No. _____

IN THE

Supreme Court of the United States

SAS INSTITUTE INC.,

Petitioner,

v.

MICHELLE K. LEE, Director, U.S. Patent and Trademark Office, and COMPLEMENTSOFT, LLC,

Respondents.

On Petition for a Writ of Certiorari to the United States Court of Appeals for the Federal Circuit

PETITION FOR A WRIT OF CERTIORARI

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QUESTION PRESENTED

Does 35 U.S.C. § 318(a), which provides that the Patent Trial and Appeal Board in an inter partes review "shall issue a final written decision with respect to the patentability of any patent claim challenged by the petitioner," require that Board to issue a final written decision as to every claim challenged by the petitioner, or does it allow that Board to issue a final written decision with respect to the patentability of only some of the patent claims challenged by the petitioner, as the Federal Circuit held?

PARTIES TO THE PROCEEDING AND RULE 29.6 STATEMENT

Petitioner, who was Appellant below, is SAS Institute Inc. Petitioner has no parent company, and no publicly traded corporation owns 10% or more of any of its stock.

Respondents are ComplementSoft, LLC, Appellee and Cross-Appellant below, and Michelle K. Lee, in her capacity as Director of the U.S. Patent and Trademark Office, who was an Intervenor below.

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OPINIONS BELOW

The Patent Trial and Appeal Board's Decision to Institute *Inter Partes* Review (App. 103a-28a), and that Board's Final Written Decision (App. 41a-86a) and its Decision denying SAS's Request for Rehearing (App. 129a-34a) are all unreported. The Federal Circuit's opinion (App. 1a-40a) is reported at 825 F.3d 1341 (Fed. Cir. 2016). Its precedential order denying rehearing en banc (App. 87a-102a) is reported at 842 F.3d 1223 (Fed. Cir. 2016).

JURISDICTION

The Federal Circuit denied rehearing en banc on November 7, 2016. This Court has jurisdiction under 28 U.S.C. § 1254(1).

CONSTITUTIONAL AND STATUTORY PROVISIONS INVOLVED

Each of the statutory provisions at issue was enacted by the Leahy-Smith America Invents Act (AIA), Pub. L. No. 112-29, 125 Stat. 284 (2011), and is now codified in Title 35 of the United States Code. The text of each relevant provision is set forth in the Appendix (App. 135a-48a).

STATEMENT

1. "The Leahy-Smith America Invents Act, 35 U.S.C. § 100 *et seq.*, creates a process called 'inter partes review.' That review process allows a third party to ask the U.S. Patent and Trademark Office to reexamine the claims in an already-issued patent and to cancel any claim that the agency finds to be unpatentable in light of prior art." *Cuozzo Speed Techs., LLC v. Lee*, 136 S. Ct. 2131, 2136 (2016). "The Act converts inter partes reexamination from an

examinational to an adjudicative proceeding, and renames the proceeding 'inter partes review.'" H. R. Rep. No. 112-98, at 46-47 (2011), *reprinted in* 2011 U.S.C.C.A.N. 67, 77 (H.R. Rep.); *Cuozzo*, 136 S. Ct. at 2137.

One critical consequence of this change to an adjudicative proceeding has to do with the effect of an adjudicated inter partes review upon district court infringement litigation: An important congressional objective of the Act was to ensure that "a final decision in a post-grant review process will prevent the petitioner, a real party in interest, or its privy from challenging any patent claim on a ground that was raised in the post-grant review process." H.R. Rep. at 48, 2011 U.S.C.C.A.N. at 78.

The detailed provisions of the Act bear this out. A petitioner begins the inter partes review process by filing a petition challenging the patentability of one or more claims in a given patent. 35 U.S.C. § 311(a), (b). *Inter alia*, the petition must "identif[y], in writing and with particularity, each claim challenged, the grounds on which the challenge to each claim is based, and the evidence that supports the grounds for the challenge to each claim." *Id.* § 312(a)(3). The owner of the challenged patent may file a "preliminary response" to the petition, setting forth "reasons why no inter partes review should be instituted." *Id.* § 313.

Section 314 sets forth the threshold for instituting inter partes review: The Director may institute inter partes review if "the Director determines that the information presented in the petition filed under section 311 and any response filed under section 313

shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition." *Id.* § 314(a). There is no requirement in the AIA that the Director's institution decision be reasoned; indeed, judicial review of an institution decision is generally unavailable. *Id.* § 314(d); *Cuozzo*, 136 S. Ct. at 2140-42; *id.* at 2150-53 (Alito, J., concurring in part and dissenting in part). The Patent Trial and Appeal Board conducts "each inter partes review instituted under this chapter." 35 U.S.C. § 316(c).

Section 318(a), the provision most central to this case, sets forth the requirements of a "final written decision": "If an inter partes review is instituted and not dismissed under this chapter, the Patent Trial and Appeal Board shall issue a final written decision with respect to the patentability of any patent claim challenged by the petitioner and any new claim added under section 316(d)" (which allows, with certain limitations, a patent owner's amendment of the patent during inter partes review with "a reasonable number of substitute claims," *id.* § 316(d)(1)(B)). "A party dissatisfied with the final written decision of the Patent Trial and Appeal Board under section 318(a) may appeal the decision" to the Federal Circuit, pursuant to 35 U.S.C. §§ 141-144. *Id.* § 319.

In section 315, the statute also establishes the relationship between—and consequences for—multiple proceedings, including parallel inter partes review actions and civil actions. If the petitioner has previously "filed a civil action challenging the validity of a claim of the patent," the Director is forbidden from instituting an inter partes review. *Id.*

§ 315(a)(1). And if the petitioner files a civil action after filing a petition for inter partes review, "that civil action shall be automatically stayed" until certain events occur. *Id.* § 315(a)(2). Likewise, inter partes review is forbidden if the petitioner has been served with a complaint alleging infringement of the patent "more than 1 year" prior to the filing of the petition. *Id.* § 315(b).

Finally, a petitioner is estopped from relitigating, in an infringement action, grounds of patent invalidity that were or could have been raised in the inter partes review. Once a "final written decision under section 318(a)" has been issued, the petitioner "may not assert either in a civil action arising in whole or in part under [the patent laws] or in a proceeding before the International Trade Commission . . . that the claim is invalid on any ground that the petitioner raised or reasonably could have raised during that inter partes review." *Id.* § 315(e)(2).[1]

2. On September 14, 2012, ComplementSoft sued SAS for patent infringement in the Northern District of Illinois. *See* Complaint, *ComplementSoft, LLC v. SAS Institute Inc.*, No. 1:12-cv-07372 (N.D. Ill. Sept.

[1] The America Invents Act also created parallel regimes for "Post-Grant Review" and review of "Covered Business Method Patents." Those statutory schemes contain the identical operative language as Sections 314(a) and 318(a) of Title 35. *See* 35 U.S.C. §§ 324(a) (entitled "THRESHOLD" for "Institution of post-grant review") & 328(a) (entitled "FINAL WRITTEN DECISION"); AIA, 125 Stat. 284, 329 § 18(a)(1) (providing that post-grant review for covered business method patents "shall be regarded as, and shall employ the standards and procedures of, a post-grant review under chapter 32 of title 35, United States Code . . .").

14, 2012) (Dkt. 1). ComplementSoft's complaint alleged that SAS had infringed "one or more claims of the '936 Patent [ComplementSoft's U.S. Patent No. 7,110,936], including but not limited to at least claims 1, 2, 3, 4, 8 and 10." *Id.* at ¶¶ 14-16; App. 42a, 104a. The '936 Patent contains 16 claims, numbered 1 through 16. Patent App. 1-16.

On March 29, 2013, within the one-year window set forth in 35 U.S.C. § 315(b), SAS petitioned for inter partes review of the '936 Patent, challenging the patentability of all 16 of the patent's claims, either as anticipated (35 U.S.C. § 102), or obvious (*id.* § 103) in view of prior art. App. 104a-05a. On August 12, 2013, the Patent Trial and Appeal Board, acting as the Director's delegate for making institution decisions pursuant to 37 C.F.R. § 42.4(a), and believing that it had the authority to institute inter partes review as to fewer than all 16 of the claims challenged in SAS's petition, instituted inter partes review only as to claims 1 and 3-10. App. 106a, 127a.

After receiving evidence and argument, the Patent Trial and Appeal Board on August 6, 2014 issued its "final written decision" under 35 U.S.C. § 318(a). App. 41a. Despite the statutory mandate that the Board "shall issue a final written decision with respect to the patentability of any patent claim challenged by the petitioner," the Board's final written decision addressed only claims 1 and 3-10, and not claims 2 and 11-16 of the '936 Patent. App. 84a. The Board largely ruled consistently with the reasoning of its August 2013 institution decision, although it reversed course as to claim 4 of the '936 Patent, adopting a new construction of that claim

never before raised by the parties or suggested by the Board. App. 70a.

SAS requested rehearing before the Board, challenging the substance of its patentability ruling with respect to claim 4 of the '936 Patent, and its procedural failure under § 318(a) to "issue a final written decision with respect to the patentability of any patent claim challenged by the petitioner." The Board denied rehearing on November 10, 2014, App. 129a.

3. SAS and ComplementSoft each timely appealed to the Court of Appeals for the Federal Circuit.

a. SAS again challenged the Board's determination of patentability with respect to claim 4 as well as the Board's refusal to issue a final written decision with respect to the patentability of all 16 patent claims it had challenged. App. 2a. ComplementSoft appealed the determination of unpatentability with respect to claims 1, 3, and 5-10 of the '936 Patent. App. 7a. The Director of the Patent and Trademark Office intervened to defend the Board's decision to issue a final decision as to only some of the claims challenged by SAS. *See* App. 1a.

b. After briefing had been completed in this case, but before oral argument, the Federal Circuit, on February 10, 2016, issued a 2-1 panel decision in *Synopsys, Inc. v. Mentor Graphics Corp.*, 814 F.3d 1309 (Fed. Cir. 2016). In *Synopsys*, the divided panel held that the text of § 318(a)—requiring a final written decision with respect to "any patent claim challenged by the petitioner"—was

materially different from the language of § 314(a), which allows institution of an inter partes review where there is a reasonable likelihood that the petitioner would prevail with respect to "at least 1 of the claims challenged in the petition." *Id.* at 1315. Accordingly, the panel majority concluded, "the claims that the Board must address in the final decision are different than the claims raised in the petition." *Id.* The *Synopsys* majority added that, "[a]lthough we find that the language is clear, if there were any doubt," the Board was authorized to adopt this partial-final-written-decision regime under its rulemaking authority, *id.* at 1316; *see* 35 U.S.C. § 316(a)(2); *Chevron U.S.A., Inc. v. Natural Resources Defense Council, Inc.*, 467 U.S. 837 (1984).

c. Judge Newman filed a lengthy dissent in *Synopsys*, setting forth several "principal concerns" with the majority's approach, most of which were caused by the erroneous construction of Section 318(a):

- By giving the Patent Trial and Appeal Board the authority to "'pick and choose' which of the challenged patent claims and issues it will decide in these new proceedings" under the AIA, the majority approved leaving some challenged claims unadjudicated; Judge Newman pointed out that this "absence of finality negates the AIA's purpose of providing an alternative and efficient forum for resolving patent validity issues." 814 F.3d at 1325.
- Judge Newman also pointed out that because decisions whether to institute inter

partes review are not appealable, *see* 35 U.S.C. § 314(d), the majority's ruling improperly immunizes, from appellate review, patentability rulings made on a preliminary basis at the pre-institution stage of an inter partes proceeding. 814 F.3d at 1325-26.

