML elements that define a Web page and are arranged in a tree structure that corresponds to the hierarchical structure of the HTML elements that they implement. *Id.* at 12:21–26. The self-contained modules, or components, may be shared by one or more Web pages in a single application and/or across multiple applications executing on a server. *Id.* at 4:27–33, 4:41–43, 17:54–18:32.

A scriptedControl object controls generation of a Web page. *Id.* at 18:62–19:19, Fig. 6A. Further, an inputControl object handles pushing and pulling data to/from the Web page and the external data source (e.g., database 224). *Id.* at 21:61–22:67, Fig. 6B. The inputControl object determines, for example, when a database entry should be updated based on information input to the Web page and sends an appropriate message to update the database. *Id.* at 21:37–49.

2. Independent Claim 13

Claim 13 recites a "system, comprising: a server accessible by a browser executed on a client device, the server including a first portion, a second portion, a third portion, and a fourth portion." Petitioner asserts that "Popp's Server Domain 208 is accessible by Client Browser 202, executed on a client device." Pet. 18 (citing Ex. 1004, Fig. 2). According to Petitioner, Server Domain 208 of Popp "includes database 224 (first portion), object tree 216 (second portion), internal application 214 (third

portion), and inputControl object 664 (fourth portion, used by internal application 214)," corresponding to the server portions recited in claim 13. *Id.* (citing Ex. 1004, 7:52–58, 12:21–32, Figs. 2, 6B); *see id.* at 14–17; Ex. 1002 ¶¶ 31, 34, 35, 40. Popp further discloses that "Database 224 can be resident on the same server as application 214," which also includes object tree 216 and inputControl object 664. Ex. 1004, 7:32–33, 7:52–58, 12:21–32; *see* Pet. 17, 18; Ex. 1002 ¶¶ 22, 31, 34, 35, 40. Thus, according to Petitioner, Popp discloses all four claimed "portions" on the same server.

Regarding the claimed "first portion of the server having information about unique aspects of a particular application," Petitioner describes the Web page of Popp as "meet[ing] the 'application' whose functionality and UI are dynamically generated" of the claim. Pet. 13–14 (citing Ex. 1002 ¶ 32). According to Petitioner, Popp discloses that database 224 (first portion) "contain[s] information about unique aspects of a particular Web page (application), e.g., for an Automobile Shopper's application that can be used by a prospective car buyer to select a car." *Id.* at 18 (citing Ex. 1004, 9:4–10, 9:56–61); *see* Ex. 1002 ¶ 31.

The claim further recites "the second portion of the server [has] information about user interface elements and one or more functions common to various applications, the various applications including the particular application." Petitioner describes the following as disclosing this claim feature:

> Web page objects 216 [of Popp that] correspond to HTML elements that define a web page and include component sub-

> trees representing user interface portions (e.g., text boxes, check boxes, radio buttons) that can be shared across Web pages, and thus contain information about user interface elements (e.g., data entry elements) and functions (e.g., receiving and processing input data) common to various applications (Web pages), including any particular application (Web page) whose data is stored in the database.

Pet. 15 (citing Ex. 1002 ¶ 34); *see id.* at 18–19 (citing Ex. 1004, 2:33–41, 4:26–33, 4:41–43, 11:37–44, 12:21, 17:54–55, 18:32–43); Ex. 1002 ¶¶ 26, 31.

Regarding the claimed "third portion of the server being configured to dynamically generate a functionality and a user interface for the particular application," Petitioner points to internal application 214 of Popp, which "includes scriptedControl Object 602 to generate and manage a Web page," as disclosing this claim feature. Pet. 15 (citing Ex. 1004, 8:49–55, 18:62–65, 19:1–2; Ex. 1002 ¶ 36); *see id.* at 19 (citing Ex. 1004, 3:55–59, 7:45–49, 8:49–55, 18:65–67, 19:29–38, 31:44–49). According to Petitioner, the "scriptedControl object 602 retrieves application-specific data from the database (first portion) and combines it with the object tree (second portion) in order to dynamically generate the functionality and user interface for the Web page (application)," thus disclosing the claim limitation that "the functionality and the user interface of the particular application [are] based on the information in the first portion of the server and the information in the second portion of the server." *Id.* at 15 (citing Ex. 1004, 18:65–67, 19:29–38, 22:37–42, Figs. 6A, 6B; Ex. 1002 ¶¶ 36–37); *see id.* at 19 (citing Ex. 1004, 19:18–19, 19:35–38).

Petitioner further points to the fact that Popp's "Web page can include a Java applet that, when downloaded over an established connection between the client and the server and processed by a browser, presents the UI and functionality to the user," as disclosing that the claimed "third portion of the server [is] configured to send the functionality and the user interface for the particular application to the browser upon establishment of a connection between the server and the client device." Pet. 16 (citing Ex. 1004, 31:1–3; Ex. 1002 ¶¶ 38, 39); *see id.* at 20 (citing Ex. 1004, 3:55–65, Fig. 2).

Finally, regarding the claimed "fourth portion of the server [that is] configured to automatically detect changes that affect the information in the first portion of the server or the information in the second portion of the server," Petitioner relies on Popp's inputControl object 664. Pet. 16–17. According to Petitioner, inputControl object 664 is responsible for detecting and responding to user input received from the web page user interface, such as a modification of field 632 in Web page 662. *Id.* (citing Ex. 1004, 22:28–62; Ex. 1002 ¶ 40); *see id.* at 20. Petitioner further asserts that "[w]hen inputControl object 664 detects a change . . . , the Web page objects (second portion) are automatically modified by storing the data retrieved from the Web page form in text object 654 and/or context object 628, and the database 630 (first portion) is automatically modified to store the changed data." *Id.* at 17 (citing Ex. 1004, 22:28–62, Fig. 6B; Ex. 1002 ¶ 40).

Patent Owner argues that Popp does not disclose the "fourth portion" recited in claim 13. Prelim. Resp. 32–34. In particular, Patent Owner argues that "Popp nowhere discloses detecting changes that affect the unique

behavior of the website or its application-specific data, nor the design elements that are generic to the website and other websites," and argues that instead Popp discloses "a controller to operate an ordinary website and webpage controls." *Id.* at 33. The language of claim 13, however, is broad and requires only that the fourth portion "automatically detect changes that affect the information in the first portion . . . or the information in the second portion." Ex. 1001, 34:5–8. The first portion includes "information about unique aspects of a particular application." *Id.* at 33:23–24. As discussed above, Petitioner relies on database 224 as disclosing the claimed "first portion," and, thus, detecting a change that affects information stored in the database (e.g., an employee name stored in a database) is sufficient to disclose detecting of a change to information about the application, as claimed. *See, e.g.*, Ex. 1001, 12:20–32 (describing the business content layer (i.e., "first portion") as a database that may include data associated with a selected area of business, such as finance or human resources).

Patent Owner also argues that Petitioner's definition of "application," as claimed, is "unreasonably broad." Prelim. Resp. 33. Patent Owner argues instead that an application "is more than just some collection of computer instructions," and that it is a "higher level program for use by an end-user to perform a *specific* kind of work that is useful to the end-user." *Id.* at 23. We are not persuaded, however, based on the evidence before us, that Petitioner's reading of a web page as an example of an "application" as claimed is unreasonable. *See* Ex. 1002 ¶ 21 (Dr. Crovella testifying that a web page is an example of an "application").

Accordingly, for the reasons discussed, we are persuaded, on the current record, that Petitioner has shown a reasonable likelihood of prevailing on its assertion that claim 13 is anticipated by Popp.

3. Dependent Claims 14–18

We also have reviewed Petitioner's contentions and supporting evidence regarding claims 14–18, and are persuaded, based on the record now before us, that Petitioner has shown a reasonable likelihood of demonstrating that Popp discloses all elements of these claims. *See* Pet. 20–23 (citing Ex. 1004, 2:25–32, 3:55–63, 16:48–17:52, 18:32–34, 19:50–20:37, 21:61–22:13, 22:37–48, 22:64–65, Fig. 2; Ex. 1002 ¶¶ 41–45). Patent Owner, at this stage of the proceeding, has not presented separate arguments regarding whether Popp discloses the additional limitations of dependent claims 14–18. On the record now before us, we are persuaded that Petitioner has shown a reasonable likelihood of prevailing on its assertion that claims 14–18 are anticipated by Popp.

4. Conclusion

For the foregoing reasons, we institute an *inter partes* review of whether Popp anticipates claims 13–18 under 35 U.S.C. § 102(e).

E. Asserted Anticipation by Kovacevic

Petitioner asserts that claims 13–18 are unpatentable under 35 U.S.C. § 102(b) as anticipated by Kovacevic. Pet. 24–33. Patent Owner argues that Kovacevic does not disclose all elements of independent claim 13. Prelim. Resp. 34–36. We have reviewed the parties' contentions and supporting evidence. Given the evidence on this record, and for the reasons explained

below, we determine that the information presented shows a reasonable likelihood that Petitioner would prevail on this asserted ground.

1. Summary of Kovacevic

Kovacevic relates to a system called MUSE that uses a model-based technology to implement an intelligent tutoring system having a flexible user interface. Ex. 1005, Abstract. The system described in Kovacevic includes an application-specific library, which "contains procedural code implementing the functional core of applications whose UIs are to be generated," and an interaction-specific library, which "contains a library of communications primitives—interaction techniques and presentation objects—to be used when assembling UI structures." Ex. 1005, 117. The MUSE program uses these libraries to build and generate a user interface. *Id.* As further discussed in Kovacevic, the libraries, and if desired the entire MUSE program, could be transported over a browser using Java. *Id.* Kovacevic also discusses a sequencing control primitive that monitors and updates the system when something affecting information-flow-control primitives occurs. *Id.* at 114.

2. Independent Claim 13

Claim 13 recites a "system, comprising: a server accessible by a browser executed on a client device, the server including a first portion, a second portion, a third portion, and a fourth portion." Petitioner asserts that "Kovacevic's SLOOP Server is accessible over the Web by an HTML browser executed on a UI client device." Pet. 28 (citing Ex. 1005, Fig. 1). According to Petitioner, the "SLOOP Server includes the application-

specific library (first portion), the interaction-specific library (second portion), the main MUSE program (third portion), and the sequencing control primitives (fourth portion),” corresponding to the server portions recited in claim 13. *Id.* (citing Ex. 1005, 117 (col. 2 ¶ 7)); *see* Pet. 24–28; Ex. 1002 ¶¶ 50, 51, 53, 58. Thus, according to Petitioner, Kovacevic discloses all four claimed “portions” on the same server.

Regarding the claimed “first portion of the server having information about unique aspects of a particular application,” Petitioner describes that a “tutoring course generated with a particular UI is a particular ‘application’ as recited in the claims.” Pet. 24 (citing Ex. 1002 ¶ 50). According to Petitioner, Kovacevic discloses that a “particular tutoring course is represented by an application-specific model with software primitives provided in an application-specific library.” Pet. 24 (citing Ex. 1005, 117 (col. 1 ¶ 4, col. 2 ¶ 7); Ex. 1002 ¶ 50); *see* Pet. 28–29.

The claim further recites “the second portion of the server [has] information about user interface elements and one or more functions common to various applications, the various applications including the particular application.” Petitioner relies on an interaction-specific library in Kovacevic as disclosing this claim feature. Pet. 24–25, 29. According to Petitioner, the interaction-specific library has “information about user interface elements (e.g., communication UI primitives in the interaction-specific library) and one or more functions (e.g., mapping between external inputs and internal forms) common to various applications (including the particular application represented by a downloaded application-specific

library).” *Id.* at 24–25 (citing Ex. 1005, 114 (col. 1 ¶ 2), 115 (col. 1 ¶ 2), 116 (col. 1 ¶ 6), 117 (col. 1 ¶ 5); Ex. 1002 ¶ 51); *see id.* at 29 (citing Ex. 1005, 113 (col. 2 ¶ 2), 114 (col. 1 ¶ 2), 117 (col. 1 ¶ 5, col. 2 ¶ 7)).

Regarding the claimed “third portion of the server being configured to dynamically generate a functionality and a user interface for the particular application,” Petitioner points to the “main program” of Kovacevic as disclosing this claim feature. Pet. 25, 29. According to Petitioner, Kovacevic’s main program “generates the tutoring application (including the functionality and the UI of the tutoring course) using the primitives in the application-specific library (first portion) and the application-independent interaction-specific library (second portion).”. *Id.* at 25 (citing Ex. 1005, 117 (col. 1 ¶ 4, col. 2 ¶ 7); Ex. 1002 ¶¶ 52–53); *see id.* at 29 (citing Ex. 1005, 109 (col. 1 ¶ 3, ¶ 5, col. 2 ¶ 4), 117 (col. 1 ¶ 4, col. 2 ¶ 7)). According to Petitioner, this generation of the tutoring application “is done by mapping application model primitives provided in the application-specific library (first portion) onto UI primitives including the communication primitives in the interaction-specific library (second portion) to construct a fully specified UI,” thus disclosing the claim limitation that “the functionality and the user interface of the particular application [are] based on the information in the first portion of the server and the information in the second portion of the server.” *Id.* at 25 (citing Ex. 1002 ¶ 54); *see id.* at 29–30 (citing Ex. 1005, 115 (col. 1 ¶ 2), 116 (col. 1 ¶ 6), Figs 5, 6, 8).

Petitioner further points to the fact that “[h]aving downloaded the application-specific library for a particular tutoring application,

[Kovacevic's] main MUSE program generates and sends the application's functionality and UI to be rendered in the client's browser," as disclosing the limitation that "the third portion of the server [is] configured to send the functionality and the user interface for the particular application to the browser upon establishment of a connection between the server and the client device." Pet. 27–28 (citing Ex. 1005, 110 (col. 1 ¶ 4), 117 (col. 1 ¶ 4, col. 2 ¶ 7); Ex. 1002 ¶¶ 52–56); *see id.* at 30 (citing Ex. 1005, 108 (col. 1 ¶ 2, ¶ 4), 117 (col. 2 ¶ 7)).

Finally, regarding the claimed "fourth portion of the server [that is] configured to automatically detect changes that affect the information in the first portion of the server or the information in the second portion of the server," Petitioner relies on Kovacevic's sequencing control primitives. Pet. 25–26. Kovacevic describes that the "sequencing control primitives maintain and monitor the relevant UI context. They update the context whenever something potentially affecting [information-flow-control] primitives happens, and they constantly evaluate the context to enable/disable those primitives." Ex. 1005, 114 (col. 2 ¶ 6); *see* Pet. 30. According to Petitioner, "[c]hanges such as user input via the UI or selection of UI elements affect the information in the second portion of the server, e.g., by causing certain UI elements to be enabled or disabled," and the sequencing control primitives of Kovacevic monitor for such user input to enable appropriate enable/disable response of the UI element when a user selection is made. Pet. 25–26 (citing Ex. 1005, 114 (col. 2 ¶ 6), 115 (col. 2); Ex. 1002 ¶ 57).

Patent Owner argues that Kovacevic does not disclose the "fourth portion" recited in claim 13. Prelim. Resp. 34–36. In particular, Patent Owner argues that "Kovacevic does not disclose detecting changes that affect the unique behavior of the website or its application-specific data, nor the design elements that are generic to the website and other websites," and argues that "[w]hile Kovacevic describes making the website changeable, Kovacevic has no disclosure relevant to detecting changes that impact how the website should look or function." *Id.* at 34. Patent Owner also argues that Kovacevic does not disclose the claimed "fourth portion," because Kovacevic's sequencing control element is part of its controller, which Petitioner asserts to be the claimed third portion. *Id.* at 35–36.

As discussed above (*see supra* Section II.D.2.), however, the language of claim 13 is quite broad and requires only that the fourth portion "automatically detect changes that affect the information in the first portion . . . or the information in the second portion." Ex. 1001, 34:5–8. Petitioner relies on the UI primitives in the interaction-specific library of Kovacevic as disclosing the claimed second portion. Based on the record currently before us, we find persuasive Petitioner's assertion that detecting user input (a change) that affects whether certain UI elements are enabled or disabled (i.e., information regarding the UI primitives in the second portion) is sufficient to disclose the fourth portion's claimed function of detecting changes that affect the information in the second portion. Further the claimed "third portion" and "fourth portion" need not be described as

separate components in the prior art to meet the limitations recited in the claim.

Accordingly, for the reasons discussed, we are persuaded, on the current record, that Petitioner has shown a reasonable likelihood of prevailing on its assertion that claim 13 is anticipated by Kovacevic.

3. Dependent Claims 14–18

We also have reviewed Petitioner's contentions and supporting evidence regarding claims 14–18, and are persuaded, based on the record now before us, that Petitioner has a reasonable likelihood of showing that Kovacevic discloses all elements of these claims. *See* Pet. 31–33 (citing Ex. 1005, 110 (col. 1 ¶¶ 4–5, col. 2 ¶ 2), 112 (Fig. 4), 113 (col. 2 ¶ 2), 114 (col. 1 ¶ 2), 117 (col. 1 ¶ 4); Ex. 1002 ¶¶ 59–63). Patent Owner, at this stage of the proceeding, has not presented separate arguments regarding whether Kovacevic discloses the additional limitations of dependent claims 14–18. On the record now before us, we are persuaded that Petitioner has shown a reasonable likelihood of prevailing on its assertion that claims 14–18 are anticipated by Kovacevic.

4. Conclusion

For the foregoing reasons, we institute an *inter partes* review of whether Kovacevic anticipates claims 13–18 under 35 U.S.C. § 102(b).

F. Asserted Obviousness in view of Balderrama and Java Complete

Petitioner asserts that claims 13–18 are unpatentable under 35 U.S.C. § 103(a) as obvious in view of Balderrama and Java Complete. Pet. 34–45. Patent Owner argues that the cited combination does not teach all elements

of independent claim 13. Prelim. Resp. 37–40. We have reviewed the parties' contentions and supporting evidence. Given the evidence on this record, and for the reasons explained below, we determine that the information presented shows a reasonable likelihood that Petitioner would prevail on this asserted ground.

1. Summary of Balderrama

Balderrama relates to a system that can offer various goods for sale, in a self-service fashion with an "electronic device capable of accepting and transmitting a customer's input," such as a touch-screen display. Ex. 1006, 1:8–12, Fig. 1. The system of Balderrama includes template presentations and a database containing items intended for sale at a particular sales outlet. *Id.* at 2:11–16, Fig. 3; *see also id.* at 6:48–58 (discussing template files), 8:64–9:2 (discussing "transmitted copy" of a template); 9:15–20 (discussing database records). A "configuring routine" uses information from the template presentation and the database for a particular sales outlet to create a presentation to display on the electronic device at the sales outlet. *Id.* at 11:37–48, Fig. 3 (element 84). The system is also configured to handle modifications to the database and/or updates to the presentation template. *Id.* at 2:17–21, 11:64–67, Fig. 6. Update/modification detector 82 receives information about updates to the template presentation and/or modifications to the database, and acts accordingly to update the presentation at the customer terminal. *Id.* at 8:21–64, 9:7–27, 10:11–24, Fig. 3 (arrows 81b, 87b, 83b).

2. Summary of Java Complete

Java Complete is a compilation of several articles in DATAMATION Magazine, discussing a "new simplified object-based, open-system [programming] language that allows software developers to engineer applications that can be distributed over the Internet." *See* Ex. 1007, 1–3, 28. Java Complete provides information about the Java programming language. For example, as discussed in the magazine, "Java reinvents the way applications are distributed to clients and executed," and provides "an easy way to deliver business information broadly." *Id.* at 40. As further described, "network-centric Java applets . . . don't have to be preinstalled—they install themselves just in time, on the fly, and deinstall themselves when they're no longer needed." *Id.* at 42. One example provided in Java Complete of a type of business application that could be built with Java applets is an order-entry system. *Id.*

3. Independent Claim 13

Claim 13 recites a "system, comprising: a server . . . including a first portion, a second portion, a third portion, and a fourth portion." Petitioner asserts that "Balderrama's manager station 10 is a server accessible by customer terminal 20a (client device) over POS LAN 14." Pet. 39 (citing Ex. 1006, Fig. 1). According to Petitioner, Balderrama's "[m]anager station 10 (server) includes in-store database 86 with records/files 87a (first portion), transmitted copy template presentation 80 (second portion), configuring routine 84 (third portion), and update/modification detector 82 (fourth portion)," corresponding to the server portions recited in claim 13.

Id. at 40 (citing Ex. 1006, Fig. 3); *see* Pet. 34–37; Ex. 1002 ¶¶ 71–73, 77. Petitioner asserts that each of these portions is "disclosed as being stored or executed on manager station 10." Pet. 37 (citing Ex. 1006, 8:67–9:2, 9:16–27, 11:38–46). Thus, according to Petitioner, Balderrama teaches all four claimed "portions" on the same server.