- Judge Newman further emphasized that the majority ruling had—contrary to the statutory text—turned the institution phase of the inter partes process into "a short-cut to final judgment." *Id.* at 1326.

Synopsys did not seek rehearing *en banc* from the Federal Circuit, nor did it seek certiorari from this Court.

d. On June 10, 2016, the panel in this case issued its decision, affirming the Board's decision except with respect to claim 4 of the '936 Patent, as to which the panel vacated the Board's determination. App. 1a.

With regard to the question of whether the "final written decision" had to address the patentability of all 16 claims challenged by SAS under Section 318(a), the panel divided 2-1. The panel majority viewed "SAS's argument that the Board must address all claims from the IPR petition in the final written decision [as] foreclosed by *Synopsys*." App. 22a.

Judge Newman again dissented. App. 23a. Reiterating many of the objections first outlined in her *Synopsys* dissent, Judge Newman summarized her objections to the majority's ruling:

> . . . . The PTO's position that it need not review some of the claims challenged in a petition for

> review via a post-grant proceeding is inconsistent with the Act. The PTO is authorized to refuse to institute review entirely—but a partial review cannot be inferred from the statute or accommodated to its purpose.
>
> The statutory provisions and the legislative purpose of substituting an agency tribunal for district court proceedings on aspects of patent validity are defeated by the PTO's position that it can leave some challenged claims untouched. The America Invents Act presents a new system of reviewing issued patents, providing for stays of district court proceedings, and estoppels in all tribunals, based on the PTO decision. Final determination of the validity of a challenged patent is not achieved when the PTO selects, at its sole and unreviewable choice, which claims it will review and which it will not touch.

App. 25a.

Judge Newman additionally noted that the statutory structure for inter partes review was carefully crafted by Congress, and its provisions are "designed to act in harmony, like a well-oiled engine." *Id.* at 26a. However, she added, "[i]ncorrect implementation by the agency distorts the framework, providing the now-observed result of protracted litigation grinding against administrative obstinacy. The victim is the Nation's innovation economy." *Id.*

4. SAS petitioned for rehearing *en banc* on the issue of whether the Board was obligated to issue a final written decision on all 16 of the challenged claims. On November 7, 2016, over Judge Newman's dissent, the Federal Circuit denied SAS's petition.

App. 87a. Her dissent from the denial of *en banc* rehearing addressed, *seriatim*, each of the relevant sections of the Smith-Leahy America Invents Act relevant to inter partes procedures (35 U.S.C. §§ 311-316 & 318), demonstrating that the statute's individual sections, as well as the statute as a whole, anticipated that final written decisions in inter partes review proceedings must reach all of the claims challenged by petitioners, not merely a subset thereof, else the statutory regime enacted by Congress would not work as intended. App. 93a-102a. Instead, the partial-institution, partial-decision regime adopted by the Patent Trial and Appeal Board, and now endorsed by two divided Federal Circuit panels, "leaves the unselected claims dangling, lacking both finality and estoppel, preventing the expediency and economy and efficiency that motivated the America Invents Act." App. 92a.

REASONS FOR GRANTING THE WRIT

I. THE FEDERAL CIRCUIT'S DECISION IS CONTRARY TO SECTION 318(a), AND TO THE AMERICA INVENTS ACT AND ITS PURPOSES

Section 318(a) is written in the plainest of English. It provides, as relevant here: "If an inter partes review is instituted and not dismissed under this chapter, the Patent Trial and Appeal Board shall issue a final written decision with respect to the patentability of any patent claim challenged by the petitioner . . . ." In this case, the conditions of Section 318(a) were met—"an inter partes review [was] instituted and not dismissed"—and so the Board was obligated to "issue a final written decision with

respect to the patentability of any patent claim challenged by the petitioner." Here, the petitioner (SAS) challenged all 16 claims of the ComplementSoft patent, but received a final written decision as to only nine of those 16 claims.

The Federal Circuit's contrary reading of the statute not only violates the canons of statutory construction; it also guts the America Invents Act of its intended effect—it "negates the AIA's purpose of providing an alternative and efficient forum for resolving patent validity issues," *Synopsys*, 814 F.3d at 1325 (Newman, J., dissenting), and throws a wrench into the works of a carefully crafted statutory regime. Certiorari should be granted so that the America Invents Act may be restored to its proper, intended scope.

A. Section 318(a) Requires "A Final Written Decision With Respect To The Patentability Of Any Patent Claim Challenged By The Petitioner"

Under the statute, "the patentability of any patent claim challenged by the petitioner" must be addressed in the Board's final written decision. 35 U.S.C. § 318(a). Here, the petitioner, SAS, challenged the patentability of claims 1-16 of the ComplementSoft patent. App. 42a. Under the plain language of Section 318(a), the Board's final written decision should have addressed the patentability of all 16 of those claims, and the Federal Circuit should have remanded the case to the Board for decisions on the seven claims it did not address.

B. The Federal Circuit's Interpretation Of Section 318(a) Violates The Section's Plain Language By Allowing Final Written Decisions On Less Than "Any Patent Claim Challenged By The Petitioner"

The Federal Circuit ruled otherwise. Relying on its decision in *Synopsys*, 814 F.3d at 1314-17, the Court of Appeals concluded that "the differing language [in the institution-decision subsection, 35 U.S.C. § 314(a)] implies a distinction between the two subsections such that § 318(a) does not foreclose the claim-by-claim approach the Board adopted there and in this case." App. 21a.

The Federal Circuit's claimed distinction between Sections 314(a) and 318(a) is not borne out by the statutory language. Section 314, entitled "Institution of inter partes review," provides—in the negative—that the Director of the Patent Office "may not authorize an inter partes review to be instituted unless the Director determines that [the information contained in the parties' institution-related filings] shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition." That statutory subsection—entitled "THRESHOLD"—sets forth the threshold standard for instituting an inter partes review, which is that the preliminary filings must demonstrate a reasonable likelihood of success on at least one of the "claims challenged in the petition." Section 314(a) does not, however, explicitly authorize the Director to "institut[e] an inter partes review" that is limited to fewer patent claims than are challenged in the petition, nor does it say that

such a partial institution transforms the un-instituted patent claims into claims that are no longer "challenged by the petitioner," in the words of Section 318(a).

The Federal Circuit in *Synopsys*, however, believed that there was a meaningful distinction between Section 314(a)'s reference to "claims challenged in the petition" and Section 318(a)'s requirement of a final written decision as to any "claim challenged by the petitioner." 814 F.3d at 1315 (citing *Bailey v. United States*, 516 U.S. 137, 146 (1995)). Pursuant to the Federal Circuit's distinction, "claims challenged in the petition" and "any patent claim challenged by the petitioner" carry two entirely different meanings—the former referring to the claims challenged in the initial filing, and the latter to the claims that the Board, in its unreviewable discretion, allows the petitioner to continue to litigate post-institution.

That distinction is an untenable one as a matter of statutory language. For one, the provision governing institution, § 314(a), does not suggest that the Director is allowed to institute inter partes reviews on only some claims; she "may not authorize an inter partes review to be instituted unless [she] determines that the" pre-institution filings show "a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition." Indeed, all of the relevant AIA provisions—§§ 312(a)(3), 314(a), 315(e), 316(a), and 318(a)—assume that inter partes review will proceed, and take the place of litigation on, all claims challenged by a petitioner in a petition; none

suggests that inter partes review will proceed on only a subset of the challenged claims.

For another, the facts of this case illustrate why the partial-institution, partial-decision practice is contrary to the statute. Here, SAS filed a petition challenging all 16 claims of the ComplementSoft patent. All 16 of those claims, therefore, were within the broad, linguistically unlimited scope of § 318(a)'s "*any* patent claim challenged by the petitioner." *See, e.g.*, *United States v. Gonzales*, 520 U.S. 1, 5 (1997) ("the word 'any' has an expansive meaning"). Claims 2 and 11-16 of the ComplementSoft patent were "challenged by the petitioner," SAS, in the only vehicle available for mounting such a challenge (the petition), yet SAS has never received a final written decision as to those claims as mandated by the statute.

Instead, the Federal Circuit rewrote the straightforward language of Section 318(a) to say that "the Board must issue a final written decision with respect to only those claims on which inter partes review has been instituted and which the Board has allowed the petitioner to pursue after the institution stage." Had Congress meant that, it could have said so, but it did not. There is no justification for the addition of such judicial embroidery upon the congressional language. *See, e.g.*, *Bates v. United States*, 522 U.S. 23, 29 (1997) ("[W]e ordinarily resist reading words or elements into a statute that do not appear on its face.").

Likewise, the Federal Circuit's suggestion that the conditional phrase in § 318(a)—"if an inter partes review is instituted"—"strongly suggests that the

'challenged' claims referenced are the claims for which inter partes review was instituted, not every claim challenged in the petition," *Synopsys*, 814 F.3d at 1315, is at best a circular argument. Nothing in § 314(a), or, indeed, anywhere in the AIA, allows or anticipates a partial-institution practice, and so the Federal Circuit's logic assumes its conclusion that partial inter partes reviews, and partial decisions, are appropriate. The statute says otherwise.

C. The Federal Circuit's Interpretation Also Runs Afoul Of The Act's Overall Language, Structure, And Manifest Purpose

Judge Newman's trio of dissenting opinions—in *Synopsys*, in the panel decision in this case, and from the denial of rehearing en banc in this case—sets forth, in detail, why the panel's interpretation of Section 318(a) will do harm to the efficient operation of the post-patent-issuance challenge regime that was established by the America Invents Act.

First, the language of the Act as a whole demonstrates that Congress did not design a piecemeal regime of post-patenting review, but one that, if initiated, would resolve all such challenges in a final written decision. Principal among these is the parallel language of Sections 312(a)(3), 314(a) and 318(a). Section 312(a)(3) requires a petition to "identif[y] in writing and with particularity, each claim challenged, the grounds on which the challenge to each claim is based, and the evidence that supports the grounds for the challenge to each claim." Section 314(a) empowers the Director to institute inter partes review only if "there is a reasonable

likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition." And Section 318(a) requires the Board to "issue a final written decision with respect to the patentability of any patent claim challenged by the petitioner." These verbal constructs—"each claim challenged," "the challenge to each claim," "the claims challenged in the petition," and "any patent claim challenged by the petitioner"—plainly refer to the same thing: the patent claims that are challenged in the petition, by the petitioner. The fact that these parallel provisions appear in the same Act lends even greater weight to the conclusion that they should be interpreted identically in each section: An Act of Congress "should not be read as a series of unrelated and isolated provisions," which in turn compels "the 'normal rule of statutory construction' that 'identical words used in different parts of the same act are intended to have the same meaning.'" *Gustafson v. Alloyd Co.*, 513 U.S. 561, 570 (1995) (quoting *Department of Revenue of Ore. v. ACF Industries, Inc.*, 510 U.S. 332, 342 (1994)).

Second, as so forcefully articulated by Judge Newman's dissents, the Board's partial-decision process, which the Federal Circuit upheld, eliminates one of the core purposes of the act—the ability to have patentability determinations adjudicated in a single proceeding, either before the Board or in court. *Synopsys*, 814 F.3d at 1327-31 (Newman, J., dissenting); App. 30a-38a; App. 97a-100a; 35 U.S.C. § 315(e) (estoppel provision of America Invents Act).

Third, the partial-decision regime upheld by the Federal Circuit in this case and in *Synopsys* contradicts the legislative history of the Act, which

reflects the Act's intended purpose of allowing post-issuance review to serve as a substitute for, not a supplement to, litigation. In addressing the estoppel provisions of the Act, the House Judiciary Committee's report emphasized that allowing repeated attacks on patents could be used "as tools for harassment or a means to prevent market entry through repeated litigation and administrative attacks on the validity of a patent," and so the Act precludes "improperly mounting multiple challenges to a patent or initiating challenges after filing a civil action challenging the validity [of] a claim in the patent." H. R. Rep. at 48, 2011 U.S.C.C.A.N. at 78.

The legislative statements of pivotal individuals confirm this understanding of the Act. Senator Grassley, "a central figure" in the enactment of the America Invents Act (*Synopsys*, 814 F.3d at 1327 (Newman, J., dissenting)), said that the purpose of the Act's estoppel provision, 35 U.S.C. § 315, was to "completely substitute for" adjudication of the same issues in litigation. 157 Cong. Rec. S1360-94 (daily ed. March 8, 2011). This understanding was echoed by then-USPTO-Director Kappos: "Those estoppel provisions mean that your patent is largely unchallengeable again by the same party." *America Invents Act: Hearing on H.R. 1249 Before the House Comm. on the Judiciary*, 112th Cong. 52-53 (2011).

Perhaps most notably, however, the legislative record contains no suggestion whatsoever that final written decisions of the Patent Trial and Appeal Board should extend to fewer than all of the claims challenged by the petitioner. *Synopsys*, 814 F.3d at 1333-36 (Newman, J., dissenting) ("canvass[ing] the entire record" of the legislative history).

Indeed, the United States Department of Justice, which was a petitioner in a recent inter partes review before the Patent Trial and Appeal Board, correctly challenged the Board's partial-institution, partial-decision practice: "[B]y picking and choosing some but not all of the challenged claims in its Decision, the Board has undermined the Congressional efficiency goal and increased the workload of both parties who are now forced to litigate validity between two forums—this board and the Court of Federal Claims." Petitioner's Request for Rehearing Pursuant to 37 C.F.R. § 42.71(d), U.S. Patent No. 7,323,980, *Department of Justice v. Discovery Patents, LLC*, Case IPR2016-01041 (Patent Trial & Appeal Bd., Nov. 29, 2016). The Board denied the Department of Justice's rehearing request on January 19, 2017, citing, *inter alia*, the Federal Circuit's *Synopsys* decision. *See* Decision Denying Petitioner's Request for Rehearing, *Department of Justice v. Discovery Patents, LLC*, Case IPR2016-01041 (Patent Trial & Appeal Bd., Jan. 19, 2017).

D. The Federal Circuit's Interpretation Cannot Be Saved By *Chevron*

The panel majority in *Synopsys* believed that the statute was "quite clear" and "strongly implies" allowing the PTO to "institute inter partes review on a claim-by-claim basis," 814 F.3d at 1315-16, and therefore to issue final written decisions only as to the claims on which review was instituted. However, the *Synopsys* majority added that, "if there were any doubt about the Board's authority and the statute were deemed ambiguous, the PTO has promulgated a regulation allowing the Board to institute as to some or all of the claims." *Id.* at 1316 (citing 37 C.F.R.

§ 42.108). According to the *Synopsys* majority, "this regulation is a reasonable interpretation of the statutory provision governing the institution of inter partes review" under *Chevron*, 467 U.S. 837. *Id.*

Chevron cannot save the Board's partial-institution, partial-decision regime. For one, as detailed above, the statutory language is clear, but not in the way the *Synopsys* majority thought. Section 314(a)'s threshold determination for commencing an inter partes review is a finding that "there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition." This is neither "quite clear" nor does it "strongly impl[y]" that review, and decision, may be had on fewer than all of the challenged claims; rather, it is simply a definition of the "threshold" showing required before the inter partes review—which should thereafter take place, and yield a final written decision, on all challenged claims—may be instituted.

For another, even aside from Section 314(a), the statute's requirement in Section 318(a) that "the Patent Trial and Appeal Board shall issue a final written decision with respect to the patentability of any patent claim challenged by the petitioner" would still remain. And whatever *Chevron* deference might attach to the interpretation of Section 314(a)'s language, it would remain the case that any claims on which inter partes review was not "instituted" under Section 314(a) would still be claims "challenged by the petitioner" under Section 318(a), and thus are still subject to that latter section's mandate ("shall issue") that the Board's final written decision must address all, not just some, of those challenged claims. As noted above, two different

Executive Branch agencies—the Department of Justice and the Patent and Trademark Office—appear to be at loggerheads over this issue, providing yet a further indication of the importance of this issue and the need for this Court's review.

So, too, it bears noting that when the Patent and Trademark Office first proposed its rule allowing for partial institution of inter partes reviews, the agency was met with numerous objections. In particular, the chief patent counsel of IBM objected that "the statute does not appear to leave discretion to provide a final written decision not addressing any claim that was initially challenged by the petitioner on the basis that the Office determined it to be 'not part of the trial.'" *Comments on Changes to Implement Inter Partes Review Proceedings*, IBM 5 at 3 (April 6, 2012) (available at http://www.uspto.gov/sites/default/files/aia_implementation/comment-ibm5.pdf, and quoted in *Synopsys*, 814 F.3d at 1329 (Newman, J., dissenting). The Office's response to this objection invoked "workload" and "statutory time constraints." 80 Fed. Reg. 50720, 50739 (Aug. 20, 2015) (quoted in *Synopsys*, 814 F.3d at 1330 (Newman, J., dissenting)).

This response was not an adequate reason for the Office to adopt a procedure contrary to the clear command of the statute. Of course, "an agency may not rewrite clear statutory terms to suit its own sense of how the statute should operate." *Utility Air Regulatory Grp. v. Environmental Protection Agency*, 134 S. Ct. 2427, 2446 (2014). But beyond that, the Patent and Trademark Office has not, by this mechanism, achieved the alleviation of its own "workload" that the statute, by its actual terms, would allow: Because the institution decision is not

ordinarily reviewable, *see* 35 U.S.C. § 314(d); *Cuozzo*, 136 S. Ct. at 2139-42, there is no requirement in the AIA that the institution decision be any more reasoned than a simple up-or-down "notice" that an inter partes review has been instituted and will commence on a certain date. *See* 35 U.S.C. § 314(c) ("NOTICE.—The Director shall notify the petitioner and patent owner, in writing, of the Director's determination under subsection (a), and shall make such notice available to the public as soon as is practicable. Such notice shall include the date on which the review shall commence.").

Instead, however, the Board—as the delegate of the Director of the Patent and Trademark Office—has taken it upon itself to issue extended written determinations, *at the time of institution*, explaining the reasons why review was instituted or not. That is the Board's practice, and it was followed in this case. App. 103a-28a (23-page-long "Institution of *Inter Partes* Review" decision). As a result, the Board is effectively making non-final written decisions on non-instituted patent claims, but depriving those decisions of their intended estoppel effect under Section 315, as well as insulating them from judicial review under Section 319. The Director and the Board could easily honor the statute, with no negative effect on the Director's (or the Board's) workload, by foregoing those extensive, unreviewable, and non-estopping preliminary opinions, following the procedures established by Congress, and issuing comprehensive final written decisions on all challenged claims—complete decisions that can then be given complete estoppel effect and reviewed by the Federal Circuit.

Finally, the Office's use of its authority to prescribe regulations under Section 316(a)—which allows the Director to "se[t] forth the standards for the showing of sufficient grounds to institute a review under section 314(a)," but not to define the scope of such "review"—raises serious separation-of-powers concerns. Congress, in enacting the America Invents Act, established a comprehensive, detailed regime for the post-issuance review of patents. The Director's adoption of what amounts to a fundamentally different procedural regime for the review of issued patents, and the Federal Circuit's willingness to read the Act's various references to "claims challenged" not *in pari materia*, but in a fluid fashion, seeks to arrogate the legislature's power to the Executive and Judicial branches.

Whatever the wisdom of *Chevron*, it cannot be allowed such free rein as to allow the agency tasked with implementing the statute—here, the Patent and Trademark Office—to rewrite the law's procedures to serve its interests in convenience. The *Chevron* decision has been criticized recently as "permit[ting] executive bureaucracies to swallow huge amounts of core judicial and legislative power and concentrate federal power in a way that seems more than a little difficult to square with the Constitution of the framers' design." *Gutierrez-Brizuela v. Lynch*, 834 F.3d 1142, 1149 (10th Cir. 2016) (Gorsuch, J., concurring). Indeed, in *Cuozzo* itself, interpreting another (though related) provision of this same Act, Justice Thomas outlined and repeated his concerns over "*Chevron*'s fiction that ambiguity in a statutory term is best construed as an implicit delegation of power to an administrative agency to determine the

bounds of the law." 136 S. Ct. at 2148 (Thomas, J., concurring).

Here, because of that same kind of agency overreach, the Patent and Trademark Office has adopted—apparently for its own convenience—a set of procedures and decisional requirements which are inconsistent with the AIA. So Justice Thomas's and Judge Gorsuch's concerns about unconstitutional agency overreach are present and manifest here. Those constitutional concerns can be avoided here, however, by simply honoring the Congressional design of inter partes review—an institution decision that grants or denies the petition, 35 U.S.C. § 314, followed, if the review is granted, by a final written decision addressing "the patentability of any patent claim challenged by the petitioner." *Id.* at § 318(a). That way, the final written decision can have the intended estoppel effect as a substitute for court litigation, *id.* at § 315, and can be subject to judicial review, *id.* at § 319, just as the AIA intended.

II. THE QUESTION OF SECTION 318(a)'S PROPER INTERPRETATION IS SQUARELY PRESENTED IN THIS CASE, AND CRITICALLY IMPORTANT TO THE ORDERLY ADMINISTRATION OF THE NATION'S PATENT SYSTEM

This case is not just an appropriate vehicle for this Court to consider the issue presented; it is, as a practical matter, likely to be the best vehicle for doing so. Because of the Federal Circuit's exclusive nationwide appellate jurisdiction over appeals from the Patent Trial and Appeal Board, *see* 28 U.S.C. § 1295(a)(4)(A), the *Synopsys* decision and this case

will be cemented as the law of the land absent this Court's intervention—there can be no circuit split, and it is unlikely that any future litigant will be in a position to challenge this extra-statutory regime in view of this binding, conclusive precedent.

Though a circuit split cannot exist in this case, this case satisfies all of the other usual criteria for review: It presents an important, pure question of law—the proper construction of Section 318(a)—which is squarely presented on this record, and was squarely decided by the Court of Appeals, with multiple, vigorous dissents by the seniormost member of that Court. And this important issue has now divided two Executive Branch agencies. *See* p. 18, *supra*. Between the *Synopsys* decision and this case, the issue has now received as much ventilation and percolation as it will ever get.

The issue cuts across all aspects of post-patent-issuance review—inter partes reviews (IPRs), post-grant reviews (PGRs), and covered business method reviews (CBMRs). As noted above, *supra* n.1, the same statutory requirement applies to final written decisions in each type of proceeding. *See* 35 U.S.C. §§ 318(a), 328(a). And the PTO's corresponding rule for PGRs and CBMRs also uses the same language, *see* 37 C.F.R. § 42.208(a). Accordingly, resolution of this issue will affect the proper procedures of all future post-issuance proceedings under the AIA.