Regarding the claimed "first portion of the server having information about unique aspects of a particular application," Petitioner describes Balderrama's "order-entry presentation for a particular sales outlet (configured presentation 90)," which "is a UI for a user to view items for sale at the outlet and enter and order in an automated fashion, e.g., via a touch screen," as the "particular application" of the claim. Pet. 34 (citing Ex. 1006, 1:8–23, 2:11–16, Fig. 1; Ex. 1002 ¶¶ 64, 71). Balderrama discloses that in-store database 86 with records/files 87a (i.e., the first portion) "contain data records/information about items intended for sale at a particular sales outlet" (i.e., the "particular application"). Ex. 1006, 9:17–21, Fig. 3; *see* Pet. 34–35, 40; Ex. 1002 ¶¶ 64, 71.

The claim further recites "the second portion of the server [has] information about user interface elements and one or more functions common to various applications, the various applications including the particular application." Petitioner describes Balderrama's disclosure of "shared-across-outlets template presentation 80 from headquarters is transmitted to manager station 10 (the outlet's server) for combination with the outlet-specific data," as disclosing this claim feature. Pet. 35–36 (citing

Ex. 1006, 6:48–58, 8:67–9:2, 11:43–46; Ex. 1002 ¶ 72); *see id.* at 40–41 (citing Ex. 1006, 6:48–58, 7:19–23, 8:64–9:2, 11:43–46, Figs. 3, 11).

Regarding the claimed "third portion of the server being configured to dynamically generate a functionality and a user interface for the particular application," Petitioner describes that "Balderrama employs a configuring routine 84 . . . to retrieve data from the outlet-specific database 86 (first portion) and combine it with the generic template presentation 80 (second portion) in order to generate the functionality and user interface elements of the configured presentation 90 (application) for presentation to the customer," thus disclosing this claim feature. Pet. 36 (citing Ex. 1006, 11:38–46, Fig. 3; Ex. 1002 ¶¶ 73–74); *see id.* at 41 (citing Ex. 1006, 11:38–46, 14:64–65, 16:20–21, 16:55–17:5, Fig. 3). According to Petitioner, "[c]onfiguring routine 84 matches items in the template presentation (second portion) with items in the database (first portion), activating the sales items that are sold in the particular sales outlet, and incorporating those items' prices from the database into the corresponding cells in the template presentation," thus disclosing the claim limitation that "the functionality and the user interface of the particular application [are] based on the information in the first portion of the server and the information in the second portion of the server." *Id.* at 36 (citing Ex. 1006, 14:64–65, 16:20–21, 16:55–17:5; Ex. 1002 ¶ 73); *see id.* at 41 (citing Ex. 1006, 8:67–9:2, 10:10–13, Fig. 3).

Regarding the claimed "fourth portion of the server [that is] configured to automatically detect changes that affect the information in the first portion of the server or the information in the second portion of the

server," Petitioner relies on Balderrama's update/modification detector 82. Pet. 36–37. According to Petitioner, update/modification detector 82 "automatically detects changes to the outlet-specific database (affecting the information in the first portion of the server) or the generic template presentation (affecting the information in the second portion of the server)." *Id.* at 36 (citing Ex. 1006, 10:14–21, 11:64–67; Ex. 1002 ¶ 77); *see id.* at 42 (citing Ex. 1006, 2:16–21, 10:14–21, 11:64–67, 12:34–38, Fig. 3). Petitioner further asserts that "[i]n response to update/modification detector 82 detecting changes . . . , a currently-running presentation is interrupted and re-configured." *Id.* at 37 (citing Ex. 1006, 9:7–15; Ex. 1002 ¶ 77).

Petitioner relies on Java Complete in combination with Balderrama for teaching that the server is "accessible by a browser executed on a client device," as claimed , and that the claimed "third portion of the server [is] configured to send the functionality and the user interface for the particular application to the browser upon establishment of a connection between the server and the client device" Pet. 38–40. According to Petitioner, Balderrama teaches distributing the application from a server to a client over a LAN network but does not explicitly state that the server is accessible by a browser executed on the client device. *Id.* at 37 (citing Ex. 1002 ¶ 67). Java Complete "describes using browsers for UI delivery over the Internet and within a company's internal network." *Id.* at 38 (citing Ex. 1007, 30, 31, 40; Ex. 1002 ¶ 68). Petitioner asserts that "[i]t would have been obvious to a [person of ordinary skill in the art] to implement a browser on Balderrama's customer terminal for receiving and executing the order-entry application, as

browsers were commonly used to receive UI applications in client-server systems." *Id.* at 37–38 (citing Ex. 1002 ¶¶ 68–69).

Petitioner further points to Java Complete's teaching that "the client browser executes a Java applet received from the server to dynamically generate the UI functionality of the application," asserting that a person of ordinary skill "would have been motivated to implement Balderrama's order-entry application as a Java applet delivered to a browser executed by the customer terminal (client device) because of the ease-of-implementation benefits of using Java and readily-available web browsers." *Id.* at 38 (citing Ex. 1007, 32, 40, 42; Ex. 1002 ¶¶ 68–69). According to Petitioner, Java applets are delivered in client-server systems by being downloaded upon establishment of a connection between the server and the client device. *Id.* at 39 (citing Ex. 1007, 32). Thus, Petitioner asserts:

> [i]n the obvious combination of Balderrama and Java Complete, customer terminal 20a/94 (client device) executes a browser to access the server (manager station 10), and configuring routine 84 (third portion of the server) is configured to send the functionality and UI for the particular application (configured presentation 85) to the browser upon establishment of a connection between the server and the client device.

Id.

Patent Owner argues that Balderrama does not disclose the "fourth portion" recited in claim 13. Prelim. Resp. 37–40. In particular, Patent Owner asserts that Balderrama does not disclose "change management," arguing that update/modification detector 82 of Balderrama (upon which Petitioner relies as teaching the claimed fourth portion) provides only

notification of a change. *Id.* at 38–39. The claim, however, does not recite any action in response to the detection of a change, as Patent Owner appears to assert, but merely recites detecting such a change. Based on the record now before us, we are persuaded by Petitioner's assertion that notifying Balderrama's update/modification detector 82 of a change in data records or template presentations, *see* Ex. 1006, Fig. 3, constitutes the claimed "fourth portion."

Accordingly, for the reasons discussed, we are persuaded, on the current record, that Petitioner has shown a reasonable likelihood of prevailing on its assertion that claim 13 would have been obvious in view of Balderrama and Java Complete.

4. Dependent Claims 14–18

We also have reviewed Petitioner's contentions and supporting evidence regarding claims 14–18, and are persuaded, based on the record now before us, that Petitioner has shown a reasonable likelihood of demonstrating that the cited combination discloses all elements of these claims. *See* Pet. 42–45 (citing Ex. 1006, 1:8–14, 6:48–63, 9:13–21, 16:55–17:5, Fig. 3; Ex. 1007, 42; Ex. 1002 ¶¶ 78–82). Patent Owner, at this stage of the proceeding, has not presented separate arguments regarding whether Balderrama and Java Complete disclose the additional limitations of dependent claims 14–18. On the record now before us, we are persuaded that Petitioner has shown a reasonable likelihood of prevailing on its assertion that claims 14–18 would have been obvious in view of Balderrama and Java Complete.

5. Conclusion

For the foregoing reasons, we institute an *inter partes* review of whether claims 13–18 would have been obvious in view of Balderrama and Java Complete under 35 U.S.C. § 103(a).

G. Petitioner's Alleged Confidential Information

The parties have filed several Motions to Seal alleging that certain information provided by Petitioner in response to additional discovery requests authorized in this proceeding (*see* Paper 11) contain Petitioner's confidential information. *See* Papers 19, 27, 31, 36, 45. We will decide these Motions to Seal in due course. In the meantime, the allegedly confidential information will be maintained under seal. Additionally, this Decision, which references several documents designated as "Parties and Board Only," also will be designated as "Parties and Board Only."

III. CONCLUSION

As discussed above, we institute an *inter partes* review of claims 13–18 of the '111 patent. At this preliminary stage in the proceeding, we have not made a final determination with respect to the patentability of any challenged claim or the construction of any claim term.

IV. ORDER

Accordingly, it is

ORDERED that pursuant to 35 U.S.C. § 314(a), an *inter partes* review is hereby instituted as to claims 13–18 of the '111 patent on the following grounds:

Claims 13–18 as anticipated under 35 U.S.C. § 102(e) by Popp;

Claims 13–18 as anticipated under 35 U.S.C. § 102(b) by Kovacevic; and

Claims 13–18 as obvious under 35 U.S.C. § 103(a) in view of Balderrama and Java Complete;

FURTHER ORDERED that no other ground of unpatentability is authorized for this *inter partes* review;

FURTHER ORDERED that Patent Owner's unauthorized motion for sanctions is *denied*; and

FURTHER ORDERED that pursuant to 35 U.S.C. § 314(c) and 37 C.F.R. § 42.4, notice is hereby given of the institution of a trial; the trial will commence on the entry date of this decision.

IPR2015-01750
Patent 8,484,111 B2

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Paper No. 62
Entered: May 12, 2016
(Non-Public Version Entered: February 25, 2016)

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

RPX CORPORATION,
Petitioner,

v.

APPLICATIONS IN INTERNET TIME, LLC,
Patent Owner.

Case IPR2015-01751
Patent 7,356,482 B2

Before LYNNE E. PETTIGREW, MITCHELL G. WEATHERLY, and JENNIFER MEYER CHAGNON, *Administrative Patent Judges*.

CHAGNON, *Administrative Patent Judge*.

DECISION
Institution of *Inter Partes* Review
37 C.F.R. § 42.108

I. INTRODUCTION

RPX Corporation ("Petitioner" or "RPX") filed a Petition for *inter partes* review of claims 1, 7–21, 27–41, and 47–59 ("the challenged claims") of U.S. Patent No. 7,356,482 B2 (Ex. 1001, "the '482 patent"). Paper 1 ("Pet."). Applications In Internet Time LLC ("Patent Owner") filed a Preliminary Response (Paper 20, Paper 26 (redacted version), "Prelim. Resp."). Pursuant to our authorization (Paper 23), Petitioner filed a Reply (Paper 28, Paper 29 (redacted version), "Reply") and Patent Owner filed a Sur-Reply (Paper 38, Paper 37 (redacted version), "Sur-Reply").

We have authority to determine whether to institute *inter partes* review. *See* 35 U.S.C. § 314(b); 37 C.F.R. § 42.4(a). Upon consideration of the Petition and the Preliminary Response, as well as Petitioner's Reply and Patent Owner's Sur-Reply, and for the reasons explained below, we determine that the information presented shows a reasonable likelihood that Petitioner would prevail with respect to claims 1, 7, 8, 10–21, and 27–40. *See* 35 U.S.C. § 314(a). Accordingly, we institute trial as to claims 1, 7, 8, 10–21, and 27–40 of the '482 patent.

A. Related Proceedings

The '482 patent is the subject of the following district court proceeding: *Applications in Internet Time LLC v. Salesforce.com, Inc.*, No. 3:13-cv-00628 (D. Nev.) ("Salesforce litigation"). Pet. 3; Paper 5, 2. Petitioner concurrently seeks *inter partes* review of claims 2–6, 22–26, and 42–46 of the '482 patent in IPR2015-01752 and of claims 13–18 of related

U.S. Patent No. 8,484,111 B2 ("the '111 patent") in IPR2015-01750. Pet. 3; Paper 5, 2.

B. The '482 Patent

The '482 patent, titled "Integrated Change Management Unit," relates to an "integrated system for managing changes in regulatory and non-regulatory requirements for business activities at an industrial or commercial facility." Ex. 1001, Abstract. The integrated system described in the '482 patent manages data that is constantly changing by (1) "provid[ing] one or more databases that contain information on operations and requirements concerning an activity or area of business," (2) "monitor[ing] and evaluat[ing] the relevance of information on regulatory and non-regulatory changes that affect operations of the business and/or information management requirements," (3) "convert[ing] the relevant changes into changes in work/task lists, data entry forms, reports, data processing, analysis and presentation . . . of data processing and analysis results to selected recipients, without requiring the services of one or more programmers to re-program and/or re-code the software items affected by the change," and (4) "implement[ing] receipt of change information and dissemination of data processing and analysis results using the facilities of a network, such as the Internet." *Id.* at 8:30–46, 66–67.

Figure 1 of the '482 patent is reproduced below:

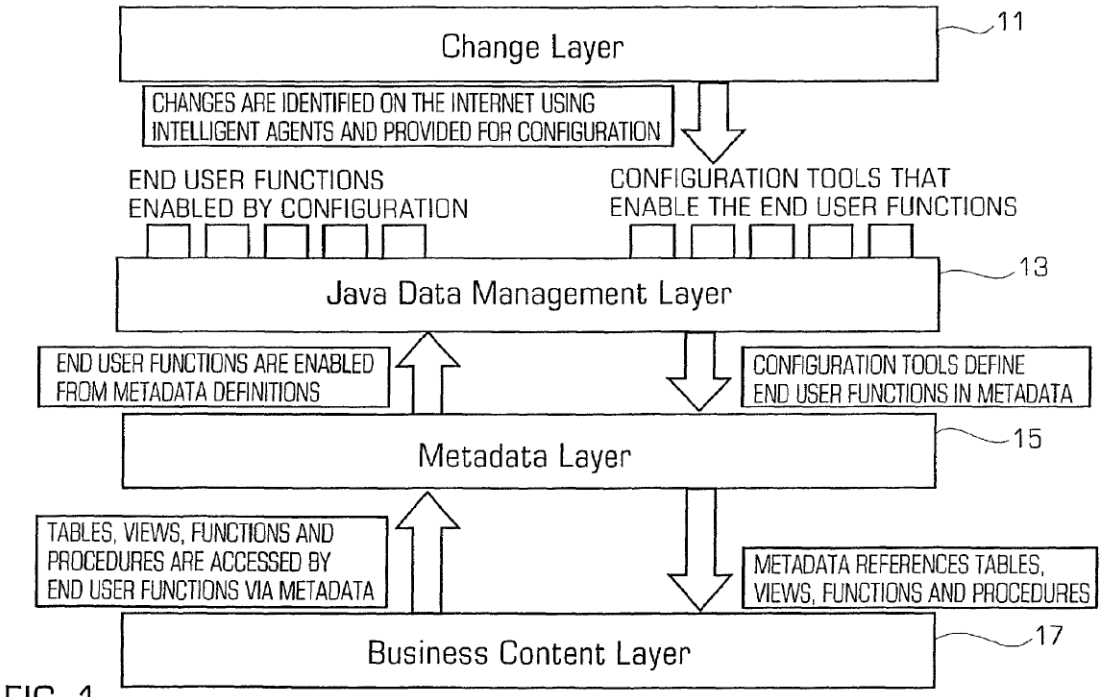

FIG. 1

As shown in Figure 1, the integrated system operates at four layers: (1) a change management layer that identifies on the Internet regulatory and non-regulatory changes that may affect a user's business, (2) a Java data management layer that generates a user interface ("UI"), (3) a metadata layer that provides data about the user interface including "tools, worklists, data entry forms, reports, documents, processes, formulas, images, tables, views, columns, and other structures and functions," and (4) a business content layer that is specific to the particular business operations of interest to the user. *Id.* at 9:33–48. According to the '482 patent, because the system of the invention is "entirely data driven," the need to write and compile new code in order to update the system is eliminated. *Id.* at 10:20, 12:42–52.

C. Illustrative Claims

Of the challenged claims, claims 1, 21, and 41 are independent. Claims 7–20 depend, directly or indirectly, from claim 1. Claims 27–40 depend, directly or indirectly, from claim 21. Claims 47–59 depend, directly or indirectly, from claim 41. Claims 1 and 41 of the '482 patent, reproduced below, are illustrative of the challenged claims.

> 1. A system for providing a dynamically generated application having one or more functions and one or more user interface elements, comprising:
>
> a server computer;
>
> one or more client computers connected to the server computer over a computer network;
>
> a first layer associated with the server computer containing information about the unique aspects of a particular application;
>
> a second layer associated with the server computer containing information about the user interface and functions common to a variety of applications, a particular application being generated based on the data in both the first and second layers;
>
> a third layer associated with the server computer that retrieves the data in the first and second layers in order to generate the functionality and user interface elements of the application; and
>
> a change management layer for automatically detecting changes that affect an application,
>
> each client computer further comprising a browser application being executed by each client computer, wherein a user interface and functionality for the particular application is

distributed to the browser application and dynamically generated when the client computer connects to the server computer.

Ex. 1001, 32:9–34.

41. A server for dynamically generating an application for one or more client computers connected to the server computer by a computer network, comprising:

a first layer associated with the server containing information about the unique aspects of a particular application;

a second layer associated with the server containing information about the user interface and functions common to a variety of applications;

a third layer that retrieves the data in the first and second layers in order to generate functionality and user interface elements of the application;

a change management layer for automatically detecting changes that affect an application;

means for dynamically generating a particular application based on the first and second layers each time a client computer connects to the server computer; and

means for distributing the user interface and functionality of the particular application to a client computer.

Id. at 34:54–35:5.

D. The Applied References and Evidence

Petitioner relies on the following evidence. Pet. 4–8, 14–60.

Reference	**Date**	**Exhibit No.**
U.S. Patent No. 6,249,291 B1 ("Popp")	June 19, 2001	Ex. 1004

Reference	Date	Exhibit No.
Srdjan Kovacevic, *Flexible, Dynamic User Interfaces for Web-Delivered Training*, in AVI '96 PROCEEDINGS OF THE WORKSHOP ON ADVANCED VISUAL INTERFACES 108–18 (1996) ("Kovacevic")	1996	Ex. 1005
U.S. Patent No. 5,806,071 ("Balderrama")	Sept. 8, 1998	Ex. 1006
Java Complete!, 42 DATAMATION MAGAZINE 5, 28–49 (March 1, 1996) ("Java Complete")	Mar. 1, 1996	Ex. 1007
E. F. Codd, *Does Your DBMS Run By the Rules?*, XIX COMPUTERWORLD 42, 49–60 (Oct. 21, 1985) ("Codd")	Oct. 21, 1985	Ex. 1108
U.S. Patent No. 5,710,900 ("Anand")	Jan. 20, 1998	Ex. 1009
Glenn E. Krasner & Stephen T. Pope, *A Description of the Model-View-Controller User Interface Paradigm in the Smalltalk-80 System*, ParcPlace Systems (1988) ("Krasner")	1988	Ex. 1010

Petitioner further relies on the Declaration of Mark E. Crovella, Ph.D. (Ex. 1002).

E. The Asserted Grounds

Petitioner sets forth its challenges to claims 1, 7–21, 27–41, and 47–59 as follows. Pet. 4–5, 14–60.

References	Basis	Claims Challenged
Popp	§ 102	1, 7–13, 18–21, 27–33, 38–41, 47–52, 57–59
Kovacevic	§ 102	1, 8, 10, 19–21, 28, 30, 39–41, 47, 49, 58, 59
Balderrama and Java Complete	§ 103	1, 7–12, 19–21, 27–32, 39–41, 47–51, 58, 59
Popp and Anand	§ 103	13–17, 33–37, 52–56

II. ANALYSIS

A. Real Parties-in-Interest

The statute governing *inter partes* review proceedings sets forth certain requirements for a petition for *inter partes* review, including that "the petition identif[y] all real parties in interest." 35 U.S.C. § 312(a); *see also* 37 C.F.R. § 42.8(b)(1) (requirement to identify real parties-in-interest ("RPIs") in mandatory notices). In accordance with 35 U.S.C. § 312(a)(2) and 37 C.F.R. § 42.8(b)(1), Petitioner identifies RPX Corporation as the "sole real party-in-interest in this proceeding." Pet. 2. In its Preliminary Response, Patent Owner raises the issue of whether Petitioner has identified all RPIs. *See* Prelim. Resp. 3–21. In particular, Patent Owner asserts that Salesforce.com, Inc. ("Salesforce") is an unnamed RPI. *Id.*

As noted above, the '482 patent has been asserted against Salesforce in a district court action. *See* Paper 5, 2. Patent Owner asserts that "[b]ecause the Salesforce Litigation is more than one year old, Salesforce is barred from filing an inter partes review under 37 C.F.R. § 42.101(b)." Prelim. Resp. 9; *see also* 35 U.S.C. § 315(b) ("An inter partes review may not be instituted if the petition requesting the proceeding is filed more than 1 year after the date on which the petitioner, real party in interest, or privy of the petitioner is served with a complaint alleging infringement of the patent."); Ex. 2003 (showing service of the complaint in the Salesforce litigation was effected on November 20, 2013 (more than one year prior to the August 17, 2015 filing date of the instant Petition)). Thus, as an initial

matter, we must determine whether Salesforce should have been identified as an RPI in this proceeding.