And finally, the issue is critically important to the proper administration of the Nation's patent laws. Published statistics show that as of 2014—the last year for which the Patent and Trademark Office has made such data available—the Board was partially

instituting (and thus partially deciding) inter partes and covered-business-method review in over 25% of the petitions presented to it. *See AIA Trial Roundtables*, www.uspto.gov/ip/boards/bpai/ptab_roundtable__slides_may_update__20140503.pdf (Slide 25) (last visited Jan. 30, 2017). Without this Court's review, and correction, of the Board's institution and decision procedures, these *ultra vires* practices will affect hundreds upon thousands of cases in the near future, and will have the further undesired effect of clogging court dockets with redundant patent litigation, "thereby adding to the litigants' [and the courts'] burden rather than lightening it." App. 31a-32a (Newman, J., dissenting).

CONCLUSION

The petition should be granted.

Respectfully submitted,

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January 31, 2017

APPENDIX

APPENDIX A

UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

SAS INSTITUTE, INC.,
Appellant

v.

COMPLEMENTSOFT, LLC.,
Cross-Appellant

2015-1346, 2015-1347

Appeals from the United States Patent and Trademark Office, Patent Trial and Appeal Board in No. IPR2013-00226.

Decided: June 10, 2016

JOHN MARLOTT, Jones Day, Chicago, IL, argued for appellant. Also represented by GREGORY A. CASTANIAS, Washington, DC; DAVID B. COCHRAN, Cleveland, OH; MATTHEW JOHNSON, Pittsburgh, PA.

MATTHEW TOPIC, Loevy & Loevy Attorney at Law, Chicago, IL, argued for cross-appellant.

JOSEPH GERARD PICCOLO, Office of the Solicitor, United States Patent and Trademark Office,

Alexandria, VA, argued for intervenor. Also represented by THOMAS W. KRAUSE, SCOTT WEIDENFELLER, STACY BETH MARGOLIES.

Before NEWMAN, CHEN, and STOLL, *Circuit Judges*.

Opinion for the court filed by *Circuit Judge* STOLL.

Opinion concurring-in-part and dissenting-in-part filed by *Circuit Judge* NEWMAN.

STOLL, *Circuit Judge*.

SAS Institute, Inc. filed an inter partes review ("IPR") petition with the Patent Trial and Appeal Board ("Board") to review the patentability of ComplementSoft's U.S. Patent No. 7,110,936. The Board instituted an IPR proceeding on some, but not all, of the '936 patent claims challenged in SAS's petition. The Board ultimately found all of the instituted claims, except for claim 4, unpatentable in view of the prior art. SAS argues on appeal that the Board misconstrued a claim term and that the Board erred by not addressing in the final written decision claims SAS petitioned against, but that the Board did not institute as part of the proceeding. ComplementSoft cross-appeals two of the Board's claim constructions. For the reasons below, we agree with the Board on all of the challenged constructions and determine that the Board did not need to address in its final written decision claims it did not institute. We also vacate the Board's determination that claim 4 is patentable and remand so that the parties may address a new construction that the Board adopted in its final written decision after interpreting the claim differently before.

BACKGROUND

I.

ComplementSoft is the assignee of the '936 patent, issued September 19, 2006, and directed to an "Integrated Development Environment for generating and maintaining source code . . . in particular, programmed in data manipulation languages." '936 patent col. 2 ll. 8–11. The patent characterizes a development environment as comprising a set of software tools allowing users to develop, edit, and debug software for a particular programming language or set of programming languages. *Id.* col. 1 ll. 32–48. The development environment contemplated by the '936 patent utilizes a graphical user interface and is particularly designed for data manipulation languages, including SAS®, which is developed by the appellant. *Id.* col. 1 l. 64 – col 2 l. 3, col. 2 l. 11. The specification describes that the development environment of the '936 patent serves three primary functions: (1) it allows users to locally edit code stored on a central server; (2) it detects a user's programming language and parses code accordingly; and (3) it generates representative visualization of such code, which can be directly edited to effect a change to the underlying code. *Id.* col. 2 l. 8 – col. 3 l. 20.

The specification describes that four major components of the '936 patent design environment are a document manager, an editor, a parser layer, and a visualizer. The document manager is a program that performs enhanced file management functions. *Id.* col. 6 ll. 22–42. The editor allows a user to edit and debug source code using standard text-editing functions. *Id.* col. 7 l. 3 – col. 8 l. 7. The

parser layer examines source code, detects which programming language is being used in the code, and applies rules and logic corresponding to that programming language. *Id.* col. 9 ll. 38–53, col. 17 ll. 30–45. Finally, the visualizer works in conjunction with the parser layer to parse the code and display it graphically using icons connected with arrows. *Id.* col. 8 ll. 8–12.

The '936 patent discloses two types of visualizations, those for program flows and those for data flows. Program flow diagrams contain programming block icons, which represent sections of source code, linked with arrows that depict the overall flow of the program. *Id.* col. 2 ll. 38–40, col. 15 ll. 56–59. Figure 9 of the '936 patent depicts a program flow.

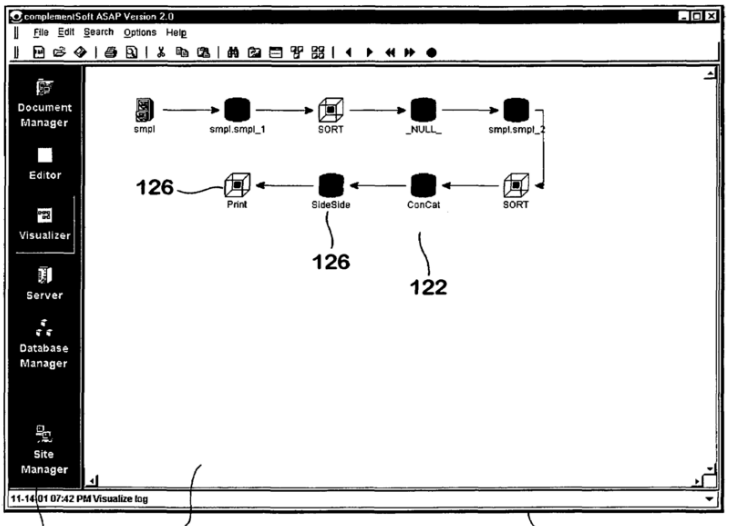

FIG. 9

Data flow diagrams, the other visualization disclosed by the '936 patent, "are comprised of icons depicting

data processing steps and arrows to depict the flow of the data through the program." *Id.* col. 2 ll. 40–42. Figure 17 of the '936 patent depicts a data flow.

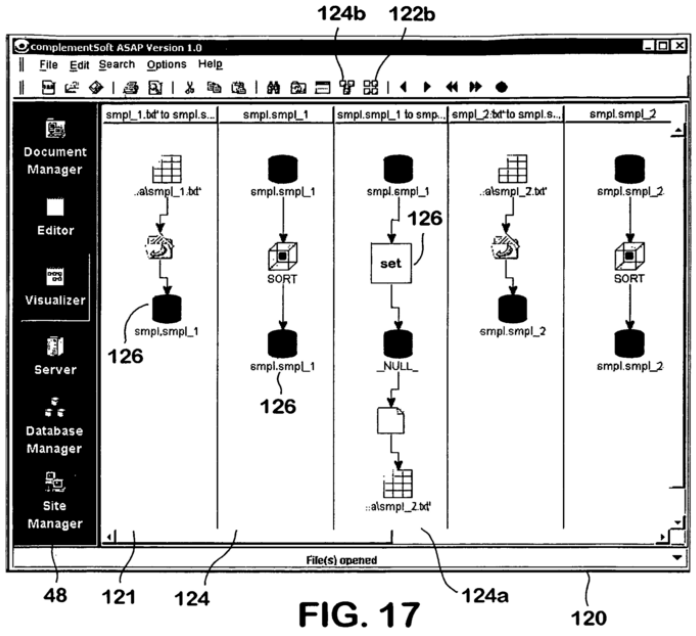

FIG. 17

During prosecution, the patentee added the "data manipulation languages" limitation to the claims in response to a prior art rejection based on U.S. Patent No. 6,851,107 to Coad ("the Coad patent"). The Coad patent generally describes a design environment for purely object-oriented programming languages, such as Java and C++. In response to the patentee's amendment, the examiner allowed the claims to issue, stating that the Coad patent does not disclose "that the detected language is a data manipulation language." J.A. 528.[1]

[1] Citations to "J.A. ___" refer to the Joint Appendix filed by the parties.

The claims at issue in this appeal are independent claim 1 and dependent claim 4. They recite:

> 1. An integrated development environment, comprising:
>
> a document manager for retrieving source code programmed using one of a plurality of types of *data manipulation languages*;
>
> an editor for displaying the retrieved source code and providing a means for a user to edit the retrieved source code;
>
> a parser layer which detects the one of the plurality of types of *data manipulation languages* in which the retrieved source code is programmed and which activates rules and logic applicable to the detected one of the plurality of types of *data manipulation languages*; and
>
> a visualizer dynamically linked to the editor for displaying *graphical representations of flows* within the retrieved source code using the rules and logic applicable to the detected one of the plurality of types of *data manipulation languages* and activated by the parser, wherein the editor, parser layer and visualizer cooperate such that edits made to the source code using the editor are automatically reflected in the *graphical representations of flows* displayed by the visualizer and edits made to the *graphical representations of flows* in the visualizer are automatically reflected in the source code displayed by the editor.
>
> 4. The integrated development environment as recited in claim 1, wherein the *graphical*

> *representations of data flows* are expandable and collapsible.

Id. col. 18 ll. 19–43, 50–52 (emphases added).

II.

SAS petitioned for IPR of the '936 patent, alleging that all sixteen of the patent's claims were unpatentable as anticipated under 35 U.S.C. § 102 or as obvious under 35 U.S.C. § 103. [2] The Board instituted IPR for claims 1 and 3–10 on obviousness grounds, but did not institute IPR for claims 2 and 11–16. Relevant to this appeal, the Board's institution decision construed "data manipulation language" as "a programming language used to access data in a database, such as to retrieve, insert, delete, or modify data in the database," and "graphical representations of flows within the retrieved source code" as "a diagram that depicts a map of the progression (or path) through the source code." SAS *Inst., Inc. v. ComplementSoft, LLC*, IPR2013-00226, 2013 WL 8595939, at *4–6 (PTAB Aug. 12, 2013) (*Institution Decision*). The institution decision also interpreted "graphical representations of data flows" to mean "a depiction of a map of the path of data through the executing source code." *Id.* at *12.

The Board's final written decision concluded that claims 1, 3, and 5–10 of the '936 patent were unpatentable as obvious in view of the prior art. At

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[2] The versions of 35 U.S.C. §§ 102 and 103 that apply here are those in force preceding the changes made by the America Invents Act, given the effective filing dates of the claims of the '936 patent. See Leahy–Smith America Invents Act, Pub. L. No. 112-29, 125 Stat. 284, 293 (2011).

the same time, the Board found claim 4 patentable over the prior art. Particularly, the Board found that the prior art did not satisfy the "graphical representations of data flows" limitation in claim 4, which it newly construed to mean "a graphical representation comprised of icons depicting data processing steps and arrows to depict the movement of data through source code." [3] The Board's construction of this purportedly unmet claim limitation differed from the interpretation the Board gave in its institution decision: "a depiction of a map of the path of data through the executing source code." *Institution Decision*, 2013 WL 8595939, at *12. The final written decision did not review patentability of claims 2 and 11–16 for which the Board did not institute IPR. *See SAS Inst., Inc. v. ComplementSoft, LLC*, IPR2013-00226, 2014 WL 3885937, at *24 & n.3 (PTAB Aug. 6, 2014) (*Final Written Decision*) ("Claims 2 and 11–16 are not at issue in this trial.").

SAS sought rehearing before the Board, which the Board denied. SAS then timely appealed to this court, and ComplementSoft timely cross-appealed. We have jurisdiction under 28 U.S.C. § 1295(a)(4)(A) and 35 U.S.C. § 141(c) to review the Board's final written decision.

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[3] The final written decision actually construed the shorter term "data flows." The Board, however, in its denial of SAS's request for rehearing, clarified that the construction applies equally to the longer claim term "graphical representations of data flows," else the construction would repeat the "graphical representations" language found in the claim. *SAS Inst., Inc. v. ComplementSoft, LLC*, IPR2013-00226, Paper No. 40, at *3–4 (PTAB Nov. 10, 2014) (*Rehearing Denial*).

DISCUSSION

On appeal, SAS argues that the Board erred by construing "graphical representations of data flows" in claim 4 as "a graphical representation comprised of icons depicting data processing steps and arrows to depict the movement of data through source code." SAS also argues that it was improper for the Board to change its interpretation of this claim term in the final written decision without affording the parties an opportunity to respond. SAS lastly argues that the Board's final written decision is deficient for failing to address the patentability of all claims SAS included in its IPR petition, including those for which the Board did not institute IPR. ComplementSoft cross-appeals, arguing that the Board erred in construing two terms in claim 1: "data manipulation language" as "a programming language used to access data in a database, such as to retrieve, insert, delete, or modify data in the database"; and "graphical representations of flows within the retrieved source code" as "a diagram that depicts a map of the progression (or path) through the source code." We first address the parties' claim construction arguments and then move to SAS's remaining arguments.

I.

"The ultimate construction of the claim is a legal question and, therefore, is reviewed de novo." *Info-Hold, Inc. v. Applied Media Techs. Corp.*, 783 F.3d 1262, 1265 (Fed. Cir. 2015). Further, claim construction based solely upon intrinsic evidence—meaning the patent claims, the patent specification, and the prosecution history—is a matter of law reviewed de novo. *Teva Pharms. USA, Inc. v. Sandoz,*

Inc., 135 S. Ct. 831, 841 (2015). On the other hand, when extrinsic evidence is relied upon, we review the Board's "underlying factual determinations involving extrinsic evidence for substantial evidence." *Microsoft Corp. v. Proxyconn, Inc.*, 789 F.3d 1292, 1297 (Fed. Cir. 2015) (citing *Teva*, 135 S. Ct. at 841–42).

Claim construction seeks to ascribe the meaning to claim terms as a person of ordinary skill in the art at the time of invention would have understood them. *Phillips v. AWH Corp.,* 415 F.3d 1303, 1312–14 (Fed. Cir. 2005) (en banc) (citing *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996)). In an IPR proceeding, claims are given their broadest reasonable interpretation in light of the specification. *In re Cuozzo Speed Techs., LLC*, 793 F.3d 1268, 1279 (Fed. Cir. 2015), *cert. granted sub nom. Cuozzo Speed Techs., LLC v. Lee*, No. 15-446, 2016 WL 205946 (U.S. Jan. 15, 2015). In construing terms, "the person of ordinary skill in the art is deemed to read the claim term not only in the context of the particular claim in which the disputed term appears, but in the context of the entire patent, including the specification." *Phillips*, 415 F.3d at 1313. Indeed, the specification is "the single best guide to the meaning of a disputed term" and "[u]sually, it is dispositive." *Id.* Thus, "claims 'must be read in view of the specification, of which they are a part.'" *Id.* at 1315 (quoting *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 979 (Fed. Cir. 1995) (en banc), *aff'd,* 517 U.S. 370 (1996)).

A.

The Board ultimately construed "graphical representations of data flows" as "a graphical

representation comprised of icons depicting data processing steps and arrows to depict the movement of data through source code." *Final Written Decision*, 2014 WL 3885937, at *10. In construing this term, the Board recognized that the specification did not use the claim term at all. The Board also recognized, however, that the specification spoke extensively about "data flow diagrams" and, in fact, defined them as comprising "icons depicting data processing steps and arrows to depict the movement of data through source code." '936 patent col. 2 ll. 40–42. After determining that there was no reason to conclude that the patentee meant something different between the terms "graphical representations of data flows" and "data flow diagrams," the Board used the specification's definition of data flow diagrams to construe graphical representations of data flows.

We agree with the Board's construction. SAS argues that because the Board's construction is narrow, it cannot be the broadest reasonable interpretation of the claim term. This is not so. While we have endorsed the Board's use of the broadest reasonable interpretation standard in IPR proceedings, we also take care to not read "reasonable" out of the standard. This is to say that "[e]ven under the broadest reasonable interpretation, the Board's construction cannot be divorced from the specification and the record evidence, and must be consistent with the one that those skilled in the art would reach." *Proxyconn*, 789 F.3d at 1298 (internal quotation marks omitted) (first quoting *In re NTP, Inc.*, 654 F.3d 1279, 1288 (Fed. Cir. 2011); and then quoting *In re Cortright*, 165 F.3d 1353, 1358 (Fed. Cir. 1999)). The broadest reasonable interpretation here

is that the claimed "graphical representation of a data flow" is commensurate with the "data flow diagram" described in the specification. The Board noted this, concluding that the specification suggests that the terms "data flow diagram" and "graphical representation of data flow" are interchangeable. *Final Written Decision*, 2014 WL 3885937, at *10; *Rehearing Denial*, IPR2013-00226, Paper No. 40, at *4. The only difference between these two phrases is the word "diagram" in the first phrase and the word "graphical representation" in the other. And a diagram is, in fact, a graphical representation. Because the specification explicitly defines data flow diagram, one of skill in the art having read the specification would apply this definition to graphical representations of data flows as well.

What the specification also makes clear is that program flows differ from data flows. The Board correctly noted that the specification consistently distinguishes these flows. *See Rehearing Denial*, IPR2013-00226, Paper No. 40, at *5 (citing '936 patent col. 2 ll. 38–42, col. 8 ll. 8–14, col. 16 ll. 6–30); see also '936 patent abstract, col. 2 ll. 33–38, col. 3 ll. 3–5. The specification crystallizes this distinction when it describes a user having to "toggle between the program flow and the data flow display" in the visualizer. '936 patent col. 15 ll. 50–56. The figures also show that program flows differ from data flows. *Compare id.* Fig. 9, *with id.* Fig. 17. To the extent that SAS argues that the specification describes a representation of a program flow as depicting the flow of data, we disagree that one of skill in the art would equate this with a graphical representation of a data flow, given the specification's consistent

disjunction of the two flows. Thus, it is not in error for the Board's construction of "graphical representation of data flow" in claim 4 to exclude program flows.

The structure of the claims also lends support to the Board's construction. *See Phillips*, 415 F.3d at 1314 ("Other claims of the patent in question, both asserted and unasserted, can also be valuable sources of enlightenment as to the meaning of a claim term."). Independent claim 1 recites broadly "graphical representations of flows," and dependent claims 2 and 3 recite more specifically that the flows are "data flows" or "program flows," respectively. '936 patent col. 18 ll. 19–49. This structure is consistent with the specification, which first discloses visualizations generally and then immediately defines program flow diagrams and data flow diagrams as distinct things. *See id.* col. 2 ll. 33–42. We therefore reject SAS's argument that the Board construed the term "graphical representations of data flows" too narrowly.

B.

On cross-appeal, ComplementSoft first challenges the Board's construction of "data manipulation language" as "a programming language used to access data in a database, such as to retrieve, insert, delete, or modify data in the database." ComplementSoft argues that this construction should limit the claim term to program languages that are solely purposed for creating datacentric programs and which provide direct access to a database. Particularly, ComplementSoft would have us exclude object-oriented languages altogether—even when implemented with embedded data manipulation code

using Structured Query Language ("SQL")—because the prior art Coad patent the patentee distinguished during prosecution discussed object-oriented languages. ComplementSoft makes this argument under a theory of prosecution history disclaimer.

The prosecution history of a patent, though "less useful for claim construction purposes" than the claim language and written description, plays various roles in resolving uncertainties about claim scope. *Phillips*, 415 F.3d at 1317. "[F]or prosecution disclaimer to attach, our precedent requires that the alleged disavowing actions or statements made during prosecution be both clear and unmistakable." *Omega Eng'g, Inc., v. Raytek Corp.*, 334 F.3d 1314, 1325–26 (Fed. Cir. 2003). "Where the alleged disavowal is ambiguous, or even 'amenable to multiple reasonable interpretations,' *Cordis Corp. v. Medtronic AVE, Inc.*, 339 F.3d 1352, 1359 (Fed. Cir. 2003), we have declined to find prosecution disclaimer." *Avid Tech., Inc. v. Harmonic, Inc.*, 812 F.3d 1040, 1045 (Fed. Cir. 2016) (citing *Omega Eng'g*, 334 F.3d at 1325 ("[W]e have thus consistently rejected prosecution statements too vague or ambiguous to qualify as a disavowal of claim scope."); *Rheox, Inc. v. Entact, Inc.*, 276 F.3d 1319, 1327 (Fed. Cir. 2002)).

Prosecution history disclaimer does not apply in this case, at least not as ComplementSoft would have it. There is simply nothing in the prosecution history to suggest that SQL, which the '936 patent specification specifically identifies as a data manipulation language, embedded within another programming language does not satisfy the "data manipulation language" limitation. It is true that

ComplementSoft added the "data manipulation language" limitation to avoid the Coad patent, but the Coad patent never discloses or suggests embedded data manipulation coding. At most, the patentee disclaimed object-oriented programming languages without any data manipulation components. There is no clear and unmistakable evidence that the patentee disclaimed anything more.

The Board also examined the specification and found that it did not limit data manipulation languages to those providing direct access to a database. In other words, the Board found that the specification does not exclude embedding database access within object-oriented language code. We agree. And because the specification and prosecution history did not conclusively resolve construction, we also agree that it was appropriate for the Board to rely on dictionaries and expert testimony to aid its construction. Those sources lend support to the Board's construction.

ComplementSoft lastly argues that "access" to data in a database is not enough to make a programming language a "data manipulation language." As the Board noted, ComplementSoft's own expert and a named inventor on the '936 patent provided testimony that contradicts this argument. Thus, we agree with the Board that this argument is not compelling. For these reasons, we agree with the Board's construction of "data manipulation languages."

ComplementSoft's second construction challenge relates somewhat to its first. ComplementSoft argues that when the Board construed "graphical representations of flows within the retrieved source

code" to mean "a diagram that depicts a map of the progression (or path) through the source code," it failed to limit the graphical representations to only depicting segments of source code that manipulate data.

Because we have already determined that a "data manipulation language" is not limited to languages that only perform data manipulation, we likewise do not inject a similar limitation into claim 1. Doing so would run counter to the disclosure in the specification. Figures 9, 19, and 20, for instance, are graphical representations of flows. Included within these representations is an icon for a "Print" operation, which is not a data manipulation step. Thus, we agree with the Board's construction and do not insert an additional limitation that all depicted steps must relate to data manipulation.