Whether an entity that is not named as a participant in a given proceeding constitutes an RPI is a highly fact-dependent question that takes into account how courts generally have used the terms to "describe relationships and considerations sufficient to justify applying conventional principles of estoppel and preclusion." Office Patent Trial Practice Guide, 77 Fed. Reg. 48,756, 48,759 (Aug. 14, 2012). According to the Trial Practice Guide,

> the spirit of that formulation as to IPR . . . proceedings means that, at a general level, the "real party-in-interest" is the party that desires review of the patent. Thus, the "real party-in-interest" may be the petitioner itself, and/or it may be the real party or parties at whose behest the petition has been filed.

Id. As stated in the Trial Practice Guide, there are "multiple factors relevant to the question of whether a non-party may be recognized as" an RPI. *Id.* (citing *Taylor v. Sturgell*, 533 U.S. 880, 893–895, 893 n.6 (2008)). There is no "bright line test." *Id.* Considerations may include, for example, whether a non-party exercises control over a petitioner's participation in a proceeding, or whether a non-party is funding the proceeding or directing the proceeding. *Id.* at 48,759–60.

A petition is presumed to identify accurately all RPIs. *See Zerto, Inc. v. EMC Corp.*, Case IPR2014-01295, slip op. at 6–7 (PTAB Mar. 3, 2015) (Paper 34). When a patent owner provides sufficient evidence prior to institution that reasonably brings into question the accuracy of a petitioner's identification of RPIs, the overall burden remains with the petitioner to

establish that it has complied with the statutory requirement to identify all RPIs. *Id.*

Patent Owner argues that RPX is acting as a proxy for Salesforce in filing the Petition and Salesforce should, therefore, be identified as an RPI. In this regard, Patent Owner argues that "RPX is in the business of acting as a proxy for accused infringers like Salesforce." Prelim. Resp. 7. As support for this assertion, Patent Owner quotes from portions of RPX's website and public filings. For example, Patent Owner points to a portion of RPX's website, which indicates "'RPX Corporation is the leading provider of patent risk solutions, offering defensive buying, acquisition syndication, patent intelligence, insurance services, and advisory services.'" *Id.* (quoting Ex. 2016). Patent Owner further argues that "RPX states that its interests are '100% aligned' with those of clients [redacted]," *id.* (quoting Ex. 2015); that "RPX serves as 'an extension of the client's in-house legal team,'" *id.* (quoting Ex. 2006); and that "RPX . . . act[s] as [its clients'] proxy to 'selectively clear' liability for infringement as part of RPX's 'patent risk management solutions,'" *id.* at 7–8 (quoting Ex. 2006; Ex. 2008).

We are not persuaded, however, that the evidence supports Patent Owner's argument that "Petitioner's business model is built upon petitioner acting as an agent or proxy for third parties in cases just like this." Prelim. Resp. 7. At the outset, we note that Patent Owner provides several of these quotations out-of-context and/or mischaracterizes them. Nowhere in the evidence of record does Patent Owner point to any portion of RPX's website

or public filings that expressly indicates that RPX acts as a proxy for its clients, [redacted].

Further, in response to additional discovery authorized in this proceeding (Paper 11), RPX provided declaration testimony that, contrary to Patent Owner's assertions that RPX is acting as a proxy for Salesforce,

[redacted]

Ex. 1019 ¶ 47; *see* Reply[1] 1, 6–7 (citing Ex. 1019 ¶¶ 7–13, 34–44, 47; Ex. 1024). RPX further provided declaration testimony and evidence that "RPX did not have any contractual obligation to file [this and the related] IPRs or any 'unwritten,' implicit or covert understanding with Salesforce that it would do so." Reply 5 (citing Ex. 1019 ¶ 45); *see also* Exs. 1020–1022 ([redacted], which do not include any discussion of filing petitions for *inter partes* review). We are not persuaded that the generic statements on RPX's website cited by Patent Owner prove otherwise.

Patent Owner points to other *inter partes* review proceedings in which RPX was a petitioner as evidence that "RPX has a history of acting as a

[1] The Reply does not include page numbers. We cite to the Reply counting the page starting with the "Introduction" section as page 1.

proxy." Prelim. Resp. 9–10; *see RPX Corp. v. VirnetX, Inc.*, Case IPR2014-00171 (and six other related proceedings); *RPX Corp. v. ParkerVision*, Case IPR2014-00946 (and two other related proceedings). These cases are distinguishable from the present case. In *RPX Corp. v. VirnetX, Inc.*, the Board found that Apple (the alleged unnamed RPI) had both suggested that RPX challenge the specific patents, as well as paid for it to do so. Case IPR2014-00171, slip op. at 4, 7 (PTAB June 5, 2014) (Paper 49). Additionally, the petitions included grounds that were "substantially identical" to those in Apple's time-barred petition. *Id.* at 5–6. In *RPX Corp. v. ParkerVision*, contrary to Patent Owner's assertion, the Board did not find that RPX acted as a proxy for any unnamed RPI. Rather, although the Board authorized additional discovery on this issue, Case IPR2014-00946 (Paper 25), no additional briefing on the issue of RPI was ever submitted.

Patent Owner's argument questioning RPX's motives for challenging only two of three of Patent Owner's patents (i.e., only the two asserted in the Salesforce litigation) also is unpersuasive. *See* Sur-Reply 4–5. RPX addresses this third patent (U.S. Patent No. 6,341,287 ("the '287 patent"), which is the ultimate parent of both the '111 patent and the '482 patent) in the Petition, stating that "[t]he parent '287 patent issued with a single claim, which is much narrower than the '482 patent claims and is tied to the issues of regulatory compliance as described in the specification." Pet. 8–9 (citing Ex. 1013, 32:9–34:8). We are not persuaded, based on the facts now before us, that RPX's decision to challenge only certain of Patent Owner's patents

is evidence sufficient to show that RPX is acting as a proxy on behalf of Salesforce in this IPR proceeding.

Patent Owner further argues that RPX has "adopted a 'willful blindness' strategy" and that "it intentionally operates its business to circumvent the PTAB's RPI case law." Prelim. Resp. 9–11 (citing e.g., Ex. 2018). We are not persuaded that the evidence of record supports this assertion. Further, RPX has provided declaration testimony that explains RPX's "best practices" for identifying RPIs that contradicts Patent Owner's assertion. Ex. 1019 ¶¶ 14–19; Reply 6–8.

As additional evidence that Salesforce should be named an RPI in this proceeding, Patent Owner argues that [redacted] Because we find Patent

Owner's argument to be based on conjecture without evidentiary support, we are not persuaded that Salesforce is funding this proceeding.

Patent Owner further argues that Mr. Sanford Robinson, who is on the Board of Directors of both RPX and Salesforce, "has the opportunity to exert significant but hidden control over this proceeding." Prelim. Resp. 13. There is no evidence in the record, however, that Mr. Robinson has exerted any such control. The fact that "RPX produced nothing," *id.* at 14, in response to a production request to produce "[d]ocuments sufficient to show how [he] separates his fiduciary duties to RPX and Salesforce despite serving simultaneously as a Board Member of RPX and as a Board Member of Salesforce," Ex. 2001, is not dispositive. *See* Paper 11. In response to the discovery requests, RPX provided declaration testimony that Mr. Robinson was not involved in the decision to file the instant Petition. Reply 11–12 (citing Ex. 1019 ¶¶ 51–52). An overlapping Board member alone, without evidence of his involvement, is not sufficient to demonstrate an unnamed entity had control over or was involved in an IPR. *See Butamax Advanced Biofuels LLC v. Gevo, Inc.*, Case IPR2013-00214, slip op. at 4 (PTAB Sept. 30, 2013) (Paper 11).

Patent Owner further provides [redacted]

[redacted]

RPX, however, provides declaration testimony expressly stating that:

> RPX had no communication with Salesforce whatsoever regarding the filing of IPR petitions against [Patent Owner's] patents before [this and the related] IPRs were filed. Salesforce did not request that RPX file [this and the related] IPRs, was not consulted about the decision by RPX to file the IPRs, and did not communicate with RPX about the searching for or selection of prior art asserted in [this and the related] IPRs, or any other aspect of the IPRs.

Ex. 1019 ¶ 20; *see* Reply 1–2. [redacted]

To summarize, Patent Owner argues that, because [redacted] because the '482 patent has been asserted against Salesforce, and because Salesforce is time-barred under 35 U.S.C. § 315(b) from challenging the '482 patent, RPX must have filed the instant Petition as a proxy for Salesforce, and, thus, Salesforce must be an RPI in this proceeding. However, as discussed above, Patent Owner has not provided persuasive evidence to support this assertion. Accordingly, based on the evidence currently before us, we are not persuaded that Salesforce should

have been identified as an RPI in this proceeding.[2] We now turn to the substantive issues presented in the Petition.

B. Claim Construction

In an *inter partes* review, claim terms in an unexpired patent are given their broadest reasonable construction in light of the specification of the patent in which they appear. *See* 37 C.F.R. § 42.100(b); *In re Cuozzo Speed Techs., LLC*, 793 F.3d 1268, 1275–79 (Fed. Cir. 2015), *cert. granted sub nom. Cuozzo Speed Techs., LLC v. Lee*, 84 U.S.L.W. 3218 (Jan. 15, 2016) (No. 15-446). Under the broadest reasonable construction standard, claim terms generally are given their ordinary and customary meaning, as would be understood by one of ordinary skill in the art in the context of the entire disclosure. *See In re Translogic Tech., Inc.*, 504 F.3d 1249, 1257 (Fed. Cir. 2007). The claims, however, "'should always be read in light of the specification and teachings in the underlying patent,'" and "[e]ven under the broadest reasonable interpretation, the Board's construction 'cannot be divorced from the specification and the record evidence.'" *Microsoft Corp. v. Proxyconn, Inc.*, 789 F.3d 1292, 1298 (Fed. Cir. 2015) (citations omitted).

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[2] In its Preliminary Response, Patent Owner also requests we impose sanctions on Petitioner for "misrepresentation of a fact," 37 C.F.R. § 42.12(a)(3), or for "abuse of process," 37 C.F.R. § 42.12(a)(6). *See* Prelim. Resp. 37–38. A motion for sanctions based on alleged misconduct may not be filed without prior Board authorization. *See* 37 C.F.R. § 42.20(b). Patent Owner improperly has embedded such a motion for sanctions within its Preliminary Response, without our authorization. Because we are not, at this juncture, persuaded by Patent Owner's arguments on the issue of RPI, rather than expunge the Preliminary Response, we deny Patent Owner's unauthorized motion for sanctions.

1. Means-plus-function terms

Claims 9, 41, and 48 include limitations that Petitioner identifies as means-plus-function limitations under 35 U.S.C. § 112, ¶ 6.[3] Pet. 11–12, 13. In particular, Petitioner identifies the "means for automatically modifying the first and second layers . . ." limitation recited in claims 9 and 48, and the "means for dynamically generating a particular application . . ." limitation recited in claim 41. *Id.* at 11, 13. We note that claim 41 includes an additional limitation written in means-plus-function format, namely the "means for distributing the user interface and functionality . . ." limitation.

We agree that the limitations identified are written in means-plus-function format and are governed by 35 U.S.C. § 112, ¶ 6, because they all use the phrase "means for" modified by functional language without being modified by any structure to perform the claimed function. *See Williamson v. Citrix Online, LLC*, 792 F.3d 1339, 1347–48 (Fed. Cir. 2015). The scope of these limitations is, thus, defined by the structure disclosed in the specification plus any equivalents of that structure. *Aristocrat Techs. v. Int'l Game Tech.*, 521 F.3d 1328, 1331 (Fed. Cir. 2008). The "specification must contain sufficient descriptive text by which a person of skill in the field of the invention would 'know and understand what structure corresponds to the means limitation.'" *Typhoon Touch Techs., Inc. v. Dell, Inc.*, 659 F.3d 1376, 1383–84 (Fed. Cir. 2011) (quoting *Finisar Corp. v. DirecTV Grp.*, 523 F.3d

[3] Section 4(c) of the AIA re-designated 35 U.S.C. § 112, ¶¶ 2 and 6 as 35 U.S.C. §§ 112(b) and (f). Because the '482 patent has a filing date before September 16, 2012 (effective date), we will refer to the pre-AIA version of 35 U.S.C. § 112.

1323, 1340 (Fed. Cir. 2008)). Except for a narrow exception concerning functions that are "coextensive" with a microprocessor itself, such as "processing" data, "receiving" data, and "storing" data, a computer-implemented means-plus-function element is indefinite, under § 112, ¶ 2, unless the specification discloses the specific algorithm used by the computer to perform the recited function. *EON Corp. IP Holdings LLC v. AT&T Mobility LLC*, 785 F.3d 616, 621 (Fed. Cir. 2015) (quoting *In re Katz Interactive Call Processing Patent Litigation*, 639 F.3d 1303, 1316 (Fed. Cir. 2011)).

For each of the means-plus-function limitations, Petitioner asserts that "for purposes of this Petition, the claimed means is interpreted as covering 'a server/client system that [performs the claimed function].'" Pet. 12, 14. We are not persuaded that Petitioner has shown that the specification of the '482 patent describes an algorithm adequate to provide structure to the corresponding function of the means-plus-function limitations of claims 9, 41, and 48. In fact, Petitioner expressly states in its Petition, "[t]he claimed function . . . is not explicitly mentioned in the specification, and the specification does not clearly link any structure to this function." Pet. 11 (citing Ex. 1002 ¶ 50); *see id.* at 13–14 (citing Ex. 1002 ¶ 86). Although Petitioner points to the generically-described "server/client system" described in the specification of the '482 patent as the corresponding structure, Petitioner also states that "there is no algorithm disclosed for programming this general-purpose hardware to the perform the recited function." *Id.* at 12 (citing Ex. 1001, 29:34–49; Ex. 1002 ¶ 50); *see id.* at

13–14. Patent Owner also fails to identify any algorithms described in the specification for performing the recited functions. *See* Prelim. Resp. 23–28 (addressing claim interpretation without addressing means-plus-function limitations). We determine, therefore, that the specification of the '482 patent simply does not "disclose the algorithm for performing the function," as required by our reviewing court, "[w]hen dealing with a 'special purpose computer-implemented means-plus-function limitation.'" *Function Media, L.L.C. v. Google, Inc.*, 708 F.3d 1310, 1318 (Fed. Cir. 2013).

Accordingly, for the reasons discussed, we are unable to construe the means-plus-function limitations of claims 9, 41, and 48.

2. Other claim terms

The parties propose construction for several other claim terms. *See* Pet. 9–13; Prelim. Resp. 23–28. Upon review of the parties' contentions and supporting evidence, we determine no issue in this Decision requires express construction of any other claim term. *See, e.g., Wellman, Inc. v. Eastman Chem. Co.*, 642 F.3d 1355, 1361 (Fed. Cir. 2011) ("[C]laim terms need only be construed 'to the extent necessary to resolve the controversy.'") (quoting *Vivid Techs., Inc. v. Am. Sci. & Eng'g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999)). Accordingly, for purposes of this Decision, we do not provide any express claim construction.

C. Principles of Law

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. *See Net MoneyIN, Inc. v. VeriSign, Inc.*, 545 F.3d 1359, 1369 (Fed. Cir.

2008); *Karsten Mfg. Corp. v. Cleveland Golf Co.*, 242 F.3d 1376, 1383 (Fed. Cir. 2001). 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); *accord In re Bond*, 910 F.2d 831, 832 (Fed. Cir. 1990).

A claim is unpatentable under 35 U.S.C. § 103(a) if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. *See KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007). The question of obviousness is resolved on the basis of underlying factual determinations including: (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; (3) the level of ordinary skill in the art; and (4) objective evidence of nonobviousness. *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).

In that regard, an obviousness analysis "need not seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ." *KSR*, 550 U.S. at 418; *accord In re Translogic Tech., Inc.*, 504 F.3d at 1259. The level of ordinary skill in the art may be reflected by the prior art of record. *See Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001); *In re GPAC Inc.*, 57 F.3d 1573, 1579 (Fed. Cir. 1995); *In re Oelrich*, 579 F.2d 86, 91 (CCPA 1978).

We analyze the asserted grounds of unpatentability in accordance with these principles.

D. Claims 9, 41, and 47–59

Claims 9, 41, and 48 each recite limitations written in a means-plus-function format, and claims 47 and 49–59 depend ultimately from claim 41.[4] As discussed in the claim construction section above, we are not persuaded that Petitioner has pointed out adequate structure corresponding to these limitations in each of claims 9, 41, and 47–59. Because of this deficiency, Petitioner has not provided sufficient information for a determination of the scope of these claims, and we cannot conduct the necessary factual inquiry for determining anticipation or obviousness of these claims. *See In re Aoyama*, 656 F.3d 1293, 1298 (Fed. Cir. 2011) (quoting *Enzo Biochem, Inc. v. Applera Corp.*, 599 F.3d 1325, 1332 (Fed. Cir. 2010)) ("[A] claim cannot be both indefinite and anticipated."); *In re Steele*, 305 F.2d 859, 862–63 (CCPA 1962) (reversing the Board's decision of obviousness because it relied on "what at best are speculative assumptions as to the meaning of the claims"). We are unable to conclude, therefore, that there is a reasonable likelihood that Petitioner would prevail in its challenges to claims 9, 41, and 47–59. We now turn to Petitioner's challenges to claims 1, 7, 8, 10–21, and 27–40.

E. Asserted Grounds Based on Popp

Petitioner asserts that claims 1, 7, 8, 10–13, 18–21, 27–33, and 38–40 are unpatentable under 35 U.S.C. § 102(e) as anticipated by Popp. Pet. 16–

[4] Claim 48 also depends ultimately from claim 41.

28. Petitioner further asserts that claims 13–17 and 33–37 are unpatentable under 35 U.S.C. § 103(a) as obvious in view of Popp and Anand. Pet. 57–60. Patent Owner argues that Popp does not disclose all elements of the independent claims. Prelim. Resp. 30–32. We have reviewed the parties' contentions and supporting evidence. Given the evidence on this record, and for the reasons explained below, we determine that the information presented shows a reasonable likelihood that Petitioner would prevail on these asserted grounds.

1. Summary of Popp

Popp relates to an "object-oriented approach [that] provides the ability to develop and manage Internet transactions." Ex. 1004, Abstract. According to Popp, "[l]ocal applications can be accessed using any workstation connected to the Internet regardless of the workstation's configuration." *Id.* Popp describes that "[o]nce [a] connection is established, the present invention is used with an application on the server side of the connection to dynamically generate Web pages [that] contain application information and provide the ability for the user to specify input." *Id.* at 3:55–59. Web pages can be generated in response to the user input. *Id.* at 3:61–63.

Figure 2 of Popp is reproduced below:

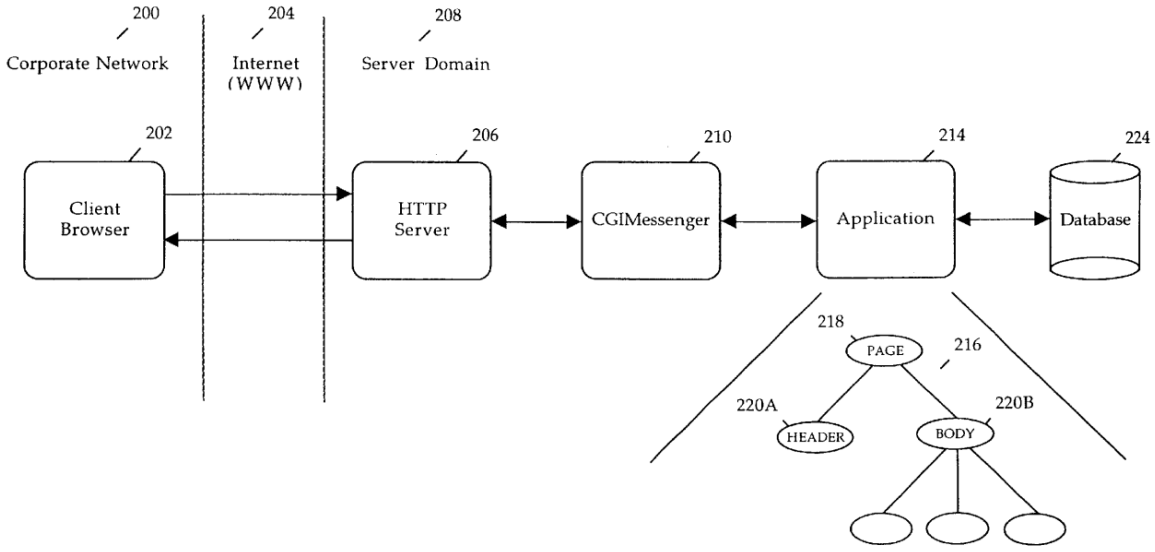

Figure 2

As seen in Figure 2 of Popp, Client Browser 202 is connected via Internet 204 to Server Domain 208, which includes among other things Application 214 and Database 224. Ex. 1004, 6:40–7:23, 7:31–34. Application 214 includes objects 216 that correspond to the HTML elements that define a Web page and are arranged in a tree structure that corresponds to the hierarchical structure of the HTML elements that they implement. *Id.* at 12:21–26. The self-contained modules, or components, may be shared by one or more Web pages in a single application and/or across multiple applications executing on a server. *Id.* at 4:27–33, 4:41–43, 17:54–18:32.