II.

As noted above, we agree with the Board's ultimate construction of the "graphical representations of data flows" claim term. The Board's procedure for arriving at this construction, however, gives us pause.

In its institution decision, the Board's claim construction section indicated that "data flow diagram" means "a map of the path of data through the executing source code." *Institution Decision*, 2013 WL 8595939, at *5. The Board equated this interpretation of "data flow diagram" with the claim limitation "graphical representations of data flows" when it denied institution of a prior art ground. Particularly, the Board concluded that SAS had not demonstrated that the prior art ground disclosed "a depiction of a map of the path of data through the

executing source code" and thus had not shown that the ground "discloses a graphical representation of a data flow." *Id.* at *11–12 (internal quotation marks omitted).

ComplementSoft filed its patent owner's response and identified "a diagram that depicts a map of the path of data through the executing source code" as the Board's construction for the term "graphical representations of data flows." While it argued that the Board misconstrued the "data manipulation language" term, it did not similarly argue that the Board misconstrued graphical representations of data flows. SAS's reply took issue with the construction's inclusion of the term "executing," but suggested no modifications other than to remove this term from the construction. The parties did not ask for a revised construction of "graphical representations of data flows" at the oral hearing.

The Board's final written decision acknowledged that "the parties directly disagree regarding only the construction of the term 'data manipulation language.'" *Final Written Decision*, 2014 WL 3885937, at *3. Nonetheless, the Board newly construed "graphical representations of data flows" as "a graphical representation comprised of icons depicting data processing steps and arrows to depict the movement of data through source code," *id.* at *10, which varies significantly from its initial interpretation of the term as "a map of the path of data through the executing source code." *Institution Decision*, 2013 WL 8595939, at *12. In denying SAS's request for rehearing, the Board concluded that the new construction did not prejudice SAS because SAS could have made construction arguments for the term

in its IPR petition. *Rehearing Denial*, Paper No. 40, at *3–4 n.1.

We disagree with the Board's approach. As we have noted, IPR proceedings are formal administrative adjudications subject to the procedural requirements of the Administrative Procedure Act ("APA"). S*ee Dell Inc. v. Acceleron, LLC*, 818 F.3d 1293, 1298 (Fed. Cir. 2016); *Belden Inc. v. Berk-Tek LLC*, 805 F.3d 1064, 1080 (Fed. Cir. 2015); *see also Dickinson v. Zurko*, 527 U.S. 150, 154 (1999). One such APA provision is that "[p]ersons entitled to notice of an agency hearing shall be timely informed of . . . the matters of fact and law asserted." 5 U.S.C. § 554(b)(3); *see Dell*, 818 F.3d at 1298. SAS, as the petitioner, is entitled to this procedural protection in this instance. Although in the past we have discussed § 554(b)(3) with respect to the protection it provides to the patent owner, the provision is not so limited in an instituted IPR proceeding. First, the APA provides that this protection applies to "[p]ersons entitled to notice of an agency hearing." 5 U.S.C. § 554(b)(3). In an IPR proceeding, this class of persons includes the petitioner. *See* 35 U.S.C § 316(a)(10) (directing the PTO to promulgate regulations "providing either party"—i.e., petitioner or patent owner—"with the right to an oral hearing as part of the proceeding"); 37 C.F.R. § 42.70 (providing that "[a] party may request oral argument" before the Board). Moreover, affording petitioners with the benefit of § 554(b)(3) is appropriate because petitioners are not disinterested parties in an IPR proceeding. Rather, petitioners stand to lose significant rights in an instituted IPR proceeding because of the estoppel effects that trigger

against them if the Board issues a final written decision. *See* 35 U.S.C. § 315(e).

We have interpreted § 554(b)(3) in the context of IPR proceedings to mean that "'an agency may not change theories in midstream without giving respondents reasonable notice of the change' and 'the opportunity to present argument under the new theory.'" *Belden*, 805 F.3d at 1080 (quoting *Rodale Press, Inc. v. FTC*, 407 F.2d 1252, 1256–57 (D.C. Cir. 1968)); *see also Dell*, 818 F.3d at 1300–01 (holding that the Board, in relying on factual assertions the petitioner introduced for the first time at the oral hearing, violated § 554(b)(3) because the patent owner did not have a meaningful opportunity to respond). That maxim applies in this fact-specific circumstance. What concerns us is not that the Board adopted a construction in its final written decision, as the Board is free to do, but that the Board "change[d] theories in midstream." *Belden,* 805 F.3d at 1080. SAS focused its argument on the Board's institution decision claim interpretation, a reasonable approach considering ComplementSoft agreed with this interpretation in its patent owner's response and never suggested that the Board adopt the construction that eventually materialized in the final written decision. It is difficult to imagine either party anticipating that already-interpreted terms were actually moving targets, and it is thus unreasonable to expect that they would have briefed or argued, in the alternative, hypothetical constructions not asserted by their opponent. This is especially true for SAS, considering the strict fifteen

page limit for its reply to the patent owner's response. *See* 37 C.F.R. § 42.24(c)(1) (2012).[4]

Finally, to be clear, it is uncertain whether SAS will ultimately be able to show unpatentability of the '936 patent claim 4 even under the construction of "graphical representations of data flows" that the Board adopted and that we agree with. That is not for us to decide today, but for the Board to examine in the first instance after hearing from the parties on the new construction. *See Dell*, 818 F.3d at 1301 (remanding to the Board for further proceedings upon finding § 554(b)(3) not satisfied).

III.

SAS also argues that the Board erred by not addressing in the final written decision every '936 patent claim SAS challenged in its IPR petition. The Board's final written decision, rather, addresses patentability of only those claims for which the Board instituted an IPR proceeding. SAS's argument, however, is foreclosed by our recent decision in *Synopsys, Inc. v. Mentor Graphics Corp.*, 814 F.3d 1309 (Fed. Cir. 2016).

Synopsys presented the same question that SAS raises here: Must a final written decision by the

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[4] 37 C.F.R. § 42.24(c)(1) has been amended to provide 5,600 words for petitioner replies to patent owner responses. *See* Amendments to the Rules of Practice for Trials Before the Patent Trial and Appeal Board, 81 Fed. Reg. 18750, 18765 (April 1, 2016). When SAS filed its petitioner reply on February 12, 2014, however, the old regulation limiting the reply to fifteen pages was in effect. *See* Rules of Practice for Trials Before the Patent Trial and Appeal Board, 77 Fed. Reg. 48669, 48673 (August 14, 2012).

Board address every patent claim challenged in an IPR petition?[5] The petitioner argued, as does SAS, that the text of the final written decision statutory subsection, 35 U.S.C. § 318(a), compels the Board to address every petition-challenged claim. We found, however, "no statutory requirement that the Board's final decision address every claim raised in a petition for inter partes review. Section 318(a) only requires the Board to address claims as to which review was granted." *Id.* at 1316–17. We found it significant that § 318(a) describes "claims challenged by the petitioner," whereas the institution decision statutory subsection, 35 U.S.C. § 314, describes "claims challenged in the petition." We reasoned that the differing language implies a distinction between the two subsections such that § 318(a) does not foreclose the claim-by-claim approach the Board adopted there and in this case. Further, we upheld the validity of a PTO-promulgated regulation authorizing the claim-by-claim approach. *Id.* at 1316 (validating 37 C.F.R. § 42.108, which "authorize[s] the review to proceed on all or some of the challenged claims").

Accordingly, we reject SAS's argument that the Board must address all claims challenged in an IPR petition in its final written decision.

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[5] Indeed, not only did SAS's briefing identify *Synopsys* as a related case, but SAS also submitted a brief as amicus curiae in *Synopsys* urging us to reach the same result that it now argues for in this appeal. *See* Brief of Amicus Curiae SAS Institute, Inc. in Support of Appellant Synopsys, Inc., *Synopsys*, 814 F.3d 1309 (Nos. 14-1516, 14-1530).

CONCLUSION

For the foregoing reasons, we agree with the Board regarding the challenged constructions and conclude that SAS's argument that the Board must address all claims from the IPR petition in the final written decision is foreclosed by *Synopsys*. We vacate the Board's patentability determination of claim 4 and remand so that the parties may address the Board's construction of "graphical representations of data flows."

AFFIRMED-IN-PART, VACATED-IN-PART, AND REMANDED

UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

SAS INSTITUTE, INC.,
Appellant

v.

COMPLEMENTSOFT, LLC.,
Cross-Appellant

2015-1346, 2015-1347

Appeals from the United States Patent and Trademark Office, Patent Trial and Appeal Board in No. IPR2013-00226.

NEWMAN, *Circuit Judge*, concurring in part, dissenting in part.

I concur in Parts I and II of the majority opinion, for I agree that principles of due process, as well as the strictures of the Administrative Procedure Act as applied to the America Invents Act (AIA) and the Patent and Trademark Office (PTO), require that the parties have the opportunity to adjust their arguments and evidence to the Patent Trial and Appeal Board's (PTAB's) change in claim construction.

I write separately because the PTAB's practice of deciding the validity of only some of the patent claims challenged in the petition does not conform to the America Invents Act. I stated these concerns in *Synopsys, Inc., v. Mentor Graphics Corp.*, 814 F.3d

1309, 1324, 117 U.S.P.Q.2d 1753, 1765 (Fed. Cir. 2016) (Newman, J., dissenting). The facts and rulings in the present case further illuminate the error in the PTO's adoption of rules that depart from the legislative plan. The exclusion of some of the challenged claims from the statutory procedures and estoppels of the AIA, accomplished by accepting some of the claims for which review is sought while ignoring others, in the PTO's absolute discretion, serves no purpose other than to negate the intended legislative purpose of the AIA.

The PTO practice replaces the benefits of the America Invents Act with new disadvantages, for, after the extensive (and expensive) proceedings of *inter partes* review, the parties are left with unaddressed claims to the same patented invention, claims that can be litigated as if no post-grant proceeding had occurred. This departure from the legislative purpose is illustrated in this case more strongly than in *Synopsys*, for here the PTAB issued a split final decision, invalidating eight petitioned claims while validating one of the petitioned claims, simultaneously ignoring seven other petitioned claims that were properly presented for review. The split decision, following a partial institution, adds to the uncertainty of the claims that the PTAB chose not to review. The legislative plan contains no hint of such intentional irregularity.

As experience is gathered on diverse factual situations and the PTO's erratic implementation, concerns have arisen within the communities that collaborated in the evolution of the America Invents Act. It is incumbent on the courts to assure the correct statutory interpretation by administrative

agencies charged with statutory administration. Thus I respectfully dissent from Part III of the majority opinion, and the majority's ratification of the PTO practice of addressing only some of the challenged claims in a fully compliant IPR petition.

DISCUSSION

The America Invents Act created a new expert tribunal, charged to act with expedition and economy. Its purpose is to facilitate both the validation of properly issued patents and the elimination of invalid patents, both in service to the compelling national interest in invention and innovation. The PTO's position that it need not review some of the claims challenged in a petition for review via a post-grant proceeding is inconsistent with the Act. The PTO is authorized to refuse to institute review entirely—but a partial review cannot be inferred from the statute or accommodated to its purpose.