A scriptedControl object controls generation of a Web page. *Id.* at 18:62–19:19, Fig. 6A. Further, an inputControl object handles pushing and pulling data to/from the Web page and the external data source (e.g.,

database 224). *Id.* at 21:61–22:67, Fig. 6B. The inputControl object determines, for example, when a database entry should be updated based on information input to the Web page and sends an appropriate message to update the database. *Id.* at 21:37–49.

2. Independent Claims 1 and 21

Claim 1 recites a "system for providing a dynamically generated application having one or more functions and one or more user interface elements" including a server computer; client computers connected to the server over a network; first, second, and third layers "associated with the server computer;" and a "change management layer." Petitioner asserts that "Popp discloses a client-server system for generating Web pages that provide a dynamic UI for a database application that can respond to user input." Pet. 16 (citing Ex. 1004, 3:61–65, 8:24–26; Ex. 1002 ¶¶ 29–35); *see id.* at 19–20 (citing Ex. 1004, 3:55–59, 7:45–49, Fig. 2). According to Petitioner, Server Domain 208 of Popp corresponds to the claimed server, database 224 corresponds to the claimed first layer, objects 216 correspond to the claimed second layer, scriptedControl object 602 (which is part of internal application 214) corresponds to the claimed third layer, and inputControl object 664 corresponds to the claimed change management layer. *Id.* at 20–21; *see id.* at 17–19 (citing Ex. 1004, 8:49–55, 18:62–65, 19:1–12, Fig. 2; Ex. 1002 ¶¶ 36–37, 39–40). Popp further discloses that "Database 224 can be resident on the same server as application 214," which also includes objects 216 and inputControl object 664. Ex. 1004, 7:28–33, 7:52–58, 12:21–32; *see* Pet. 18, 20–21. Thus, according to Petitioner, Popp

discloses all four claimed "layers," the first, second, and third being associated with the server.

Regarding the claimed "first layer . . . containing information about the unique aspects of a particular application," Petitioner relies on Popp's "Web pages that provide a dynamic UI for a database application that can respond to user input," as disclosing the "particular application" of the claim. Pet. 16 (citing Ex. 1002 ¶ 31). According to Petitioner, Popp discloses that database 224 (first layer) "contain[s] information about the unique aspects of a particular Web page (application), e.g., for an Automobile Shopper's application that can be used by a prospective car buyer to select a car." *Id.* at 20 (citing Ex. 1004, 9:4–10, 9:56–61); *see* Ex. 1002 ¶ 36.

The claim further recites a "second layer . . . containing information about the user interface and functions common to a variety of applications." Petitioner describes the following as disclosing this claim feature:

> Web page objects 216 [of Popp] correspond to HTML elements that define a web page and include component sub-trees representing UI portions (e.g., text boxes, check boxes, radio buttons) that can be shared across Web pages, and thus contain information about UI and functions common to a variety of applications.

Pet. 17 (citing Ex. 1002 ¶ 37); *see id.* at 20–21 (citing Ex. 1004, 2:33–41, 4:26–33, 4:41–43, 11:37–44, 12:21, 17:54–55, 18:32–34, Fig. 2).

Regarding the claimed "third layer . . . that retrieves the data in the first and second layers in order to generate the functionality and user interface elements of the application," Petitioner points to scriptedControl

Object 602, which Popp uses "to generate and manage a Web page," as disclosing this claim feature. Pet. 18 (citing Ex. 1004, 18:62–65, 19:1–2; Ex. 1002 ¶ 39); *see id.* at 21 (citing Ex. 1004, 8:49–55, 18:65–67, 19:29–38, Figs. 6A, 6B). According to Petitioner, the "scriptedControl object 602 retrieves application-specific data from the database (first layer) and combines it with the object tree (second layer) in order to generate the functionality and UI elements of the Web page (application)," thus disclosing the claim limitation that "a particular application [is] generated based on the data in both the first and second layers." *Id.* at 18 (citing Ex. 1004, Fig. 6B; Ex. 1002 ¶¶ 38–39); *see id.* at 21 (citing Ex. 1004, 19:18–19, 19:35–38).

Petitioner further points to the fact that Popp's "Web page can include a Java applet that, when downloaded and processed by a Java-enabled browser . . . , dynamically generates and presents the UI and functionality to the user," as disclosing that the "user interface and functionality for the particular application is distributed to the browser application and dynamically generated when the client computer connects to the server computer," as claimed. Pet. 17 (citing Ex. 1002 ¶¶ 41–44); *see id.* at 22 (citing Ex. 1004, 3:55–63, 31:44–49).

Finally, regarding the claimed "change management layer for automatically detecting changes that affect an application," Petitioner relies on Popp's inputControl object 664. Pet. 18 (citing Ex. 1002 ¶ 40). According to Petitioner, inputControl object 664 is responsible for responding to user input received from the web page UI, such as a

modification of a field in a Web page form. *Id.* (citing Ex. 1004, 22:28–48; Ex. 1002 ¶ 40); *see id.* at 21; Ex. 1004, Fig. 6B. Petitioner asserts that "[i]n response to a change detected by inputControl object 664, Popp's server application 214 modifies the Web page objects (second layer) by storing the user input in a context object, and updates the database (first layer) with the changed data." *Id.* at 19 (citing Ex. 22:28–62; Ex. 1002 ¶ 49). Petitioner further asserts that "[i]nputControl object 664 automatically detects when a user inputs a change that affects a Web page, such as modifying field 632 within page 622 to specify a new name." *Id.* (citing Ex. 1004, 22:37–42).

Patent Owner argues that Popp does not disclose the "change management layer" recited in claim 1. Prelim. Resp. 30–31. In particular, Patent Owner argues that "Popp does not disclose . . . automatically detect[ing] changes *external* to an application program which impact how the application program *should* operate," and argues that instead Popp discloses "automatically detect[ing] changes from [an application's] *own operation*." *Id.* at 30–31. The language of claim 1, however, is broad and requires only that the change management layer "automatically detect[ ] changes that affect an application." Ex. 1001, 32:27–28. On the record now before us, we are persuaded by Petitioner's assertion that automatically detecting a change that affects information stored in the database (e.g., an employee name stored in a database), from which the Web page (i.e., the claimed application) is generated, is sufficient to disclose detecting of a change to information about the application, as claimed. *See, e.g.*, Ex. 1001, 12:17–28 (describing the business content layer (i.e., "first layer") as a

database that may include data associated with a selected area of business, such as finance or human resources).

Accordingly, for the reasons discussed, we are persuaded, on the current record, that Petitioner has shown a reasonable likelihood of prevailing on its assertion that claim 1 is anticipated by Popp. Independent claim 21 recites a "method for dynamically generating an application" that includes limitations similar in scope to the system limitations discussed with respect to claim 1. *See* Ex. 1001, 33:34–58. In discussing this claim, Petitioner and Patent Owner each refers back to its arguments with respect to claim 1. *See* Pet. 26–27 (citing Ex. 1002 ¶¶ 44, 67; Ex. 1007, 42); Prelim. Resp. 31–32. For the same reasons discussed with respect to claim 1, we also are persuaded, on the current record, that Petitioner has shown a reasonable likelihood of prevailing on its assertion that claim 21 is anticipated by Popp.

3. Dependent Claims 7, 8, 10–13, 18–20, 27–33, and 38–40

We also have reviewed Petitioner's contentions and supporting evidence regarding claims 7, 8, 10–13, 18–20, 27–33, and 38–40, and are persuaded, based on the record now before us, that Petitioner has shown a reasonable likelihood of demonstrating that Popp discloses all elements of these claims. *See* Pet. 22–28 (citing Ex. 1004, 7:28–30, 7:32–35, 7:62–8:2, 8:32–42, 9:13–26, 9:64–65, 19:39–47, 19:50–53, 19:61–20:8, 21:7–15, 22:15–62, Fig. 2, 3B, 6B; Ex. 1007, 42; Ex. 1002 ¶¶ 46–57). Patent Owner, at this stage of the proceeding, has not presented separate arguments regarding whether Popp discloses the additional limitations of dependent

claims 7, 8, 10–13, 18–20, 27–33, and 38–40. On the record now before us, we are persuaded that Petitioner has shown a reasonable likelihood of prevailing on its assertion that claims 7, 8, 10–13, 18–20, 27–33, and 38–40 are anticipated by Popp.

4. Dependent Claims 13–17 and 33–37

As discussed above, we are persuaded on the record currently before us that Petitioner has shown a reasonable likelihood of demonstrating Popp discloses all features of independent claims 1 and 21. As characterized by Petitioner, dependent claims 13–17 and 33–37 "recite a number of specific items that can be built in relation to an application and/or its UI." Pet. 57. For example, claim 13 recites "a report builder for building a report for a particular application," claim 15 recites "a document builder for mapping a document onto the first layer," and claim 16 recites "a formula builder for generating formulas." *See* Ex. 1001, 33:12–25, 34:34–45. Petitioner relies on Anand as disclosing each of these items. *Id.* at 57–60.

Anand relates to a graphical user interface (GUI) system for generating reports from a computer database. Ex. 1009, Abstract, 1:4–7. We have reviewed Petitioner's mapping of Anand to each of claims 13–17 and 33–37, and are persuaded, based on the record now before us, that Petitioner has shown a reasonable likelihood of demonstrating that Anand discloses all the additional limitations recited in these claims. Pet. 57–60 (citing Ex. 1009, 4:21–28, 4:53–56, 4:64–65, 5:48–62, 7:47–48, 9:33–38, 9:48–50, 11:13–18, 11:56–65, 17:58–65; Ex. 1008, 54; Ex. 1002 ¶¶ 263–68). Further, Petitioner asserts that "[i]t would have been obvious to a

[person of ordinary skill in the art] to utilize Popp's system to generate the UI for Anand's report system, for the benefit of leveraging the efficiency of Popp's sharable components for developing the functionality of Anand's UI application." *Id.* at 58 (citing Ex. 1004, 3:23–31; Ex. 1002 ¶ 261); *see* Ex. 1004, 3:61–65, 7:24–35; Ex. 1002 ¶ 262.

Patent Owner, at this stage of the proceeding, has not presented separate arguments regarding whether Anand discloses the additional limitations of dependent claims 13–17 and 33–37, or with respect to Petitioner's proposed combination of references. On the record now before us, we are persuaded that Petitioner has shown a reasonable likelihood of prevailing on its assertion that claims 13–17 and 33–37 would have been obvious in view of Popp and Anand.

5. Conclusion

For the foregoing reasons, we institute an *inter partes* review of whether Popp anticipates claims 1, 7, 8, 10–13, 18–21, 27–33, and 38–40 under 35 U.S.C. § 102(e), and of whether Popp and Anand render obvious claims 13–17 and 33–37 under 35 U.S.C. § 103(a).

F. Asserted Anticipation by Kovacevic

Petitioner asserts that claims 1, 8, 10, 19–21, 28, 30, 39, and 40 are unpatentable under 35 U.S.C. § 102(b) as anticipated by Kovacevic. Pet. 31–39. Patent Owner argues that Kovacevic does not disclose all elements of the independent claims. Prelim. Resp. 32–34. We have reviewed the parties' contentions and supporting evidence. Given the evidence on this record, and for the reasons explained below, we determine

that the information presented shows a reasonable likelihood that Petitioner would prevail on this asserted ground.

1. Summary of Kovacevic

Kovacevic relates to a system called MUSE that uses a model-based technology to implement an intelligent tutoring system having a flexible user interface. Ex. 1005, Abstract. The system described in Kovacevic includes an application-specific library, which "contains procedural code implementing the functional core of applications whose UIs are to be generated," and an interaction-specific library, which "contains a library of communications primitives—interaction techniques and presentation objects—to be used when assembling UI structures." Ex. 1005, 117. The MUSE program uses these libraries to build and generate a user interface. *Id.* As further discussed in Kovacevic, the libraries, and if desired the entire MUSE program, could be transported over a browser using Java. *Id.* Kovacevic also discusses a sequencing control primitive that monitors and updates the system when something affecting information-flow-control primitives occurs. *Id.* at 114.

2. Independent Claims 1 and 21

Claim 1 recites a "system for providing a dynamically generated application having one or more functions and one or more user interface elements" including a server computer; client computers connected to the server over a network; first, second, and third layers "associated with the server computer;" and a "change management layer." Petitioner asserts that "Kovacevic discloses a client-server system called MUSE for generating UIs

for tutoring applications." Pet. 31 (citing Ex. 1005, 108 (col. 2 ¶ 2); Ex. 1002 ¶¶ 101–03). According to Petitioner, the SLOOP Server of Kovacevic corresponds to the claimed server, the application-specific library corresponds to the claimed first layer, the interaction-specific library corresponds to the claimed second layer, the main MUSE program corresponds to the claimed third layer, and the sequencing control primitives correspond to the claimed change management layer. *Id.* at 34–36 (citing Ex. 1005, 114 (col. 2 ¶ 6), 117 (col. 1 ¶¶ 4, 5), Fig. 1); *see id.* at 31–33 (citing Ex. 1005, 115 (col. 2), 117 (col. 1 ¶ 4, col. 2 ¶ 7); Ex. 1002 ¶¶ 104–108). The first, second, and third layers are "associated with the server" because each is downloaded therefrom. *See id.* at 32 (citing Ex. 1005, 117 (col. 2 ¶ 7); Ex. 1002 ¶¶ 104, 105, 107).

Regarding the claimed "first layer . . . containing information about the unique aspects of a particular application," Petitioner describes that a "tutoring course generated with a particular UI is a particular 'application' as recited in the claims." Pet. 31 (citing Ex. 1002 ¶¶ 101, 104). According to Petitioner, Kovacevic discloses that a "particular tutoring course is represented by an application-specific model with software primitives provided in an application-specific library." *Id.* (citing Ex. 1005, 117 (col. 1 ¶ 4, col. 2 ¶ 7); Ex. 1002 ¶ 104); *see* Pet. 34.

The claim further recites a "second layer . . . containing information about the user interface and functions common to a variety of applications." Petitioner relies on an interaction-specific library in Kovacevic as disclosing this claim feature. Pet. 31–32, 35. According to Petitioner, the interaction-

specific library includes UI primitives and the library is sharable among multiple applications. *Id.* at 31–32 (citing Ex. 1005, 111 (col. 2 ¶ 1); Ex. 1002 ¶¶ 99, 105–06); *see id.* at 35 (citing Ex. 1005, 113 (col. 2 ¶ 2), 114 (col. 1 ¶ 2), 117 (col. 1 ¶ 5, col. 2 ¶ 7)).

Regarding the claimed "third layer . . . that retrieves the data in the first and second layers in order to generate the functionality and user interface elements of the application," Petitioner points to the "main program" of Kovacevic as disclosing this claim feature. Pet. 32, 35. According to Petitioner, Kovacevic's main program "generates the tutoring application (including the functionality and the UI of the tutoring course) using the primitives in the application-specific library (first layer) and the application-independent interaction-specific library (second layer)." *Id.* at 32 (citing Ex. 1005, 117 (col. 1 ¶ 4, col. 2 ¶ 7); Ex. 1002 ¶ 107); *see id.* at 35 (citing Ex. 1005, 117 (col. 1 ¶ 4, col. 2 ¶ 7)). According to Petitioner, this generation of the tutoring application "is done by mapping application model primitives provided in the application-specific library (first layer) onto UI primitives including the communication primitives in the interaction-specific library (second layer) to construct a fully specified UI," thus disclosing the claim limitation that "a particular application [is] generated based on the data in both the first and second layers." *Id.* at 32 (citing Ex. 1002 ¶ 106); *see id.* at 35 (citing Ex. 1005, 115 (col. 1 ¶ 2), 116 (col. 1 ¶ 6), Figs 5, 6, 8).

Petitioner further argues that, in Kovacevic, the "UI and functionality of the tutoring application are distributed to the client computer's browser

and dynamically generated when the client connects to the server," thus disclosing the limitation that the "user interface and functionality for the particular application is distributed to the browser application and dynamically generated when the client computer connects to the server computer," as claimed. Pet. 31 (citing Ex. 1002 ¶¶ 109–111); *see id.* at 33 (citing Ex. 1005, 110 (col. 1 ¶ 6), 112 (col. 2 ¶ 5); Ex. 1002 ¶ 126), 36 (citing Ex. 1005, 108 (col. 1 ¶ 4, col. 2 ¶ 2), 109 (col. 1 ¶ 3, ¶ 5, col. 2 ¶ 4), 117 (col. 2 ¶ 7)).

Finally, regarding the claimed "change management layer for automatically detecting changes that affect an application," Petitioner relies on Kovacevic's sequencing control primitives. Pet. 32–33. Kovacevic describes that the "sequencing control primitives automatically detect changes that affect the information-flow-control primitives in an application." *Id.* at 32 (citing Ex. 1005, 114 (col. 2 ¶ 6); Ex. 1002 ¶ 108). According to Petitioner, "[c]hanges such as user input via the UI or selection of UI elements affect the application, e.g., by causing certain UI elements to be enabled or disabled," and the sequencing control primitives of Kovacevic monitor for such user input to enable appropriate enable/disable response of the UI element when a user selection is made. *Id.* at 32–33 (citing Ex. 1005, 115 (col. 2); Ex. 1002 ¶ 108); *see id.* at 36 (citing Ex. 1005, 114 (col. 2 ¶ 6)).

Patent Owner argues that Kovacevic does not disclose the "change management layer" recited in claim 1. Prelim. Resp. 32–34. In particular, Patent Owner argues that, "[w]hile Kovacevic describes making the website changeable, Kovacevic has no disclosure relevant to detecting changes that

impact how the website should function or look." *Id.* at 33. Patent Owner also argues that Kovacevic does not disclose the claimed "change management layer," because Kovacevic's sequencing control element is part of its controller, which Petitioner asserts to be the claimed third layer. *Id.* at 33–34.

As discussed above (*see supra* Section II.E.2.), however, the language of claim 1 is quite broad and requires only that the change management layer "automatically detect[ ] changes that affect an application." Ex. 1001, 32:27–28. Petitioner relies on the UI primitives in the interaction-specific library of Kovacevic as disclosing the claimed second layer. Based on the record currently before us, we find persuasive Petitioner's assertion that detecting user input (a change) that affects whether certain UI elements are enabled or disabled (i.e., information regarding the UI primitives in the second layer) is sufficient to disclose the change management layer's claimed function of detecting changes that affect the application (i.e., the tutoring program generated using the UI primitives). Further, the claimed "third layer" and "change management layer" need not be described as separate components in the prior art to meet the limitations recited in the claim.

Accordingly, for the reasons discussed, we are persuaded, on the current record, that Petitioner has shown a reasonable likelihood of prevailing on its assertion that claim 1 is anticipated by Kovacevic. In discussing independent claim 21—a method claim, which includes limitations similar in scope to the system limitations discussed with respect

to claim 1—Petitioner and Patent Owner each refers back to its arguments with respect to claim 1. *See* Pet. 38–39 (citing Ex. 1005, 110 (col. 1 ¶ 6), 112 (col. 2 ¶ 5); Ex. 1002 ¶ 126); Prelim. Resp. 34. For the same reasons discussed with respect to claim 1, we also are persuaded, on the current record, that Petitioner has shown a reasonable likelihood of prevailing on its assertion that claim 21 is anticipated by Kovacevic.

3. Dependent Claims 8, 10, 19, 20, 28, 30, 39, and 40

We also have reviewed Petitioner's contentions and supporting evidence regarding claims 8, 10, 19, 20, 28, 30, 39, and 40, and are persuaded, based on the record now before us, that Petitioner has a reasonable likelihood of showing that Kovacevic discloses all elements of these claims. *See* Pet. 36–39 (citing Ex. 1005, 108 (col. 2 ¶ 2), 110 (col. 2 ¶ 3), 117 (col. 2 ¶ 7), Figs. 1, 2; Ex. 1002 ¶¶ 112–16). Patent Owner, at this stage of the proceeding, has not presented separate arguments regarding whether Kovacevic discloses the additional limitations of dependent claims 8, 10, 19, 20, 28, 30, 39, and 40. On the record now before us, we are persuaded that Petitioner has shown a reasonable likelihood of prevailing on its assertion that claims 8, 10, 19, 20, 28, 30, 39, and 40 are anticipated by Kovacevic.

4. Conclusion

For the foregoing reasons, we institute an *inter partes* review of whether Kovacevic anticipates claims 1, 8, 10, 19–21, 28, 30, 39, and 40 under 35 U.S.C. § 102(b).

G. Asserted Obviousness in view of Balderrama and Java Complete

Petitioner asserts that claims 1, 7, 8, 10–12, 19–21, 27–32, 39, and 40 are unpatentable under 35 U.S.C. § 103(a) as obvious in view of Balderrama and Java Complete. Pet. 41–53. Patent Owner argues that the cited combination does not teach all elements of the independent claims. Prelim. Resp. 34–37. We have reviewed the parties' contentions and supporting evidence. Given the evidence on this record, and for the reasons explained below, we determine that the information presented shows a reasonable likelihood that Petitioner would prevail on this asserted ground.

1. Summary of Balderrama

Balderrama relates to a system that can offer various goods for sale, in a self-service fashion with an "electronic device capable of accepting and transmitting a customer's input," such as a touch-screen display. Ex. 1006, 1:8–12, Fig. 1. The system of Balderrama includes template presentations and a database containing items intended for sale at a particular sales outlet. *Id.* at 2:11–16, Fig. 3; *see also id.* at 6:48–58 (discussing template files), 8:64–9:2 (discussing "transmitted copy" of a template); 9:15–20 (discussing database records). A "configuring routine" uses information from the template presentation and the database for a particular sales outlet to create a presentation to display on the electronic device at the sales outlet. *Id.* at 11:37–48, Fig. 3 (element 84). The system is also configured to handle modifications to the database and/or updates to the presentation template. *Id.* at 2:17–21, 11:64–67, Fig. 6. Update/modification detector 82 receives information about updates to the template presentation and/or modifications

to the database, and acts accordingly to update the presentation at the customer terminal. *Id.* at 8:21–64, 9:7–27, 10:11–24, Fig. 3 (arrows 81b, 87b, 83b).

2. Summary of Java Complete

Java Complete is a compilation of several articles in DATAMATION Magazine, discussing a "new simplified object-based, open-system [programming] language that allows software developers to engineer applications that can be distributed over the Internet." *See* Ex. 1007, 1–3, 28. Java Complete provides information about the Java programming language. For example, as discussed in the magazine, "Java reinvents the way applications are distributed to clients and executed," and provides "an easy way to deliver business information broadly." *Id.* at 40. As further described, "network-centric Java applets . . . don't have to be preinstalled—they install themselves just in time, on the fly, and deinstall themselves when they're no longer needed." *Id.* at 42. One example provided in Java Complete of a type of business application that could be built with Java applets is an order-entry system. *Id.*

3. Independent Claims 1 and 21

Claim 1 recites a "system for providing a dynamically generated application having one or more functions and one or more user interface elements" including a server computer; client computers connected to the server over a network; first, second, and third layers "associated with the server computer;" and a "change management layer." Petitioner asserts that "Balderrama discloses a network system for a sales outlet, and employs a

server computer (manager station 10) that distributes an order-entry presentation over a local area network (LAN) to client computers (customer terminals 20a, 20b, 20c) that are used by customers to enter orders." Pet. 42 (citing Ex. 1006, Fig. 1). According to Petitioner, Balderrama's manager station 10 corresponds to the claimed server, in-store database 86 with records/files 87a correspond to the claimed first layer, transmitted copy template presentation 80 corresponds to the claimed second layer, configuring routine 84 corresponds to the claimed third layer, and update/modification detector 82 corresponds to the claimed change management layer. *Id.* at 47–49 (citing Ex. 1006, 2:16–21, 10:14–21, 11:64–67, 12:34–38, 14:64–65, 16:20–21, 16:55–17:5, Figs. 1, 3); *see* Pet. 42–44 (citing Ex. 1006, 8:67–9:2, 9:16–27, 10:14–21, 11:38–46, 11:64–67, 14:64–65, 16:20–21, 16:55–17:5; Ex. 1002 ¶¶ 151–55).

Regarding the claimed "first layer . . . containing information about the unique aspects of a particular application," Petitioner describes Balderrama's "order-entry presentation for a particular sales outlet," which "is a UI for a user to view items for sale at the outlet and enter and order in an automated fashion, e.g., via a touch screen," as the "particular application" of the claim. Pet. 42 (citing Ex. 1006, 1:8–23, 2:11–16, Fig. 1; Ex. 1002 ¶¶ 145, 148–51). Balderrama discloses that in-store database 86 with records/files 87a (i.e., the first portion) "contain data records/information about items intended for sale at a particular sales outlet" (i.e., the "particular application"). Ex. 1006, 9:17–21, Fig. 3; *see* Pet. 42–43, 47; Ex. 1002 ¶¶ 145, 151.

The claim further recites a "second layer . . . containing information about the user interface and functions common to a variety of applications." Petitioner describes Balderrama's disclosure of "shared-across-outlets template presentation 80 from headquarters is transmitted to manager station 10 (the outlet's server) for combination with the outlet-specific data," as disclosing this claim feature. Pet. 43 (citing Ex. 1006, 6:48–58, 8:67–9:2, 11:43–46; Ex. 1002 ¶ 152); *see id.* at 47–48 (citing Ex. 1006, 6:48–58, 8:64–9:2, 11:43–46, Fig. 3).

Regarding the claimed "third layer . . . that retrieves the data in the first and second layers in order to generate the functionality and user interface elements of the application," Petitioner describes that "Balderrama employs a configuring routine 84 . . . to retrieve data from the outlet-specific database files/records (first layer) and combine it with the generic template presentation (second layer) in order to generate the functionality and UI elements of the configured presentation (application) for presentation to the customer," thus disclosing this claim feature. Pet. 43 (citing Ex. 1006, 11:38–46, Fig. 3; Ex. 1002 ¶¶ 153–54); *see id.* at 48 (citing Ex. 1006, 11:38–46, 14:64–65, 16:20–21, 16:55–17:5, Fig. 3). According to Petitioner, "[c]onfiguring routine 84 matches items in the template presentation (second layer) with items in the database (first layer), activating the sales items that are sold in the particular sales outlet, and incorporating those items' prices from the database into the corresponding cells in the template presentation," thus disclosing the claim limitation that "a particular application [is] generated based on the data in both the first and second layers." *Id.* at 43–44

(citing Ex. 1006, 14:64–65, 16:20–21, 16:55–17:5; Ex. 1002 ¶ 154); *see id.* at 48 (citing Ex. 1006, 8:67–9:2, 10:10–13, Fig. 3).

Regarding the claimed "change management layer for automatically detecting changes that affect an application," Petitioner relies on Balderrama's update/modification detector 82. Pet. 44. According to Petitioner, update/modification detector 82 "automatically detects changes to the outlet-specific database or the generic template presentation that affect the application (the configured outlet-specific presentation)." *Id.* (citing Ex. 1006, 10:14–21, 11:64–67; Ex. 1002 ¶ 155); *see id.* at 48–49 (citing Ex. 1006, 2:16–21, 10:14–21, 11:64–67, 12:34–38). Petitioner further asserts that "[i]n response to update/modification detector 82 detecting changes . . . , a currently-running presentation is interrupted and re-configured." *Id.* at 44 (citing Ex. 1006, 9:7–15; Ex. 1002 ¶ 167).

Petitioner relies on Java Complete in combination with Balderrama for teaching that "each client computer further compris[es] a browser application being executed by each client computer," and that the claimed "user interface and functionality for the particular application is distributed to the browser application and dynamically generated when the client computer connects to the server computer." Pet. 45–46. According to Petitioner, Balderrama teaches distributing the application from a server to a client over a LAN network but does not explicitly state that the server is accessible by a browser executed on the client device. *Id.* at 44–45 (citing Ex. 1002 ¶¶ 148–50). Java Complete "describes using browsers for UI delivery over the Internet and within a company's internal network." *Id.* at

45 (citing Ex. 1007, 30, 31, 40; Ex. 1002 ¶ 156). Petitioner asserts that "[i]t would have been obvious to a [person of ordinary skill in the art] to implement a browser application on Balderrama's customer terminal for receiving and executing the order-entry application, as browsers (including Java-enabled browsers) were commonly used to receive UI applications in client-server systems." *Id.* (citing Ex. 1002 ¶¶ 156–57).

Petitioner further points to Java Complete's teaching that "the client browser executes a Java applet received from the server to dynamically generate the UI and functionality of the application," asserting that a person of ordinary skill "would have been motivated to implement Balderrama's order-entry application as a Java applet delivered to a browser executed by the customer terminal (client computer) because of the ease-of-implementation benefits of using Java and readily-available web browsers." *Id.* at 45–46 (citing Ex. 1007, 32, 40, 42; Ex. 1002 ¶ 156).

Patent Owner argues that Balderrama does not disclose the "change management layer" recited in claim 1. Prelim. Resp. 34–36. In particular, Patent Owner asserts that the update/modification detector 82 of Balderrama (upon which Petitioner relies as teaching the claimed change management layer) "detects changes from an application program's own operation, but does not detect changes external to an application program which impact how the application program should operate." *Id.* at 36. The claim, however, does not recite the detection of an external change, as Patent Owner appears to assert, but merely recites "detecting changes that affect an application." Based on the record now before us, we are persuaded by

Petitioner's assertion that notifying Balderrama's update/modification detector 82 of a change in data records or template presentations, *see* Ex. 1006, Fig. 3, from which the configured presentation (i.e., the application) is generated, meets the claimed function of the "change management layer."

Accordingly, for the reasons discussed, we are persuaded, on the current record, that Petitioner has shown a reasonable likelihood of prevailing on its assertion that claim 1 would have been obvious in view of Balderrama and Java Complete. In discussing independent claim 21—a method claim, which includes limitations similar in scope to the system limitations discussed with respect to claim 1—Petitioner and Patent Owner each refers back to its arguments with respect to claim 1. *See* Pet. 53–54 (citing Ex. 1007, 42; Ex. 1002 ¶ 183); Prelim. Resp. 36–37. For the same reasons discussed with respect to claim 1, we also are persuaded, on the current record, that Petitioner has shown a reasonable likelihood of prevailing on its assertion that claim 21 would have been obvious in view of Balderrama and Java Complete.

4. Dependent Claims 7, 8, 10–12, 19, 20, 27–32, 39, and 40

We also have reviewed Petitioner's contentions and supporting evidence regarding claims 7, 8, 10–12, 19, 20, 27–32, 39, and 40, and are persuaded, based on the record now before us, that Petitioner has shown a reasonable likelihood of demonstrating that the cited combination discloses all elements of these claims. *See* Pet. 49–55 (citing Ex. 1006, 6:17–42, 8:67–9:2, 9:7–15, 9:33–10:3, 10:10–13, 12:65–14:43, Fig. 3; Ex. 1007, 42;

Ex. 1002 ¶¶ 162–67, 169–73). Patent Owner, at this stage of the proceeding, has not presented separate arguments regarding whether Balderrama and Java Complete disclose the additional limitations of dependent claims 7, 8, 10–12, 19, 20, 27–32, 39, and 40, or with respect to Petitioner's proposed combination of references. On the record now before us, we are persuaded that Petitioner has shown a reasonable likelihood of prevailing on its assertion that claims 7, 8, 10–12, 19, 20, 27–32, 39, and 40 would have been obvious in view of Balderrama and Java Complete.

5. Conclusion

For the foregoing reasons, we institute an *inter partes* review of whether Balderrama and Java Complete render obvious claims 1, 7, 8, 10–12, 19–21, 27–32, 39, and 40 under 35 U.S.C. § 103(a).

H. Petitioner's Alleged Confidential Information

The parties have filed several Motions to Seal alleging that certain information provided by Petitioner in response to additional discovery requests authorized in this proceeding (*see* Paper 11) contain Petitioner's confidential information. *See* Papers 19, 27, 31, 36, 45. We will decide these Motions to Seal in due course. In the meantime, the allegedly confidential information will be maintained under seal. Additionally, this Decision, which references several documents designated as "Parties and Board Only," also will be designated as "Parties and Board Only."

III. CONCLUSION

As discussed above, we institute an *inter partes* review of claims 1, 7, 8, 10–21, and 27–40 of the '482 patent. At this preliminary stage in the

proceeding, we have not made a final determination with respect to the patentability of any challenged claim or the construction of any claim term.

IV. ORDER

Accordingly, it is

ORDERED that pursuant to 35 U.S.C. § 314(a), an *inter partes* review is hereby instituted as to claims 1, 7, 8, 10–21, and 27–40 of the '482 patent on the following grounds:

Claims 1, 7, 8, 10–13, 18–21, 27–33, and 38–40 as anticipated under 35 U.S.C. § 102(e) by Popp;

Claims 13–17 and 33–37 as obvious under 35 U.S.C. § 103(a) in view of Popp and Anand;

Claims 1, 8, 10, 19–21, 28, 30, 39, and 40 as anticipated under 35 U.S.C. § 102(b) by Kovacevic; and

Claims 1, 7, 8, 10–12, 19–21, 27–32, 39, and 40 as obvious under 35 U.S.C. § 103(a) in view of Balderrama and Java Complete;

FURTHER ORDERED that no other ground of unpatentability is authorized for this *inter partes* review;

FURTHER ORDERED that Patent Owner's unauthorized motion for sanctions is *denied*; and

FURTHER ORDERED that pursuant to 35 U.S.C. § 314(c) and 37 C.F.R. § 42.4, notice is hereby given of the institution of a trial; the trial will commence on the entry date of this decision.

IPR2015-01751
Patent 7,356,482 B2

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Paper No. 60
Entered: May 12, 2016
(Non-Public Version Entered: February 25, 2016)

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

RPX CORPORATION,
Petitioner,

v.

APPLICATIONS IN INTERNET TIME, LLC,
Patent Owner.

Case IPR2015-01752
Patent 7,356,482 B2

Before LYNNE E. PETTIGREW, MITCHELL G. WEATHERLY, and JENNIFER MEYER CHAGNON, *Administrative Patent Judges*.

CHAGNON, *Administrative Patent Judge*.

DECISION
Institution of *Inter Partes* Review
37 C.F.R. § 42.108

I. INTRODUCTION

RPX Corporation ("Petitioner" or "RPX") filed a Petition for *inter partes* review of claims 2–6, 22–26, and 42–46 ("the challenged claims") of U.S. Patent No. 7,356,482 B2 (Ex. 1101, "the '482 patent"). Paper 1 ("Pet."). Applications In Internet Time LLC ("Patent Owner") filed a Preliminary Response (Paper 20, Paper 26 (redacted version), "Prelim. Resp."). Pursuant to our authorization (Paper 23), Petitioner filed a Reply (Paper 28, Paper 29 (redacted version), "Reply") and Patent Owner filed a Sur-Reply (Paper 38, Paper 37 (redacted version), "Sur-Reply").

We have authority to determine whether to institute *inter partes* review. *See* 35 U.S.C. § 314(b); 37 C.F.R. § 42.4(a). Upon consideration of the Petition and the Preliminary Response, as well as Petitioner's Reply and Patent Owner's Sur-Reply, and for the reasons explained below, we determine that the information presented shows a reasonable likelihood that Petitioner would prevail with respect to claims 3–6 and 22–26. *See* 35 U.S.C. § 314(a). Accordingly, we institute trial as to claims 3–6 and 22–26 of the '482 patent.

A. Related Proceedings

The '482 patent is the subject of the following district court proceeding: *Applications in Internet Time LLC v. Salesforce.com, Inc.*, No. 3:13-cv-00628 (D. Nev.) ("Salesforce litigation"). Pet. 3; Paper 5, 2. Petitioner concurrently seeks *inter partes* review of claims 1, 7–21, 27–41, and 47–59 of the '482 patent in IPR2015-01751 and of claims 13–18 of

related U.S. Patent No. 8,484,111 B2 ("the '111 patent") in IPR2015-01750. Pet. 3; Paper 5, 2.

B. The '482 Patent

The '482 patent, titled "Integrated Change Management Unit," relates to an "integrated system for managing changes in regulatory and non-regulatory requirements for business activities at an industrial or commercial facility." Ex. 1101, Abstract. The integrated system described in the '482 patent manages data that is constantly changing by (1) "provid[ing] one or more databases that contain information on operations and requirements concerning an activity or area of business," (2) "monitor[ing] and evaluat[ing] the relevance of information on regulatory and non-regulatory changes that affect operations of the business and/or information management requirements," (3) "convert[ing] the relevant changes into changes in work/task lists, data entry forms, reports, data processing, analysis and presentation . . . of data processing and analysis results to selected recipients, without requiring the services of one or more programmers to re-program and/or re-code the software items affected by the change," and (4) "implement[ing] receipt of change information and dissemination of data processing and analysis results using the facilities of a network, such as the Internet." *Id.* at 8:30–46, 66–67.

Figure 1 of the '482 patent is reproduced below:

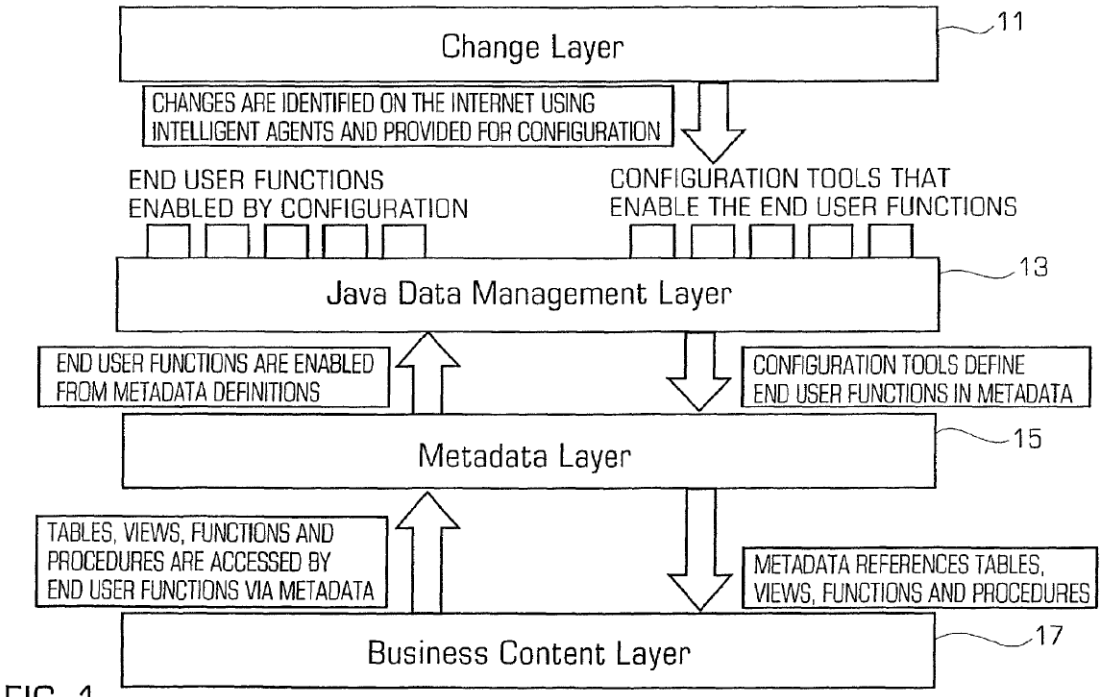

FIG. 1

As shown in Figure 1, the integrated system operates at four layers: (1) a change management layer that identifies on the Internet regulatory and non-regulatory changes that may affect a user's business, (2) a Java data management layer that generates a user interface ("UI"), (3) a metadata layer that provides data about the user interface including "tools, worklists, data entry forms, reports, documents, processes, formulas, images, tables, views, columns, and other structures and functions," and (4) a business content layer that is specific to the particular business operations of interest to the user. *Id.* at 9:33–48. According to the '482 patent, because the system of the invention is "entirely data driven," the need to write and compile new code in order to update the system is eliminated. *Id.* at 10:20, 12:42–52.

C. Illustrative Claims

Each of the challenged claims depends from one of independent claims 1, 21, and 41, which as noted above are challenged in related IPR2015-01751. Claims 2–6 depend, directly or indirectly, from claim 1. Claims 22–26 depend, directly or indirectly, from claim 21. Claims 42–46 depend, directly or indirectly, from claim 41. Claims 1 and 41 of the '482 patent, reproduced below, are illustrative of the subject matter of the challenged claims.

> 1. A system for providing a dynamically generated application having one or more functions and one or more user interface elements, comprising:
>
> a server computer;
>
> one or more client computers connected to the server computer over a computer network;
>
> a first layer associated with the server computer containing information about the unique aspects of a particular application;
>
> a second layer associated with the server computer containing information about the user interface and functions common to a variety of applications, a particular application being generated based on the data in both the first and second layers;
>
> a third layer associated with the server computer that retrieves the data in the first and second layers in order to generate the functionality and user interface elements of the application; and
>
> a change management layer for automatically detecting changes that affect an application,
>
> each client computer further comprising a browser application being executed by each client computer, wherein a

> user interface and functionality for the particular application is distributed to the browser application and dynamically generated when the client computer connects to the server computer.

Ex. 1101, 32:9–34.