The statutory provisions and the legislative purpose of substituting an agency tribunal for district court proceedings on aspects of patent validity are defeated by the PTO's position that it can leave some challenged claims untouched. The America Invents Act presents a new system of reviewing issued patents, providing for stays of district court proceedings, and estoppels in all tribunals, based on the PTO decision. Final determination of the validity of a challenged patent is not achieved when the PTO selects, at its sole and unreviewable choice, which claims it will review and which it will not touch.

The post-grant procedures of the America Invents Act are of great power and promise. However, as implemented by the PTO, these procedures have

produced a startlingly destabilizing effect. As an *amicus curiae* stated in an AIA case before the Supreme Court on a different aspect of the statute, "IPR was meant to open an alternative pathway to the accurate resolution of patent disputes, not a gaping loophole that undermines the integrity of both administrative and federal court patent adjudications." Brief for Intellectual Ventures as Amicus Curiae Supporting Petitioner, *Cuozzo Speed Techs., LLC v. Lee* (No. 15-446), 2016 WL 825549.

The AIA provisions are designed to act in harmony, like a well-oiled engine. Incorrect implementation by the agency distorts the framework, providing the now-observed result of protracted litigation grinding against administrative obstinacy. The victim is the Nation's innovation economy.

Statutory compliance is the judicial obligation. I focus on specific statutory provisions that relate to, and are violated by, the PTO's practice of partial decision of IPR petitions, *viz.*, 35 U.S.C. §§ 311, 312, 314, 315, and 318, and AIA Section 18(a)(D).

35 U.S.C § 311. Inter Partes Review

Section 311 states the scope of *inter partes* review, and limits such review to challenges that "could be raised under section 102 and 103 and only on the basis of prior art consisting of patents or printed publications." 35 U.S.C. § 311(b). The AIA proceeding is structured as a complete alternative to litigation of these issues. In providing a meaningful alternative to district court litigation of these primary issues of patent validity, Congress designed the AIA to achieve expeditious and economical final resolution. *See, e.g., Patent Reform Act of 2009:*

Hearing Before the House Comm. on the Judiciary, 111th Cong. 153 (2009) (statement of Rep. Manzullo) ("It is clearly appropriate to have an administrative process for challenging patent validity, but it should exist within a structure that guarantees a quick—and final—determination.").

The legislative record is uniform and compelling. *See, e.g., Patent Reform: The Future of American Innovation: Hearing Before the Senate Comm. on the Judiciary*, 110th Cong. 13 (2007) (statement of Jon Dudas, Director, USPTO) ("[T]he estoppel needs to be quite strong that says on the second window any issue that you raised or could have raised you can bring up no place else. That second window, from the administration's position, is intended to allow nothing—a complete alternative to litigation.").

At enactment of the AIA in 2011, Senator Grassley summarized that

> if an inter partes review is instituted while litigation is pending, that review will completely substitute for at least the patents-and-printed-publications portion of the civil litigation.

157 Cong. Rec. S1360-94 (daily ed. March 8, 2011) (statement of Sen. Grassley).

The intended complete alternative and complete substitution is impossible if the PTAB chooses incomplete review. That is my concern with Part III of the majority opinion.

35 U.S.C. § 312. Petitions for review

Section 312 sets the requirements for petitions for post-grant review. Among others, the petition must identify:

> [I]n writing and with particularity, each claim challenged, the grounds on which the challenge to each claim is based, and the evidence that supports the grounds for the challenge to each claim, including—
>
> (A) copies of patents and printed publications that the petitioner relies upon to support the petition, and
>
> (B) affidavits or declarations of supporting evidence and opinions, if the petitioner relies on expert opinions;

35 U.S.C. § 312(a)(3). The purpose of these detailed filing requirements is: "to force a petitioner to present all of his best evidence against a patent up front. His petition itself must present a full affirmative case. It thus reinforces the front loaded nature of an oppositional system, which is critical to the efficient resolution of proceedings by the PTO." 154 Cong. Rec. S9982-93 (daily ed. Sept. 25, 2008) (statement of Senator Kyl on S. 3600).

In the case at bar, SAS presented complete evidence as to all of the claims that it challenged in the petition, and ComplementSoft provided a full response. Nonetheless, the PTO refused to consider all of the claims that had been placed at issue, leaving seven claims undecided.

The petition for review sets the boundaries of the IPR proceeding, as summarized by Senator Grassley on enactment of S. 23, that "by requiring petitioners to tie their challenges to particular validity arguments against particular claims, the new threshold will prevent challenges from 'mushrooming' after the review is instituted into additional

arguments employing other prior art or attacking other claims." 157 Cong. Rec. S1360-94 (daily ed. March 8, 2011). It is not disputed that these requirements were met in the petition presented in this case.

Section 312, like the rest of the AIA, provides no support for the PTO's practice of accepting consideration of some of the patent claims in the petition while ignoring others, when all challenged claims are fully documented and briefed in compliance with the statute. The PTO's selective practice is especially deleterious to the statutory purpose when the patent is in validity litigation in the district court.

35 U.S.C. § 314. Institution of Inter Partes Review

Section 314(a) establishes the threshold required for the Director to institute proceedings adjudicating validity:

> The Director may not authorize an inter partes review to be instituted unless the Director determines that the information presented in the petition filed under section 311 and any response filed under section 313 shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.

35 U.S.C. § 314(a). The statute does not provide the PTO with discretion to pick and choose which of the challenged claims will be included in the post-grant review when at least one claim is found to have crossed the threshold of likely invalidity. The Director can still refuse to institute review entirely,

but the Director cannot choose to consider some of the challenged claims and to ignore others. The PTO departed from the statute in adopting regulations that authorize review of only some of the challenged claims and grounds, as in 37 C.F.R. 42.108(a):

> (a) When instituting inter partes review, the Board may authorize the review to proceed on all or some of the challenged claims and on all or some of the grounds of unpatentability asserted for each claim.

I am not here concerned with the statutory authorization for complete denial of a petition to institute, for then the petitioner may proceed promptly with litigation. My concern is with the unauthorized partial institution after a PTO finding that at least one of the patent claims faces a likelihood of invalidity. This defeats the legislative purpose of creating a "substitute for court litigation" that is a "quick and cost effective alternative[]" where challengers must "front load their case," and the decision imposes estoppel to "eliminate the need to press any claims in other fora." *Patent Reform: The Future of American Innovation: Hearing Before the Senate Comm. On the Judiciary*, 110th Cong. 7 (2007) (written responses of Jon Dudas, Director, USPTO); H.R. Rep. No. 112-98, pt. 1 at 48 (2011); 157 Cong. Rec. S1360-94 (daily ed. March 8, 2011) (Sen. Grassley during Senate consideration, amendment, and passage of S. 23); 154 Cong. Rec. S9982-93 (daily ed. Sept. 25, 2008) (statement of Sen. Kyl on S. 3600 (Patent Reform)).

Authorization to refuse to institute a petition was included in response to the concerns of then Director Dudas about whether the PTO could handle the

increased work-load within the statutory time frame; this accommodation did not also authorize the PTO to choose to decide part of a petition and leave the other part undecided. Partial institution is not a reasonable statutory interpretation—it imposes additional delay, uncertainty, and cost; all contrary to the purposes of the AIA. It particularly affects § 315, discussed *post*, which imposes estoppel against the petitioner on all grounds that were "raised or reasonably could have [been] raised" in the IPR petition.

The AIA provides for two determinations by the Director when a petition for post-grant review has been filed: (1) whether the petitioner has presented grounds reasonably likely to invalidate at least one of the challenged claims, and (2) whether to institute post-grant review. Senator Kyl explained that the grant of discretion to the Director to refuse to institute review even when the invalidity threshold is met "reflects a legislative judgment that it is better that the Office turn away some petitions that otherwise satisfy the threshold for instituting an *inter partes* or post-grant review than it is to allow the Office to develop a backlog of instituted reviews that precludes the Office from timely completing proceedings." 157 Cong. Rec. S1377 (daily ed. Mar. 8, 2011) (statement of Sen. Kyl).

35 U.S.C § 315. Estoppel

Section 315 establishes how these post-grant procedures interact with other aspects of patent litigation. Among the consequences of the PTO's curious and unforeseen practice, partial review does not estop unreviewed claims as to either validity or invalidity, thereby adding to the litigants' burden

rather than lightening it. The estoppel provisions were the subject of extensive legislative discussion.

Section 315(e) provides that when a petition for review is granted and the matter proceeds to trial and decision in the PTAB in accordance with § 318(a), estoppel arises with respect to "any ground that the petitioner raised or reasonably could have raised during that inter partes review." This estoppel applies in the PTO, in the district courts, and in the International Trade Commission.

35 U.S.C. § 315(e) Estoppel.—

(1) Proceedings before the office.–The petitioner in an inter partes review of a claim in a patent under this chapter that results in a final written decision under section 318(a), or the real party in interest or privy of the petitioner, may not request or maintain a proceeding before the Office with respect to that claim on any ground that the petitioner raised or reasonably could have raised during that inter partes review.

(2) Civil actions and other proceedings.–The petitioner in an inter partes review of a claim in a patent under this chapter that results in a final written decision under section 318(a), or the real party in interest or privy of the petitioner, may not assert either in a civil action arising in whole or in part under section 1338 of title 28 or in a proceeding before the International Trade Commission under section 337 of the Tariff Act of 1930 that the claim is invalid on any ground that the petitioner raised or reasonably could have raised during that inter partes review.

The America Invents Act was designed—after a decade of hearings and revisions—to reduce the cost of patent litigation, to resolve major validity issues in an expert tribunal, and to put an end to repetitive challenges. The estoppel provision was a controversial aspect of the enactment.

An interim Senate Report states that contributors were concerned about the fairness of the "could have raised" estoppel provision, given the extremely limited discovery available to petitioners. *See* S. Rep. No. 111-18, at 17, to accompany S. 515 (Patent Reform Act of 2009) ("Many businesses also have described could-have-raised estoppel as a powerful brake on their use of inter partes reexamination. They find this standard vague and uncertain, and fear that if they challenge a patent in an inter partes reexamination, they will lose the ability to raise later-discovered prior art against the patent if they are subsequently sued for infringement.").

Congress initially considered a lesser estoppel. *See* S. Rep. No. 110-259, at 22, to accompany S. 1145 ("Moreover, once a petitioner has challenged the validity of a patent through a PGR, that party may not challenge validity in a court proceeding based on any ground it raised during the PGR"). But, by the time of enactment of the AIA in 2011, stronger estoppel provisions appear to have achieved consensus. *See* 157 Cong. Rec. S952 (Feb. 28, 2011) (statement of Sen. Grassley on final consideration of S. 23):

> In addition, the bill would improve the current inter partes administrative process for challenging the validity of a patent. It would establish an adversarial inter partes review,

> with a higher threshold for initiating a proceeding and procedural safeguards to prevent a challenger from using the process to harass patent owners. It also would include a strengthened estoppel standard to prevent petitioners from raising in a subsequent challenge the same patent issues that were raised or reasonably could have been raised in a prior challenge. The bill would significantly reduce the ability to use post-grant procedures for abusive serial challenges to patents. These new procedures would also provide faster, less costly, alternatives to civil litigation.

Director Dudas had urged that because the PTO procedures are intended to substitute for district court litigation, litigation-type estoppel should attach to PTAB rulings:

> We would favor providing for a second-window review to have a different estoppel effect than a first-window review . . . . A second-window review, however, will serve as a substitute for court litigation and, as such, should bind not only the patentee but also the challenger as a decision on the merits in litigation would.