> 41. A server for dynamically generating an application for one or more client computers connected to the server computer by a computer network, comprising:
>
> a first layer associated with the server containing information about the unique aspects of a particular application;
>
> a second layer associated with the server containing information about the user interface and functions common to a variety of applications;
>
> a third layer that retrieves the data in the first and second layers in order to generate functionality and user interface elements of the application;
>
> a change management layer for automatically detecting changes that affect an application;
>
> means for dynamically generating a particular application based on the first and second layers each time a client computer connects to the server computer; and
>
> means for distributing the user interface and functionality of the particular application to a client computer.

Id. at 34:54–35:5.

D. The Applied References and Evidence

Petitioner relies on the following evidence. Pet. 4–7, 15–60.

Reference	Date	Exhibit No.
U.S. Patent No. 6,249,291 B1 ("Popp")	June 19, 2001	Ex. 1104
Srdjan Kovacevic, *Flexible, Dynamic User Interfaces for Web-Delivered Training*, in AVI '96 PROCEEDINGS OF THE WORKSHOP ON ADVANCED VISUAL INTERFACES 108–18 (1996) ("Kovacevic")	1996	Ex. 1105
U.S. Patent No. 5,806,071 ("Balderrama")	Sept. 8, 1998	Ex. 1106
Java Complete!, 42 DATAMATION MAGAZINE 5, 28–49 (March 1, 1996) ("Java Complete")	Mar. 1, 1996	Ex. 1107
E. F. Codd, *Does Your DBMS Run By the Rules?*, XIX COMPUTERWORLD 42, 49–60 (Oct. 21, 1985) ("Codd")	Oct. 21, 1985	Ex. 1108
U.S. Patent No. 5,710,900 ("Anand")	Jan. 20, 1998	Ex. 1109
Glenn E. Krasner & Stephen T. Pope, *A Description of the Model-View-Controller User Interface Paradigm in the Smalltalk-80 System*, ParcPlace Systems (1988) ("Krasner")	1988	Ex. 1110

Petitioner further relies on the Declaration of Mark E. Crovella, Ph.D. (Ex. 1102).

E. The Asserted Grounds

Petitioner sets forth its challenges to claims 2–6, 22–26, and 42–46 as follows. Pet. 4–5, 15–60.

References	Basis	Claims Challenged
Popp	§ 102	2, 22, 42
Balderrama and Java Complete	§ 103	2, 22, 42

References	Basis	Claims Challenged
Popp and Codd	§ 103	3–6, 23–26, 43–46
Balderrama, Java Complete, and Codd	§ 103	3–6, 23–26, 43–46
Kovacevic and Codd	§ 103	3–6, 23–26, 43–46

II. ANALYSIS

A. Real Parties-in-Interest

The statute governing *inter partes* review proceedings sets forth certain requirements for a petition for *inter partes* review, including that "the petition identif[y] all real parties in interest." 35 U.S.C. § 312(a); *see also* 37 C.F.R. § 42.8(b)(1) (requirement to identify real parties-in-interest ("RPIs") in mandatory notices). In accordance with 35 U.S.C. § 312(a)(2) and 37 C.F.R. § 42.8(b)(1), Petitioner identifies RPX Corporation as the "sole real party-in-interest in this proceeding." Pet. 2. In its Preliminary Response, Patent Owner raises the issue of whether Petitioner has identified all RPIs. *See* Prelim. Resp. 3–21. In particular, Patent Owner asserts that Salesforce.com, Inc. ("Salesforce") is an unnamed RPI. *Id.*

As noted above, the '482 patent has been asserted against Salesforce in a district court action. *See* Paper 5, 2. Patent Owner asserts that "[b]ecause the Salesforce Litigation is more than one year old, Salesforce is barred from filing an inter partes review under 37 C.F.R. § 42.101(b)." Prelim. Resp. 9; *see also* 35 U.S.C. § 315(b) ("An inter partes review may not be instituted if the petition requesting the proceeding is filed more than 1 year after the date on which the petitioner, real party in interest, or privy of the petitioner is served with a complaint alleging infringement of the patent."); Ex. 2003 (showing service of the complaint in the Salesforce

litigation was effected on November 20, 2013 (more than one year prior to the August 17, 2015 filing date of the instant Petition)). Thus, as an initial matter, we must determine whether Salesforce should have been identified as an RPI in this proceeding.

Whether an entity that is not named as a participant in a given proceeding constitutes an RPI is a highly fact-dependent question that takes into account how courts generally have used the terms to "describe relationships and considerations sufficient to justify applying conventional principles of estoppel and preclusion." Office Patent Trial Practice Guide, 77 Fed. Reg. 48,756, 48,759 (Aug. 14, 2012). According to the Trial Practice Guide,

> the spirit of that formulation as to IPR . . . proceedings means that, at a general level, the "real party-in-interest" is the party that desires review of the patent. Thus, the "real party-in-interest" may be the petitioner itself, and/or it may be the real party or parties at whose behest the petition has been filed.

Id. As stated in the Trial Practice Guide, there are "multiple factors relevant to the question of whether a non-party may be recognized as" an RPI. *Id.* (citing *Taylor v. Sturgell*, 533 U.S. 880, 893–895, 893 n.6 (2008)). There is no "bright line test." *Id.* Considerations may include, for example, whether a non-party exercises control over a petitioner's participation in a proceeding, or whether a non-party is funding the proceeding or directing the proceeding. *Id.* at 48,759–60.

A petition is presumed to identify accurately all RPIs. *See Zerto, Inc. v. EMC Corp.*, Case IPR2014-01295, slip op. at 6–7 (PTAB Mar. 3, 2015) (Paper 34). When a patent owner provides sufficient evidence prior to

institution that reasonably brings into question the accuracy of a petitioner's identification of RPIs, the overall burden remains with the petitioner to establish that it has complied with the statutory requirement to identify all RPIs. *Id.*

Patent Owner argues that RPX is acting as a proxy for Salesforce in filing the Petition and Salesforce should, therefore, be identified as an RPI. In this regard, Patent Owner argues that "RPX is in the business of acting as a proxy for accused infringers like Salesforce." Prelim. Resp. 7. As support for this assertion, Patent Owner quotes from portions of RPX's website and public filings. For example, Patent Owner points to a portion of RPX's website, which indicates "'RPX Corporation is the leading provider of patent risk solutions, offering defensive buying, acquisition syndication, patent intelligence, insurance services, and advisory services.'" *Id.* (quoting Ex. 2016). Patent Owner further argues that "RPX states that its interests are '100% aligned' with those of clients [redacted]," *id.* (quoting Ex. 2015); that "RPX serves as 'an extension of the client's in-house legal team,'" *id.* (quoting Ex. 2006); and that "RPX . . . act[s] as [its clients'] proxy to 'selectively clear' liability for infringement as part of RPX's 'patent risk management solutions,'" *id.* at 7–8 (quoting Ex. 2006; Ex. 2008).

We are not persuaded, however, that the evidence supports Patent Owner's argument that "Petitioner's business model is built upon petitioner acting as an agent or proxy for third parties in cases just like this." Prelim. Resp. 7. At the outset, we note that Patent Owner provides several of these quotations out-of-context and/or mischaracterizes them. Nowhere in the

evidence of record does Patent Owner point to any portion of RPX's website or public filings that expressly indicates that RPX acts as a proxy for its clients, [redacted].

Further, in response to additional discovery authorized in this proceeding (Paper 11), RPX provided declaration testimony that, contrary to Patent Owner's assertions that RPX is acting as a proxy for Salesforce,

Ex. 1119 ¶ 47; *see* Reply[1] 1, 6–7 (citing Ex. 1119 ¶¶ 7–13, 34–44, 47; Ex. 1124). RPX further provided declaration testimony and evidence that "RPX did not have any contractual obligation to file [this and the related] IPRs or any 'unwritten,' implicit or covert understanding with Salesforce that it would do so." Reply 5 (citing Ex. 1119 ¶ 45); *see also* Exs. 1120–1122 ([redacted], which do not include any discussion of filing petitions for *inter partes* review). We are not persuaded that the generic statements on RPX's website cited by Patent Owner prove otherwise.

[1] The Reply does not include page numbers. We cite to the Reply counting the page starting with the "Introduction" section as page 1.

Patent Owner points to other *inter partes* review proceedings in which RPX was a petitioner as evidence that "RPX has a history of acting as a proxy." Prelim. Resp. 9–10; *see RPX Corp. v. VirnetX, Inc.*, Case IPR2014-00171 (and six other related proceedings); *RPX Corp. v. ParkerVision*, Case IPR2014-00946 (and two other related proceedings). These cases are distinguishable from the present case. In *RPX Corp. v. VirnetX, Inc.*, the Board found that Apple (the alleged unnamed RPI) had both suggested that RPX challenge the specific patents, as well as paid for it to do so. Case IPR2014-00171, slip op. at 4, 7 (PTAB June 5, 2014) (Paper 49). Additionally, the petitions included grounds that were "substantially identical" to those in Apple's time-barred petition. *Id.* at 5–6. In *RPX Corp. v. ParkerVision*, contrary to Patent Owner's assertion, the Board did not find that RPX acted as a proxy for any unnamed RPI. Rather, although the Board authorized additional discovery on this issue, Case IPR2014-00946 (Paper 25), no additional briefing on the issue of RPI was ever submitted.

Patent Owner's argument questioning RPX's motives for challenging only two of three of Patent Owner's patents (i.e., only the two asserted in the Salesforce litigation) also is unpersuasive. *See* Sur-Reply 4–5. RPX addresses this third patent (U.S. Patent No. 6,341,287 ("the '287 patent"), which is the ultimate parent of both the '111 patent and the '482 patent) in the Petition, stating that "[t]he parent '287 patent issued with a single claim, which is much narrower than the '482 patent claims and is tied to the issues of regulatory compliance as described in the specification." Pet. 8–9 (citing

Ex. 1113, 32:9–34:8). We are not persuaded, based on the facts now before us, that RPX's decision to challenge only certain of Patent Owner's patents is evidence sufficient to show that RPX is acting as a proxy on behalf of Salesforce in this IPR proceeding.

Patent Owner further argues that RPX has "adopted a 'willful blindness' strategy" and that "it intentionally operates its business to circumvent the PTAB's RPI case law." Prelim. Resp. 9–11 (citing e.g., Ex. 2018). We are not persuaded that the evidence of record supports this assertion. Further, RPX has provided declaration testimony that explains RPX's "best practices" for identifying RPIs that contradicts Patent Owner's assertion. Ex. 1119 ¶¶ 14–19; Reply 6–8.

As additional evidence that Salesforce should be named an RPI in this proceeding, Patent Owner argues that [redacted]

[redacted] Because we find Patent Owner's argument to be based on conjecture without evidentiary support, we are not persuaded that Salesforce is funding this proceeding.

Patent Owner further argues that Mr. Sanford Robinson, who is on the Board of Directors of both RPX and Salesforce, "has the opportunity to exert significant but hidden control over this proceeding." Prelim. Resp. 13. There is no evidence in the record, however, that Mr. Robinson has exerted any such control. The fact that "RPX produced nothing," *id.* at 14, in response to a production request to produce "[d]ocuments sufficient to show how [he] separates his fiduciary duties to RPX and Salesforce despite serving simultaneously as a Board Member of RPX and as a Board Member of Salesforce," Ex. 2001, is not dispositive. *See* Paper 11. In response to the discovery requests, RPX provided declaration testimony that Mr. Robinson was not involved in the decision to file the instant Petition. Reply 11–12 (citing Ex. 1119 ¶¶ 51–52). An overlapping Board member alone, without evidence of his involvement, is not sufficient to demonstrate an unnamed entity had control over or was involved in an IPR. *See Butamax Advanced Biofuels LLC v. Gevo, Inc.*, Case IPR2013-00214, slip op. at 4 (PTAB Sept. 30, 2013) (Paper 11).

Patent Owner further provides [redacted]

[redacted]

. RPX, however, provides declaration testimony expressly stating that:

> RPX had no communication with Salesforce whatsoever regarding the filing of IPR petitions against [Patent Owner's] patents before [this and the related] IPRs were filed. Salesforce did not request that RPX file [this and the related] IPRs, was not consulted about the decision by RPX to file the IPRs, and did not communicate with RPX about the searching for or selection of prior art asserted in [this and the related] IPRs, or any other aspect of the IPRs.

Ex. 1119 ¶ 20; *see* Reply 1–2. [redacted]

To summarize, Patent Owner argues that, because [redacted], because the '482 patent has been asserted against Salesforce, and because Salesforce is time-barred under 35 U.S.C. § 315(b) from challenging the '482 patent, RPX must have filed the instant Petition as a proxy for Salesforce, and, thus, Salesforce must be an RPI in this proceeding. However, as discussed above, Patent Owner has not provided persuasive evidence to support this assertion. Accordingly, based on the evidence currently before us, we are not persuaded that Salesforce should

have been identified as an RPI in this proceeding.[2] We now turn to the substantive issues presented in the Petition.

B. Claim Construction

In an *inter partes* review, claim terms in an unexpired patent are given their broadest reasonable construction in light of the specification of the patent in which they appear. *See* 37 C.F.R. § 42.100(b); *In re Cuozzo Speed Techs., LLC*, 793 F.3d 1268, 1275–79 (Fed. Cir. 2015), *cert. granted sub nom. Cuozzo Speed Techs., LLC v. Lee*, 84 U.S.L.W. 3218 (Jan. 15, 2016) (No. 15-446). Under the broadest reasonable construction standard, claim terms generally are given their ordinary and customary meaning, as would be understood by one of ordinary skill in the art in the context of the entire disclosure. *See In re Translogic Tech., Inc.*, 504 F.3d 1249, 1257 (Fed. Cir. 2007). The claims, however, "'should always be read in light of the specification and teachings in the underlying patent,'" and "[e]ven under the broadest reasonable interpretation, the Board's construction 'cannot be divorced from the specification and the record evidence.'" *Microsoft Corp. v. Proxyconn, Inc.*, 789 F.3d 1292, 1298 (Fed. Cir. 2015) (citations omitted).

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[2] In its Preliminary Response, Patent Owner also requests we impose sanctions on Petitioner for "misrepresentation of a fact," 37 C.F.R. § 42.12(a)(3), or for "abuse of process," 37 C.F.R. § 42.12(a)(6). *See* Prelim. Resp. 36–37. A motion for sanctions based on alleged misconduct may not be filed without prior Board authorization. *See* 37 C.F.R. § 42.20(b). Patent Owner improperly has embedded such a motion for sanctions within its Preliminary Response, without our authorization. Because we are not, at this juncture, persuaded by Patent Owner's arguments on the issue of RPI, rather than expunge the Preliminary Response, we deny Patent Owner's unauthorized motion for sanctions.

1. Means-plus-function terms

Claims 2, 41 (from which claims 42–46 depend), and 42 include limitations that Petitioner identifies as means-plus-function limitations under 35 U.S.C. § 112, ¶ 6.[3] Pet. 10–11, 12–13. In particular, Petitioner identifies the "means for distributing . . . JAVA applets . . ." limitation recited in claims 2 and 42, and the "means for dynamically generating a particular application . . ." limitation recited in claim 41. *Id.* at 10, 12. We note that claim 41 includes an additional limitation written in means-plus-function format, namely the "means for distributing the user interface and functionality . . ." limitation.

We agree that the limitations identified are written in means-plus-function format and are governed by 35 U.S.C. § 112, ¶ 6, because they all use the phrase "means for" modified by functional language without being modified by any structure to perform the claimed function. *See Williamson v. Citrix Online, LLC*, 792 F.3d 1339, 1347–48 (Fed. Cir. 2015). The scope of these limitations is, thus, defined by the structure disclosed in the specification plus any equivalents of that structure. *Aristocrat Techs. v. Int'l Game Tech.*, 521 F.3d 1328, 1331 (Fed. Cir. 2008). The "specification must contain sufficient descriptive text by which a person of skill in the field of the invention would 'know and understand what structure corresponds to the means limitation.'" *Typhoon Touch Techs., Inc. v. Dell, Inc.*, 659 F.3d 1376,

[3] Section 4(c) of the AIA re-designated 35 U.S.C. § 112, ¶¶ 2 and 6 as 35 U.S.C. §§ 112(b) and (f). Because the '482 patent has a filing date before September 16, 2012 (effective date), we will refer to the pre-AIA version of 35 U.S.C. § 112.

1383–84 (Fed. Cir. 2011) (quoting *Finisar Corp. v. DirecTV Grp.*, 523 F.3d 1323, 1340 (Fed. Cir. 2008)). Except for a narrow exception concerning functions that are "coextensive" with a microprocessor itself, such as "processing" data, "receiving" data, and "storing" data, a computer-implemented means-plus-function element is indefinite, under § 112, ¶ 2, unless the specification discloses the specific algorithm used by the computer to perform the recited function. *EON Corp. IP Holdings LLC v. AT&T Mobility LLC*, 785 F.3d 616, 621 (Fed. Cir. 2015) (quoting *In re Katz Interactive Call Processing Patent Litigation*, 639 F.3d 1303, 1316 (Fed. Cir. 2011)).

For each of the means-plus-function limitations, Petitioner asserts that "for purposes of this Petition, the claimed means is interpreted as covering 'a server/client system that [performs the claimed function].'" Pet. 11, 13. We are not persuaded that Petitioner has shown that the specification of the '482 patent describes an algorithm adequate to provide structure to the corresponding function of the means-plus-function limitations of claims 2, 41, and 42. In fact, Petitioner expressly states in the Petition, "[t]he claimed function . . . is not explicitly mentioned in the specification, and the specification does not clearly link any structure to this function." Pet. 10 (citing Ex. 1102 ¶ 45); *see id.* at 12–13 (citing Ex. 1102 ¶ 86). Although Petitioner points to the generically-described "server/client system" described in the specification of the '482 patent as the corresponding structure, Petitioner also states that "there is no algorithm disclosed for programming this general-purpose hardware to the perform the recited

function." *Id.* at 11 (citing Ex. 1101, 29:34–49; Ex. 1102 ¶ 45); *see id.* at 13–14. Patent Owner also fails to identify any algorithms described in the specification for performing the recited functions. *See* Prelim. Resp. 23–28 (addressing claim interpretation without addressing means-plus-function limitations). We determine, therefore, that the specification of the '482 patent simply does not "disclose the algorithm for performing the function," as required by our reviewing court, "[w]hen dealing with a 'special purpose computer-implemented means-plus-function limitation.'" *Function Media, L.L.C. v. Google, Inc.*, 708 F.3d 1310, 1318 (Fed. Cir. 2013).

Accordingly, for the reasons discussed, we are unable to construe the means-plus-function limitations of claims 2, 41, and 42.

2. Claim 3

Claim 3, which depends from claim 1, recites "wherein the second layer comprises a business content database . . . ." Ex. 1101, 32:41–43. Petitioner argues that "[c]laim 3 raises an interpretation challenge given that the claim is not consistent with the specification or other claims such as 23 and 43." Pet. 38 (arguing that claims 23 and 24 recite the "*first* layer comprises a business content database . . . "). Petitioner, thus, asks us to "interpret claim 3 in a manner consistent with the specification," and argues that "the [broadest reasonable interpretation] of 'second layer' in claim 3 is that it refers to or includes the 'first layer' recited in claim 1." *Id.* at 39.

Based on the information presented in the Petition, we are not persuaded that this is the type of obvious drafting typographical error that may be fixed by claim construction. *See Ultimax Cement Mfg. Corp. v. CTS*

Cement Mfg. Corp., 587 F.3d 1339, 1353 (Fed. Cir. 2009) (courts can correct obvious typographical errors "if the correction is not subject to reasonable debate . . . and the prosecution history does not suggest a different interpretation"). Accordingly, we do not accept Petitioner's invitation to construe "second layer" in claim 3 to mean "first layer," and instead will apply the cited art to the claim as written.

3. Other claim terms

The parties propose construction for several other claim terms. *See* Pet. 9–12; Prelim. Resp. 23–28. Upon review of the parties' contentions and supporting evidence, we determine no issue in this Decision requires express construction of any other claim term. *See, e.g.*, *Wellman, Inc. v. Eastman Chem. Co.*, 642 F.3d 1355, 1361 (Fed. Cir. 2011) ("[C]laim terms need only be construed 'to the extent necessary to resolve the controversy.'") (quoting *Vivid Techs., Inc. v. Am. Sci. & Eng'g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999)). Accordingly, for purposes of this Decision, we do not provide any express claim construction.

C. Principles of Law

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. *See Net MoneyIN, Inc. v. VeriSign, Inc.*, 545 F.3d 1359, 1369 (Fed. Cir. 2008); *Karsten Mfg. Corp. v. Cleveland Golf Co.*, 242 F.3d 1376, 1383 (Fed. Cir. 2001). 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); *accord In re Bond*, 910 F.2d 831, 832 (Fed. Cir. 1990).

A claim is unpatentable under 35 U.S.C. § 103(a) if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. *See KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007). The question of obviousness is resolved on the basis of underlying factual determinations including: (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; (3) the level of ordinary skill in the art; and (4) objective evidence of nonobviousness. *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).

In that regard, an obviousness analysis "need not seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ." *KSR*, 550 U.S. at 418; *accord In re Translogic Tech., Inc.*, 504 F.3d at 1259. The level of ordinary skill in the art may be reflected by the prior art of record. *See Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001); *In re GPAC Inc.*, 57 F.3d 1573, 1579 (Fed. Cir. 1995); *In re Oelrich*, 579 F.2d 86, 91 (CCPA 1978).

We analyze the asserted grounds of unpatentability in accordance with these principles.

D. Claims 2 and 42–46

Claims 2, 41, and 42 each recite limitations written in a means-plus-function format, and claims 43–46 depend ultimately from claim 41.[4] As discussed in the claim construction section above, we are not persuaded that Petitioner has pointed out adequate structure corresponding to these limitations in each of claims 2 and 41–46. Because of this deficiency, Petitioner has not provided sufficient information for a determination of the scope of these claims, and we cannot conduct the necessary factual inquiry for determining anticipation or obviousness of these claims. *See In re Aoyama*, 656 F.3d 1293, 1298 (Fed. Cir. 2011) (quoting *Enzo Biochem, Inc. v. Applera Corp.*, 599 F.3d 1325, 1332 (Fed. Cir. 2010)) ("[A] claim cannot be both indefinite and anticipated."); *In re Steele*, 305 F.2d 859, 862–63 (CCPA 1962) (reversing the Board's decision of obviousness because it relied on "what at best are speculative assumptions as to the meaning of the claims"). We are unable to conclude, therefore, that there is a reasonable likelihood that Petitioner would prevail in its challenges to claims 2 and 42. Because of their dependency from claim 41, we also are unable to conclude that there is a reasonable likelihood that Petitioner would prevail in its challenges to claims 43–46. We now turn to Petitioner's challenges to claims 3–6 and 22–26.

E. Asserted Grounds Based, at Least in Part, on Popp

Petitioner asserts that claim 22 is unpatentable under 35 U.S.C. § 102(e) as anticipated by Popp. Pet. 15–23. Petitioner further asserts that

[4] Claim 42 also depends from claim 41.

claims 3–6 and 23–26 are unpatentable under 35 U.S.C. § 103(a) as obvious in view of Popp and Codd. Pet. 37–43. Patent Owner argues that Popp does not disclose all elements of the independent claims from which the challenged claims depend. Prelim. Resp. 30–31, 34. We have reviewed the parties' contentions and supporting evidence. Given the evidence on this record, and for the reasons explained below, we determine that the information presented shows a reasonable likelihood that Petitioner would prevail on these asserted grounds.

1. Summary of Popp

Popp relates to an "object-oriented approach [that] provides the ability to develop and manage Internet transactions." Ex. 1104, Abstract. According to Popp, "[l]ocal applications can be accessed using any workstation connected to the Internet regardless of the workstation's configuration." *Id.* Popp describes that "[o]nce [a] connection is established, the present invention is used with an application on the server side of the connection to dynamically generate Web pages [that] contain application information and provide the ability for the user to specify input." *Id.* at 3:55–59. Web pages can be generated in response to the user input. *Id.* at 3:61–63.

Figure 2 of Popp is reproduced below:

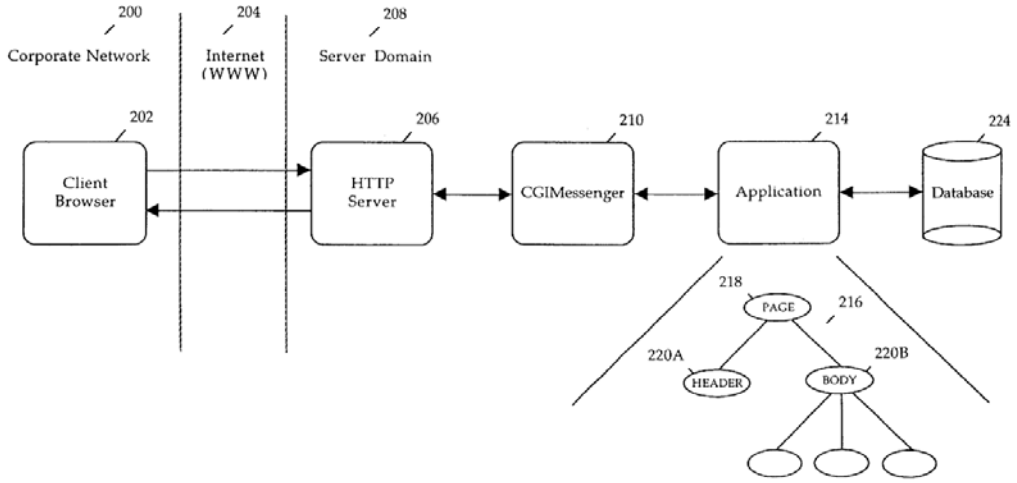

Figure 2

As seen in Figure 2 of Popp, Client Browser 202 is connected via Internet 204 to Server Domain 208, which includes among other things Application 214 and Database 224. Ex. 1104, 6:40–7:23, 7:31–34. Application 214 includes objects 216 that correspond to the HTML elements that define a Web page and are arranged in a tree structure that corresponds to the hierarchical structure of the HTML elements that they implement. *Id.* at 12:21–26. The self-contained modules, or components, may be shared by one or more Web pages in a single application and/or across multiple applications executing on a server. *Id.* at 4:27–33, 4:41–43, 17:54–18:32.

A scriptedControl object controls generation of a Web page. *Id.* at 18:62–19:19, Fig. 6A. Further, an inputControl object handles pushing and pulling data to/from the Web page and the external data source (e.g., database 224). *Id.* at 21:61–22:67, Fig. 6B. The inputControl object

determines, for example, when a database entry should be updated based on information input to the Web page and sends an appropriate message to update the database. *Id.* at 21:37–49.

2. Independent Claims 1 and 21

Claim 1 recites a "system for providing a dynamically generated application having one or more functions and one or more user interface elements" including a server computer; client computers connected to the server over a network; first, second, and third layers "associated with the server computer;" and a "change management layer." Petitioner asserts that "Popp discloses a client-server system for generating Web pages that provide a dynamic UI for a database application that can respond to user input." Pet. 15 (citing Ex. 1104, 3:61–65, 8:24–26; Ex. 1102 ¶¶ 29–35); *see id.* at 18–20 (citing Ex. 1104, 3:55–59, 7:45–49, Fig. 2). According to Petitioner, Server Domain 208 of Popp corresponds to the claimed server, database 224 corresponds to the claimed first layer, objects 216 correspond to the claimed second layer, scriptedControl object 602 (which is part of internal application 214) corresponds to the claimed third layer, and inputControl object 664 corresponds to the claimed change management layer. *Id.*; *see id.* at 16–18 (citing Ex. 1104, 8:49–55, 18:62–65, 19:1–12, Fig. 2; Ex. 1102 ¶¶ 36–37, 39–40). Popp further discloses that "Database 224 can be resident on the same server as application 214," which also includes objects 216 and inputControl object 664. Ex. 1104, 7:28–33, 7:52–58, 12:21–32; *see* Pet. 19–20. Thus, according to Petitioner, Popp discloses

all four claimed "layers," the first, second, and third being associated with the server.

Regarding the claimed "first layer . . . containing information about the unique aspects of a particular application," Petitioner relies on Popp's "Web pages that provide a dynamic user interface for a database application that can respond to user input," as disclosing the "particular application" of the claim. Pet. 15 (citing Ex. 1102 ¶ 31). According to Petitioner, Popp discloses that database 224 (first layer) "contain[s] information about the unique aspects of a particular Web page (application), e.g., for an Automobile Shopper's application that can be used by a prospective car buyer to select a car." *Id.* at 19 (citing Ex. 1104, 9:4–10, 9:56–61); *see* Ex. 1102 ¶ 36.

The claim further recites a "second layer . . . containing information about the user interface and functions common to a variety of applications." Petitioner describes the following as disclosing this claim feature:

> Web page objects 216 [of Popp] correspond to HTML elements that define a web page and include component sub-trees representing user interface portions (e.g., text boxes, check boxes, radio buttons) that can be shared across Web pages, and thus contain information about user interface and functions common to a variety of applications.

Pet. 16–17 (citing Ex. 1102 ¶ 37); *see id.* at 19 (citing Ex. 1104, 2:33–41, 4:26–33, 4:41–43, 11:37–44, 12:21, 17:54–55, 18:32–34, Fig. 2).

Regarding the claimed "third layer . . . that retrieves the data in the first and second layers in order to generate the functionality and user interface elements of the application," Petitioner points to scriptedControl

Object 602, which Popp uses "to generate and manage a Web page," as disclosing this claim feature. Pet. 17 (citing Ex. 1104, 18:62–65, 19:1–2; Ex. 1102 ¶ 39); *see id.* at 20 (citing Ex. 1104, 8:49–55, 18:65–67, 19:29–38, Figs. 6A, 6B). According to Petitioner, the "scriptedControl object 602 retrieves application-specific data from the database (first layer) and combines it with the object tree (second layer) in order to generate the functionality and user interface elements of the Web page (application)," thus disclosing the claim limitation that "a particular application [is] generated based on the data in both the first and second layers." *Id.* at 17 (citing Ex. 1104, Fig. 6B; Ex. 1102 ¶¶ 38–39); *see id.* at 19–20 (citing Ex. 1104, 19:18–19, 19:35–38).

Petitioner further points to the fact that Popp's "Web page can include a Java applet that, when downloaded and processed by a Java-enabled browser . . . , dynamically generates and presents the UI and functionality to the user," as disclosing that the "user interface and functionality for the particular application is distributed to the browser application and dynamically generated when the client computer connects to the server computer," as claimed. Pet. 16 (citing Ex. 1102 ¶¶ 41–44); *see id.* at 20–21 (citing Ex. 1104, 3:55–63, 31:44–49).

Finally, regarding the claimed "change management layer for automatically detecting changes that affect an application," Petitioner relies on Popp's inputControl object 664. Pet. 17–18 (citing Ex. 1102 ¶ 40). According to Petitioner, inputControl object 664 is responsible for responding to user input received from the web page UI, such as a

modification of a field in a Web page form. *Id.* (citing Ex. 1104, 22:28–48; Ex. 1102 ¶ 40); *see id.* at 20; Ex. 1104, Fig. 6B. Petitioner asserts that "[i]n response to a change detected by inputControl object 664, Popp's server application 214 modifies the Web page objects (second layer) by storing the user input in a context object, and updates the database (first layer) with the changed data." *Id.* at 18 (citing Ex. 22:28–62; Ex. 1102 ¶ 49). Petitioner further asserts that inputControl object 664 "automatically detects, for example, user input that modifies a field in a Web page form." *Id.* at 17 (citing Ex. 1104, 22:37–42; Ex. 1102 ¶ 40).

Patent Owner argues that Popp does not disclose the "change management layer" recited in claim 1. Prelim. Resp. 30–31. In particular, Patent Owner argues that "Popp does not disclose . . . automatically detect[ing] changes *external* to an application program which impact how the application program *should* operate," and argues that instead Popp discloses "automatically detect[ing] changes from [an application's] *own operation*." *Id.* at 31. The language of claim 1, however, is broad and requires only that the change management layer "automatically detect[ ] changes that affect an application." Ex. 1101, 32:27–28. On the record now before us, we are persuaded by Petitioner's assertion that automatically detecting a change that affects information stored in the database (e.g., an employee name stored in a database), from which the Web page (i.e., the claimed application) is generated, is sufficient to disclose detecting of a change to information about the application, as claimed. *See, e.g.*, Ex. 1101, 12:17–28 (describing the business content layer (i.e., "first layer") as a

database that may include data associated with a selected area of business, such as finance or human resources).

Accordingly, for the reasons discussed, we are persuaded, on the current record, that Petitioner has shown a reasonable likelihood of prevailing on an assertion that claim 1 is anticipated by Popp. Independent claim 21 recites a "method for dynamically generating an application" that includes limitations similar in scope to the system limitations discussed with respect to claim 1. *See* Ex. 1101, 33:34–58. In discussing this claim, Petitioner refers back to its arguments with respect to claim 1, and Patent Owner relies on the same arguments for each of the independent claims. *See* Pet. 21–23 (citing Ex. 1102 ¶¶ 44, 67; Ex. 1107, 42); Prelim. Resp. 30–31. For the same reasons discussed with respect to claim 1, we also are persuaded, on the current record, that Petitioner has shown a reasonable likelihood of prevailing on an assertion that claim 21 is anticipated by Popp.

3. Dependent Claim 22

We also have reviewed Petitioner's contentions and supporting evidence regarding claim 22, and are persuaded, based on the record now before us, that Petitioner has shown a reasonable likelihood of demonstrating that Popp discloses all elements of this claim. *See* Pet. 21–23 (citing Ex. 1104, 19:28–31, 19:39–47, 19:50–53, 31:24–26, Fig. 6; Ex. 1111, 274; Ex. 1102 ¶¶ 44). Patent Owner, at this stage of the proceeding, has not presented separate arguments regarding whether Popp discloses the additional limitations of dependent claim 22. On the record now before us,

we are persuaded that Petitioner has shown a reasonable likelihood of prevailing on its assertion that claim 22 is anticipated by Popp.

4. Dependent Claims 3–6 and 23–26

As discussed above, we are persuaded on the record currently before us that Petitioner has shown a reasonable likelihood of demonstrating Popp discloses all features of independent claims 1 and 21. As characterized by Petitioner, dependent claims 3–6 and 23–26 "recite the term 'database,' which is explicitly defined in the '482 patent specification." Pet. 37; *see* Ex. 1101, 29:50–54. Petitioner asserts that Popp discloses each of the limitations of these claims, "with the exception of explicitly specifying a database of the type meeting the specific definition given in the specification." Pet. 37. Petitioner relies on Codd as disclosing a database as defined in the '482 patent. *Id.* According to Petitioner, "Codd lists all of the major components of the '482 patent's defined 'database' (i.e., those that have their own sub-definitions—tables, views, columns, and rows) as canonical features of relational databases." *Id.* (citing Ex. 1108, 54). Petitioner also asserts that "Codd teaches a number of benefits of relational databases . . . , such as advantages of performance, cost productivity, and distributability." *Id.* at 38 (citing Ex. 1108, 60; Ex. 1102 ¶ 219). We are persuaded, on the record before us, that one of ordinary skill would have used a relational database as disclosed in Codd to implement the system of Popp. *See id.* at 37–38 (citing Ex. 1102 ¶¶ 215, 219).

We have reviewed Petitioner's mapping of Popp to each of claims 3–6 and 23–26, and are persuaded, based on the record now before us, that

Petitioner has shown a reasonable likelihood of demonstrating that Popp discloses all the additional limitations recited in these claims. Pet. 39–43 (citing Ex. 1104, 16:49–65, 18:32–34, 19:55–20:33, 21:61–22:13, 22:64–65; Ex. 1108, 54; Ex. 1102 ¶¶ 218–22). Patent Owner, at this stage of the proceeding, has not presented separate arguments regarding the additional limitations of dependent claims 3–6 and 23–26, or with respect to Petitioner's proposed combination of references. *See* Prelim. Resp. 34. On the record now before us, we are persuaded that Petitioner has shown a reasonable likelihood of prevailing on its assertion that claims 3–6 and 23–26 would have been obvious in view of Popp and Codd.

5. Conclusion

For the foregoing reasons, we institute an *inter partes* review of whether Popp anticipates claim 22 under 35 U.S.C. § 102(e), and of whether Popp and Cobb render obvious claims 3–6 and 23–26 under 35 U.S.C. § 103(a).

F. Asserted Grounds Based, at Least in Part, on Balderrama and Java Complete

Petitioner asserts that claim 22 is unpatentable under 35 U.S.C. § 103(a) as obvious in view of Balderrama and Java Complete. Pet. 25–35. Petitioner further asserts that claims 3–6 and 23–26 are unpatentable under 35 U.S.C. § 103(a) as obvious in view of Balderrama, Java Complete, and Cobb. Pet. 37–39, 44–47. Patent Owner argues that the cited combination does not teach all elements of the independent claims from which the challenged claims depend. Prelim. Resp. 31–34. We have reviewed the parties' contentions and supporting evidence. Given the evidence on this

record, and for the reasons explained below, we determine that the information presented shows a reasonable likelihood that Petitioner would prevail on these asserted grounds.

1. Summary of Balderrama

Balderrama relates to a system that can offer various goods for sale, in a self-service fashion with an "electronic device capable of accepting and transmitting a customer's input," such as a touch-screen display. Ex. 1106, 1:8–12, Fig. 1. The system of Balderrama includes template presentations and a database containing items intended for sale at a particular sales outlet. *Id.* at 2:11–16, Fig. 3; *see also id.* at 6:48–58 (discussing template files), 8:64–9:2 (discussing "transmitted copy" of a template); 9:15–20 (discussing database records). A "configuring routine" uses information from the template presentation and the database for a particular sales outlet to create a presentation to display on the electronic device at the sales outlet. *Id.* at 11:37–48, Fig. 3 (element 84). The system is also configured to handle modifications to the database and/or updates to the presentation template. *Id.* at 2:17–21, 11:64–67, Fig. 6. Update/modification detector 82 receives information about updates to the template presentation and/or modifications to the database, and acts accordingly to update the presentation at the customer terminal. *Id.* at 8:21–64, 9:7–27, 10:11–24, Fig. 3 (arrows 81b, 87b, 83b).

2. Summary of Java Complete

Java Complete is a compilation of several articles in DATAMATION Magazine, discussing a "new simplified object-based, open-system

[programming] language that allows software developers to engineer applications that can be distributed over the Internet." *See* Ex. 1107, 1–3, 28. Java Complete provides information about the Java programming language. For example, as discussed in the magazine, "Java reinvents the way applications are distributed to clients and executed," and provides "an easy way to deliver business information broadly." *Id.* at 40. As further described, "network-centric Java applets . . . don't have to be preinstalled—they install themselves just in time, on the fly, and deinstall themselves when they're no longer needed." *Id.* at 42. One example provided in Java Complete of a type of business application that could be built with Java applets is an order-entry system. *Id.*

3. Independent Claims 1 and 21

Claim 1 recites a "system for providing a dynamically generated application having one or more functions and one or more user interface elements" including a server computer; client computers connected to the server over a network; first, second, and third layers "associated with the server computer;" and a "change management layer." Petitioner asserts that "Balderrama discloses a network system for a sales outlet, and employs a server computer (manager station 10) that distributes an order-entry presentation over a local area network (LAN) to client computers (customer terminals 20a, 20b, 20c) that are used by customers to enter orders." Pet. 25 (citing Ex. 1106, Fig. 1; Ex. 1102 ¶¶ 145, 148–50). According to Petitioner, Balderrama's manager station 10 corresponds to the claimed server, in-store database 86 with records/files 87a corresponds to the claimed first layer,

transmitted copy template presentation 80 corresponds to the claimed second layer, configuring routine 84 corresponds to the claimed third layer, and update/modification detector 82 corresponds to the claimed change management layer. *Id.* at 30–32 (citing Ex. 1106, 2:16–21, 10:14–21, 11:64–67, 12:34–38, 14:64–65, 16:20–21, 16:55–17:5, Figs. 1, 3); *see* Pet. 25–27 (citing Ex. 1106, 8:67–9:2, 9:16–27, 10:14–21, 11:38–46, 11:64–67, 14:64–65, 16:20–21, 16:55–17:5; Ex. 1102 ¶¶ 151–55).

Regarding the claimed "first layer . . . containing information about the unique aspects of a particular application," Petitioner describes Balderrama's "order-entry presentation for a particular sales outlet," which "is a UI for a user to view items for sale at the outlet and enter and order in an automated fashion, e.g., via a touch screen," as the "particular application" of the claim. Pet. 25 (citing Ex. 1106, 1:8–23, 2:11–16, Fig. 1; Ex. 1102 ¶¶ 145, 148–51). Balderrama discloses that in-store database 86 with records/files 87a (i.e., the first layer) "contain data records/information about items intended for sale at a particular sales outlet" (i.e., the "particular application"). Ex. 1106, 9:17–21, Fig. 3; *see* Pet. 25–26, 30; Ex. 1102 ¶¶ 145, 151.

The claim further recites a "second layer . . . containing information about the user interface and functions common to a variety of applications." Petitioner describes Balderrama's disclosure of "shared-across-outlets template presentation 80 from headquarters is transmitted to manager station 10 (the outlet's server) for combination with the outlet-specific data," as disclosing this claim feature. Pet. 26 (citing Ex. 1106, 6:48–58, 8:67–9:2,

11:43–46; Ex. 1102 ¶ 152); *see id.* at 30–31 (citing Ex. 1106, 6:48–58, 8:64–9:2, 11:43–46, Fig. 3).

Regarding the claimed "third layer . . . that retrieves the data in the first and second layers in order to generate the functionality and user interface elements of the application," Petitioner describes that "Balderrama employs a configuring routine 84 . . . to retrieve data from the outlet-specific database files/records (first layer) and combine it with the generic template presentation (second layer) in order to generate the functionality and user interface elements of the configured presentation (application) for presentation to the customer," thus disclosing this claim feature. Pet. 26–27 (citing Ex. 1106, 11:38–46, Fig. 3; Ex. 1102 ¶¶ 153–54); *see id.* at 31 (citing Ex. 1106, 11:38–46, 14:64–65, 16:20–21, 16:55–17:5, Fig. 3). According to Petitioner, "[c]onfiguring routine 84 matches items in the template presentation (second layer) with items in the database (first layer), activating the sales items that are sold in the particular sales outlet, and incorporating those items' prices from the database into the corresponding cells in the template presentation," thus disclosing the claim limitation that "a particular application [is] generated based on the data in both the first and second layers." *Id.* at 27 (citing Ex. 1106, 14:64–65, 16:20–21, 16:55–17:5; Ex. 1102 ¶ 154); *see id.* at 31 (citing Ex. 1106, 8:67–9:2, 10:10–13, Fig. 3).

Regarding the claimed "change management layer for automatically detecting changes that affect an application," Petitioner relies on Balderrama's update/modification detector 82. Pet. 27. According to Petitioner, update/modification detector 82 "automatically detects changes to

the outlet-specific database or the generic template presentation that affect the application (the configured outlet-specific presentation)." *Id.* (citing Ex. 1106, 10:14–21, 11:64–67; Ex. 1102 ¶ 155); *see id.* at 31–32 (citing Ex. 1106, 2:16–21, 10:14–21, 11:64–67, 12:34–38, Fig. 3). Petitioner further asserts that "[i]n response to update/modification detector 82 detecting changes . . . , a currently-running presentation is interrupted and re-configured." *Id.* at 27 (citing Ex. 1106, 9:7–15; Ex. 1102 ¶ 167).

Petitioner relies on Java Complete in combination with Balderrama for teaching that "each client computer further compris[es] a browser application being executed by each client computer," and that the claimed "user interface and functionality for the particular application is distributed to the browser application and dynamically generated when the client computer connects to the server computer." Pet. 27–29. According to Petitioner, Balderrama teaches distributing the application from a server to a client over a LAN network but does not explicitly state that the server is accessible by a browser executed on the client device. *Id.* at 27–28 (citing Ex. 1102 ¶¶ 148–50). Java Complete "describes using browsers for UI delivery over the Internet and within a company's internal network." *Id.* at 28 (citing Ex. 1107, 30, 31, 40; Ex. 1102 ¶ 156). Petitioner asserts that "[i]t would have been obvious to a [person of ordinary skill in the art] to implement a browser application on Balderrama's customer terminal for receiving and executing the order-entry application, as browsers (including Java-enabled browsers) were commonly used to receive UI applications in client-server systems." *Id.* (citing Ex. 1102 ¶¶ 156–57).

Petitioner further points to Java Complete's teaching that "the client browser executes a Java applet received from the server to dynamically generate the UI and functionality of the application," asserting that a person of ordinary skill "would have been motivated to implement Balderrama's order-entry application as a Java applet delivered to a browser executed by the customer terminal (client computer) because of the ease-of-implementation benefits of using Java and readily-available web browsers." *Id.* at 28–29 (citing Ex. 1107, 32, 40, 42; Ex. 1102 ¶ 156).

Patent Owner argues that Balderrama does not disclose the "change management layer" recited in claim 1. Prelim. Resp. 31–33. In particular, Patent Owner asserts that the update/modification detector 82 of Balderrama (upon which Petitioner relies as teaching the claimed change management layer) "detects changes from an application program's own operation, but does not detect changes external to an application program which impact how the application program should operate." *Id.* at 33. The claim, however, does not recite the detection of an external change, as Patent Owner appears to assert, but merely recites "detecting changes that affect an application." Based on the record now before us, we are persuaded by Petitioner's assertion that notifying Balderrama's update/modification detector 82 of a change in data records or template presentations, *see* Ex. 1106, Fig. 3, from which the configured presentation (i.e., the application) is generated, meets the claimed function of the "change management layer."

Accordingly, for the reasons discussed, we are persuaded, on the current record, that Petitioner has shown a reasonable likelihood of prevailing on an assertion that claim 1 would have been obvious in view of Balderrama and Java Complete. In discussing independent claim 21—a method claim, which includes limitations similar in scope to the system limitations discussed with respect to claim 1—Petitioner refers back to its arguments with respect to claim 1, and Patent Owner relies on the same arguments for each of the independent claims. *See* Pet. 33–35 (citing Ex. 1107, 42; Ex. 1102 ¶ 183); Prelim. Resp. 31–33. For the same reasons discussed with respect to claim 1, we also are persuaded, on the current record, that Petitioner has shown a reasonable likelihood of prevailing on an assertion that claim 21 would have been obvious in view of Balderrama and Java Complete.

4. Dependent Claim 22

We also have reviewed Petitioner's contentions and supporting evidence regarding claim 22, and are persuaded, based on the record now before us, that Petitioner has shown a reasonable likelihood of demonstrating that the cited combination discloses all elements of this claim. *See* Pet. 33, 35 (citing Ex. 1106, 8:67–9:2, 10:10–13, Fig. 3; Ex. 1107, 42; Ex. 1102 ¶¶ 153, 160–61). Patent Owner, at this stage of the proceeding, has not presented separate arguments regarding whether Balderrama and Java Complete disclose the additional limitations of dependent claim 22, or with respect to Petitioner's proposed combination of references. On the record now before us, we are persuaded that Petitioner has shown a reasonable

likelihood of prevailing on its assertion that claim 22 would have been obvious in view of Balderrama and Java Complete.

5. Dependent Claims 3–6 and 23–26

As discussed above, we are persuaded on the record currently before us that Petitioner has shown a reasonable likelihood of demonstrating the combination of Balderrama and Java Complete discloses all features of independent claims 1 and 21. As characterized by Petitioner, dependent claims 3–6 and 23–26 "recite the term 'database,' which is explicitly defined in the '482 patent specification." Pet. 37; *see* Ex. 1101, 29:50–54. Petitioner asserts that Balderrama discloses each of the limitations of these claims, "with the exception of explicitly specifying a database of the type meeting the specific definition given in the specification." Pet. 37. Petitioner relies on Codd as disclosing a database as defined in the '482 patent. *Id.* According to Petitioner, "Codd lists all of the major components of the '482 patent's defined "database" (i.e., those that have their own sub-definitions—tables, views, columns, and rows) as canonical features of relational databases." *Id.* (citing Ex. 1108, 54). Petitioner also asserts that "Codd teaches a number of benefits of relational databases . . . , such as advantages of performance, cost productivity, and distributability." *Id.* at 38 (citing Ex. 1108, 60; Ex. 1102 ¶ 219). We are persuaded, on the record before us, that one of ordinary skill would have used a relational database as disclosed in Codd to implement the system of Balderrama. *See id.* at 37–38 (citing Ex. 1102 ¶¶ 215, 219).

We have reviewed Petitioner's mapping of Balderrama to each of claims 3–6 and 23–26, and are persuaded, based on the record now before us, that Petitioner has shown a reasonable likelihood of demonstrating that Balderrama discloses all elements of these claims. Pet. 44–47 (citing Ex. 1106, 6:48–63, 9:16–21, 16:55–7:5; Ex. 1108, 54; Ex. 1102 ¶¶ 246–51). Patent Owner, at this stage of the proceeding, has not presented separate arguments regarding the additional limitations of dependent claims 3–6 and 23–26, or with respect to Petitioner's proposed combination of references. *See* Prelim. Resp. 34. On the record now before us, we are persuaded that Petitioner has shown a reasonable likelihood of prevailing on its assertion that claims 3–6 and 23–26 would have been obvious in view of Balderrama, Java Complete, and Codd.

6. Conclusion

For the foregoing reasons, we institute an *inter partes* review of whether Balderrama and Java Complete render obvious claim 22 under 35 U.S.C. § 103(a), and of whether Balderrama, Java Complete, and Codd render obvious claims 3–6 and 23–26 under 35 U.S.C. § 103(a).

G. Asserted Obviousness in View of Kovacevic and Codd

Petitioner asserts that claims 3–6 and 23–26 are unpatentable under 35 U.S.C. § 103(a) as obvious in view of Kovacevic and Codd. Pet. 48–55. Patent Owner argues that Kovacevic does not disclose all elements of the independent claims from which the challenged claims depend. Prelim. Resp. 34–36. We have reviewed the parties' contentions and supporting evidence. Given the evidence on this record, and for the reasons explained

below, we determine that the information presented shows a reasonable likelihood that Petitioner would prevail on this asserted ground.

1. Summary of Kovacevic

Kovacevic relates to a system called MUSE that uses a model-based technology to implement an intelligent tutoring system having a flexible user interface. Ex. 1105, Abstract. The system described in Kovacevic includes an application-specific library, which "contains procedural code implementing the functional core of applications whose UIs are to be generated," and an interaction-specific library, which "contains a library of communications primitives—interaction techniques and presentation objects—to be used when assembling UI structures." Ex. 1105, 117. The MUSE program uses these libraries to build and generate a user interface. *Id.* As further discussed in Kovacevic, the libraries, and if desired the entire MUSE program, could be transported over a browser using Java. *Id.* Kovacevic also discusses a sequencing control primitive that monitors and updates the system when something affecting information-flow-control primitives occurs. *Id.* at 114.

2. Independent Claims 1 and 21

Claim 1 recites a "system for providing a dynamically generated application having one or more functions and one or more user interface elements" including a server computer; client computers connected to the server over a network; first, second, and third layers "associated with the server computer;" and a "change management layer." Petitioner asserts that "Kovacevic discloses a client-server system called MUSE for generating UIs

for tutoring applications." Pet. 48 (citing Ex. 1105, 108 (col. 2 ¶ 2); Ex. 1102 ¶¶ 101–03). According to Petitioner, the SLOOP Server of Kovacevic corresponds to the claimed server, the application-specific library corresponds to the claimed first layer, the interaction-specific library corresponds to the claimed second layer, the main MUSE program corresponds to the claimed third layer, and the sequencing control primitives correspond to the claimed change management layer. *Id.* at 52–53 (citing Ex. 1105, 114 (col. 2 ¶ 6), 117 (col. 1 ¶¶ 4, 5), Figs. 1, 7); *see id.* at 48–50 (citing Ex. 1105, 114 (col. 2 ¶ 6), 115 (col. 2), 117 (col. 1 ¶ 4, col. 2 ¶ 7); Ex. 1102 ¶¶ 104–108). The first, second, and third layers are "associated with the server" because each is downloaded therefrom. *See id.* at 49–50 (citing Ex. 1105, 117 (col. 2 ¶ 7); Ex. 1102 ¶¶ 104, 105, 107).

Regarding the claimed "first layer . . . containing information about the unique aspects of a particular application," Petitioner describes that a "tutoring course generated with a particular UI is a particular 'application' as recited in the claims." Pet. 48 (citing Ex. 1102 ¶¶ 101, 104). According to Petitioner, Kovacevic discloses that a "particular tutoring course is represented by an application-specific model specification with software primitives provided in an application-specific library." *Id.* at 48–49 (citing Ex. 1105, 117 (col. 1 ¶ 4, col. 2 ¶ 7); Ex. 1102 ¶ 104); *see* Pet. 52.

The claim further recites a "second layer . . . containing information about the user interface and functions common to a variety of applications." Petitioner relies on an interaction-specific library in Kovacevic as disclosing this claim feature. Pet. 49, 52. According to Petitioner, the interaction-

specific library includes UI primitives and the library is sharable among multiple applications. *Id.* at 49 (citing Ex. 1102 ¶¶ 105–06); *see id.* at 52 (citing Ex. 1105, 113 (col. 2 ¶ 2), 114 (col. 1 ¶ 2), 117 (col. 1 ¶ 5, col. 2 ¶ 7)).

Regarding the claimed "third layer . . . that retrieves the data in the first and second layers in order to generate the functionality and user interface elements of the application," Petitioner points to the "main program" of Kovacevic as disclosing this claim feature. Pet. 49, 53. According to Petitioner, Kovacevic's main program "generates the tutoring application (including the functionality and the UI of the tutoring course) using the primitives in the application-specific library (first layer) and the application-independent interaction-specific library (second layer)." *Id.* at 49 (citing Ex. 1105, 117 (col. 1 ¶ 4, col. 2 ¶ 7); Ex. 1102 ¶ 107); *see id.* at 53 (citing Ex. 1105, 117 (col. 1 ¶ 4, col. 2 ¶ 7)). According to Petitioner, this generation of the tutoring application "is done by mapping application model primitives provided in the application-specific library (first layer) onto UI primitives including the communication primitives in the interaction-specific library (second layer) to construct a fully specified UI," thus disclosing the claim limitation that "a particular application [is] generated based on the data in both the first and second layers." *Id.* at 49 (citing Ex. 1102 ¶ 106); *see id.* at 52–53 (citing Ex. 1105, 115 (col. 1 ¶ 2), 116 (col. 1 ¶ 6), Figs 5, 6, 8).

Petitioner further argues that, in Kovacevic, the "UI and functionality of the tutoring application are distributed to the client computer's browser

and dynamically generated when the client connects to the server," thus disclosing the limitation that the "user interface and functionality for the particular application is distributed to the browser application and dynamically generated when the client computer connects to the server computer," as claimed. Pet. 48 (citing Ex. 1102 ¶¶ 109–111); *see id.* at 50–51 (citing Ex. 1105, 110 (col. 1 ¶ 6), 112 (col. 2 ¶ 5); Ex. 1102 ¶ 126), 53–54 (citing Ex. 1105, 108 (col. 1 ¶ 4, col. 2 ¶ 2), 109 (col. 1 ¶ 3, ¶ 5, col. 2 ¶ 4), 117 (col. 2 ¶ 7)).

Finally, regarding the claimed "change management layer for automatically detecting changes that affect an application," Petitioner relies on Kovacevic's sequencing control primitives. Pet. 50. Kovacevic describes that the "sequencing control primitives automatically detect changes that affect the information-flow-control primitives in an application." *Id.* (citing Ex. 1105, 114 (col. 2 ¶ 6); Ex. 1102 ¶ 108). According to Petitioner, "[c]hanges such as user input via the UI or selection of UI elements affect the application, e.g., by causing certain UI elements to be enabled or disabled," and the sequencing control primitives of Kovacevic monitor for such user input to enable appropriate enable/disable response of the UI element when a user selection is made. *Id.* (citing Ex. 1105, 115 (col. 2); Ex. 1102 ¶ 108); *see id.* at 53 (citing Ex. 1105, 114 (col. 2 ¶ 6)).

Patent Owner argues that Kovacevic does not disclose the "change management layer" recited in claim 1. Prelim. Resp. 34–36. In particular, Patent Owner argues that, "[w]hile Kovacevic describes making the website changeable, Kovacevic has no disclosure relevant to detecting changes that

impact how the website should function or look." *Id.* at 35. Patent Owner also argues that Kovacevic does not disclose the claimed "change management layer," because Kovacevic's sequencing control element is part of its controller, which Petitioner asserts to be the claimed third layer. *Id.* at 35–36.

As discussed above (*see supra* Section II.E.2.), however, the language of claim 1 is quite broad and requires only that the change management layer "automatically detect[ ] changes that affect an application." Ex. 1101, 32:27–28. Petitioner relies on the UI primitives in the interaction-specific library of Kovacevic as disclosing the claimed second layer. Based on the record currently before us, we find persuasive Petitioner's assertion that detecting user input (a change) that affects whether certain UI elements are enabled or disabled (i.e., information regarding the UI primitives in the second layer) is sufficient to disclose the change management layer's claimed function of detecting changes that affect the application (i.e., the tutoring program generated using the UI primitives). Further, the claimed "third layer" and "change management layer" need not be described as separate components in the prior art to meet the limitations recited in the claim.

Accordingly, for the reasons discussed, we are persuaded, on the current record, that Petitioner has shown a reasonable likelihood of prevailing on an assertion that claim 1 is anticipated by Kovacevic. In discussing independent claim 21—a method claim, which includes limitations similar in scope to the system limitations discussed with respect

to claim 1—Petitioner refers back to its arguments with respect to claim 1, and Patent Owner relies on the same arguments for each of the independent claims. *See* Pet. 54–55 (citing Ex. 1105, 110 (col. 1 ¶ 6), 112 (col. 2 ¶ 5); Ex. 1102 ¶ 126); Prelim. Resp. 34–36. For the same reasons discussed with respect to claim 1, we also are persuaded, on the current record, that Petitioner has shown a reasonable likelihood of prevailing on an assertion that claim 21 is anticipated by Kovacevic.

3. Dependent Claims 3–6 and 23–26

As discussed above, we are persuaded on the record currently before us that Petitioner has shown a reasonable likelihood of demonstrating Kovacevic discloses all features of independent claims 1 and 21. As characterized by Petitioner, dependent claims 3–6 and 23–26 "recite the term 'database,' which is explicitly defined in the '482 patent specification." Pet. 37; *see* Ex. 1101, 29:50–54. Petitioner asserts that Kovacevic discloses each of the limitations of these claims, "with the exception of explicitly specifying a database of the type meeting the specific definition given in the specification." Pet. 57. Petitioner relies on Codd as disclosing a database as defined in the '482 patent. *Id.* According to Petitioner, "Codd lists all of the major components of the '482 patent's defined 'database' (i.e., those that have their own sub-definitions—tables, views, columns, and rows) as canonical features of relational databases." *Id.* at 37 (citing Ex. 1108, 54). Petitioner also asserts that "Codd teaches a number of benefits of relational databases, such as advantages of performance, cost productivity, and distributability." *Id.* at 57 (citing Ex. 1108, 60; Ex. 1102 ¶¶ 219, 233). We

are persuaded, on the record before us, that one of ordinary skill would have used a relational database as disclosed in Codd to implement the system of Kovacevic. *See id.* (citing Ex. 1102 ¶¶ 215, 219).

We have reviewed Petitioner's mapping of Kovacevic to each of claims 3–6 and 23–26, and are persuaded, based on the record now before us, that Petitioner has shown a reasonable likelihood of demonstrating that Kovacevic discloses all elements of these claims. Pet. 57–60 (citing Ex. 1105, 112, 113 (col. 2 ¶ 2), 114 (col. 1 ¶ 2), 117 (col. 1 ¶ 4), Fig. 7; Ex. 1108, 54; Ex. 1102 ¶¶ 232–36). Patent Owner, at this stage of the proceeding, has not presented separate arguments regarding the additional limitations of dependent claims 3–6 and 23–26, or with respect to Petitioner's proposed combination of references. *See* Prelim. Resp. 34. On the record now before us, we are persuaded that Petitioner has shown a reasonable likelihood of prevailing on its assertion that claims 3–6 and 23–26 would have been obvious in view of Kovacevic and Codd.

4. Conclusion

For the foregoing reasons, we institute an *inter partes* review of whether Kovacevic and Codd render obvious claims 3–6 and 23–26 under 35 U.S.C. § 103(a).

H. Petitioner's Alleged Confidential Information

The parties have filed several Motions to Seal alleging that certain information provided by Petitioner in response to additional discovery requests authorized in this proceeding (*see* Paper 11) contain Petitioner's confidential information. *See* Papers 19, 27, 31, 36, 45. We will decide

these Motions to Seal in due course. In the meantime, the allegedly confidential information will be maintained under seal. Additionally, this Decision, which references several documents designated as "Parties and Board Only," also will be designated as "Parties and Board Only."

III. CONCLUSION

As discussed above, we institute an *inter partes* review of claims 3–6 and 22–26 of the '482 patent. At this preliminary stage in the proceeding, we have not made a final determination with respect to the patentability of any challenged claim or the construction of any claim term.

IV. ORDER

Accordingly, it is

ORDERED that pursuant to 35 U.S.C. § 314(a), an *inter partes* review is hereby instituted as to claims 3–6 and 22–26 of the '482 patent on the following grounds:

Claim 22 as anticipated under 35 U.S.C. § 102(e) by Popp;

Claims 3–6 and 23–26 as obvious under 35 U.S.C. § 103(a) in view of Popp and Cobb;

Claim 22 as obvious under 35 U.S.C. § 103(a) in view of Balderrama and Java Complete;

Claims 3–6 and 23–26 as obvious under 35 U.S.C. § 103(a) in view of Balderrama, Java Complete, and Codd; and

Claims 3–6 and 23–26 as obvious under 35 U.S.C. § 103(a) in view of Kovacevic and Codd; and

FURTHER ORDERED that no other ground of unpatentability is authorized for this *inter partes* review;

FURTHER ORDERED that Patent Owner's unauthorized motion for sanctions is *denied*; and

FURTHER ORDERED that pursuant to 35 U.S.C. § 314(c) and 37 C.F.R. § 42.4, notice is hereby given of the institution of a trial; the trial will commence on the entry date of this decision.

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