Patent Reform: The Future of American Innovation: Hearing Before the Senate Comm. on the Judiciary, 110th Cong. 136–137 (2007) (statement of Jon Dudas, Director, USPTO).

Senator Grassley further summarized, at enactment, that the purpose of the estoppel is to "completely substitute" for the same issues in litigation.

> Ideally extending could-have-raised estoppel to privies will help ensure that if an inter partes review is instituted while litigation is pending, that review will completely substitute for at least the patents-and-printed-publications portion of the civil litigation.

157 Cong. Rec. S1360-94 (daily ed. March 8, 2011) (statement of Sen. Grassley). When PTO Director Kappos took office as the legislation neared finality, he stated at a closing hearing on the America Invents Act:

> If I can say that in my own words also, that I believe there are significant advantages for patentees who successfully go through the post-grant system—in this case inter partes review—because of those estoppel provisions. Those estoppel provisions mean that your patent is largely unchallengeable by the same party.

America Invents Act: Hearing on H.R. 1249 Before the House Comm. on the Judiciary, 112th Cong. 52–53 (2011) (statement of David Kappos, Director, USPTO).

The "complete substitution" for section 102 and 103 issues cannot occur unless all of the claims challenged in the petition are included when post-grant review is accepted. Challengers may choose between the IPR proceeding and district court litigation of the same issues, but Congress restricted the repetitive validity proceedings of the past. A witness testified that:

> With respect to your question on alternatives to litigation…38% of all inter partes reexaminations brought between 2001 and 2005

> were filed after patent litigation had already begun, showing that this proceeding, to a very significant part, is not used *instead of* litigation, but *on top of* litigation, and sometime even *after* litigation in attempts at undoing adverse district court judgments.

Patent Reform: The Future of American Innovation Before the Senate Comm. on the Judiciary, 110th Cong. 94 (written testimony for Alkermes plc) (emphasis original).

Senator Schumer stated at enactment of S. 23:

> Too many district courts have been content to allow litigation to grind on while a reexamination is being conducted, forcing the parties to fight in two fora at the same time. This is unacceptable, and would be contrary to the fundamental purpose of . . . provid[ing] a cost efficient alternative to litigation.

157 Cong. Rec. S1360-94 (March 8, 2011) (statement of Sen. Schumer).

These universally emphasized AIA purposes fall flat when the PTO chooses to review some but not all of the challenged claims in the petition, leaving the other claims presumably alive and well. The legislation does not contemplate such a procedure. The legislation provides only for a PTO proceeding that subjects "**any patent claim challenged by the petitioner** and any new claim added" during the proceeding to be fully and finally decided through the PTO proceeding and its subsequent appeal, bringing "more certainty in litigation." 157 Cong. Rec. S948 (Feb. 28, 2011) (statement of Sen. Leahy on Senate consideration of S. 23) (emphasis added).

This finality is achieved by the estoppel provisions as applied to the decision on every claim challenged by the petitioner as to every issue raised or that could have been raised. *America Invents Act: Hearing on H.R. 1249 Before the House Comm. on the Judiciary*, 112th Cong. 12 (2011) (statement of David Kappos, Director, USPTO) ("Those estoppel provisions mean that your patent is largely unchallengeable by the same party."). However, when review is declined as to some claims that may be of litigation interest, the partial institution practice cannot be a "complete[] substitute for . . . [a] portion of civil litigation." This contravenes a primary purpose of the AIA.

During oral argument of this appeal, the court questioned PTO counsel on the relationship between the conduct of reexamination proceedings, the conduct of inter partes review proceedings, and the legislative purpose of the AIA's post-grant procedures. Oral Argument at 25:28–37:20. In a letter, the PTO provided MPEP sections 2243 and 2246, stating that reexamination under past PTO practice authorized by Section 302 may be conducted on "fewer than all claims in the subject patent or in the reexamination request." The PTO stated that this supports the partial institution practice for AIA proceedings. PTO Letter, January 11, 2016, ECF No. 61. The PTO urged that *Chevron* deference should be applied.

However, the legislative history is clear that the AIA *inter partes* review proceedings were designed to correct inadequacies plaguing the former procedure. The former PTO reexamination differs from AIA review in that (1) reexamination under § 302 is conducted by an examiner on the written record, not by the PTAB with discovery, witnesses, and trial; (2)

§ 302 reexamination entitles amendment as of right, and examination of the amended claims is of right, contrary to the PTO's implementation of the AIA statute; (3) no estoppel attaches to § 302 reexamination, unlike the AIA rulings; and (4) § 302 reexamination requires "a substantial new question of patentability" and reexamination is mandatory when such a question is found, unlike the standard for "institution."

The new AIA system was designed to improve upon the § 302 reexamination procedure. *See* 157 Cong. Rec. S952 (Feb. 28, 2011) (statement of Sen. Grassley on Senate consideration of S.23) ("In addition, the bill would improve the current inter partes administrative process for challenging the validity of a patent."); 157 Cong. Rec. S5370-77 (Sept. 7, 2011) (statement of Sen. Whitehouse on Senate consideration of H.R. 1249) ("Administrative processes that should serve as an alternative to litigation [] have broken down, resulting in further delay, cost, and confusion.").

35 U.S.C § 316. Conduct of inter partes review

In promulgating regulations authorizing partial institution, the PTO invoked the authority of Section 6(c) of the AIA, requiring the PTO to "issue regulations to carry out chapter 31 of title 35, United States Code, as amended by subsection (a) of this section." *See* § 316(a) ("The Director shall prescribe regulations . . . (2) setting forth the standards for the showing of sufficient grounds to institute a review under section 314(a); . . . (4) establishing and governing inter partes review under this chapter and the relationship of such review to other proceedings under this title"). 77 Fed. Reg. 7058.

This authority does not include authorization to depart from the statute. *See Ernst & Ernst v. Hochfelder*, 425 U.S. 185, 213–14 (1976) ("The rulemaking power granted to an administrative agency charged with the administration of a federal statute is not the power to make law. Rather, it is the power to adopt regulations to carry into effect the will of Congress as expressed by the statute."); *see also* H.R. REP. No. 110-314, at 45 (2007) ("Where Congress has seen fit to provide specific limitations or conditions in statute, the USPTO may not surpass or take away these limitations or conditions by promulgated rule.").

The PTO improperly adopted a system of partial institution and partial final written decision, contravening the statute and the intent of Congress. The PTO has exceeded its statutory authority. It befalls this court to "add force and life to the cure and remedy, according to the true intent of the makers of the act." *Heydon's Case*, 76 Eng. Rep. 637, 638 (1584).

35 U.S.C § 318. Decision of the PTAB

Section 318 requires the Board to address all of the challenged claims and to issue a final written decision. The statute provides:

> § 318(a). If an inter partes review is instituted and not dismissed under this chapter, the Patent Trial and Appeal Board shall issue a final written decision with respect to the patentability of any patent claim challenged by the petitioner and any new claim added under section 316(d).

The statute is clear: the Board's final written decision must include "the patentability of any patent

claim challenged by the petitioner and any new claim added under section 316(d)." *Id.* And when a petition is instituted, all of the challenged claims must be included in the final written decision. *Id.*

The totality of provisions and history of the America Invents Act demonstrates that the PTO has erroneously adopted a system of partial review and partial decision that was not contemplated, not intended, not discussed, and indeed not suspected by Congress and the communities concerned with patent legislation.

CONCLUSION

The panel majority reinforces the erroneous PTO regulations and practices that contravene the statute. I respectfully dissent from Part III of the court's opinion.

APPENDIX B

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Paper 38
Entered: August 6, 2014

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

SAS INSTITUTE, INC.,
Petitioner,

v.

COMPLEMENTSOFT, LLC,
Patent Owner.

Case IPR2013-00226
Patent 7,110,936 B2

Before KEVIN F. TURNER, JUSTIN T. ARBES, and JENNIFER S. BISK, *Administrative Patent Judges.*

BISK, *Administrative Patent Judge.*

FINAL WRITTEN DECISION

35 U.S.C. § 318(a) and 37 C.F.R. § 42.73

I. INTRODUCTION

A. Background

Petitioner, SAS Institute, Inc., filed a Petition (Paper 1, "Pet.") to institute an *inter partes* review of claims 1-16 ("the challenged claims") of U.S. Patent 7,110,936 B2 (Exhibit 1001, "the '936 patent"). 35 U.S.C. §§ 311-319. Patent Owner, ComplementSoft, LLC, filed a Preliminary Response. Paper 8. On August 12, 2013, we instituted trial (Paper 9, "Dec."), concluding that Petitioner had shown a reasonable likelihood of showing that claims 1 and 3-10 were unpatentable based on the following grounds:

References[1]	**Claims Challenged**
Coad, Oracle Primer, and Oracle8 Primer	1
Antis and Coad	1, 3, 5, 6, 8, and 10
Antis, Coad, and Burkwald	4
Antis, Coad, and Eick	7
Antis, Coad, and Building Applications	9

[1] U.S. Patent No. 5,572,650 (Ex. 1005) ("Antis"); U.S. Patent No. 6,851,107 (Ex. 1006) ("Coad"); U.S. Patent No. 6,356,285 (Ex. 1007) ("Burkwald"); U.S. Patent No. 5,937,064 (Ex. 1008) ("Eick"); Microsoft Corporation, BUILDING APPLICATIONS WITH MICROSOFT ACCESS 97 (1996) (Ex. 1011) ("Building Applications"); Rajshekhar Sunderraman, ORACLE PROGRAMMING: A PRIMER (1999) (Ex. 1012) ("Oracle Primer"); and Rajshekhar Sunderraman, ORACLE8 PROGRAMMING: A PRIMER (2000) (Ex. 1013) ("Oracle8 Primer").

We have jurisdiction under 35 U.S.C. § 6(c). This final written decision is issued pursuant to 35 U.S.C. § 318(a) and 37 C.F.R. § 42.73.

Petitioner has shown, by a preponderance of evidence, that claims 1, 3, and 5-10 are unpatentable. Petitioner has not met its burden to show that claim 4 is unpatentable.

Patent Owner's motion to amend claims is *denied*.

B. Related Proceedings

Patent Owner asserted the '936 patent against Petitioner in *ComplementSoft, LLC v. SAS Institute, Inc.*, No. 1:12-cv-07372 (N.D. Ill. Sept. 14, 2012). *See* Pet. 58; Paper 6 at 2. The related case is currently stayed pending this *inter partes* review. Transcript of Proceedings, *ComplementSoft*, No. 1:12-cv-07372, ECF No. 44 (granting stay), 54 (denying motion to lift stay).

C. The '936 Patent

The '936 patent describes a language independent software development tool having a graphical user interface, also referred to as an Integrated Development Environment or IDE. Ex. 1001, 1:15-19. In particular, the patent describes an IDE for exchanging, editing, debugging, visualizing, and developing software code for "data manipulation centric languages." *Id.* at 1:64-2:3.

The Summary of the Invention describes the IDE as including, among other features, a visualizer that generates a graphical representation of the program flow, data flow, or logic of the code. *Id.* at 2:34-49. In other words, the visualizer allows for displaying code in ways other than a typical text editor. A detailed description of a preferred embodiment uses a series of

drawings, and corresponding text, to describe an exemplary IDE with a visualizer that can display source code using several different graphical formats. *Id.* at 3:24-26. For instance, Figure 9, reproduced below, depicts "a program flow for a selected file, along with arrows that indicate the flow of data within the program flow." *Id.* at 3:49-51.

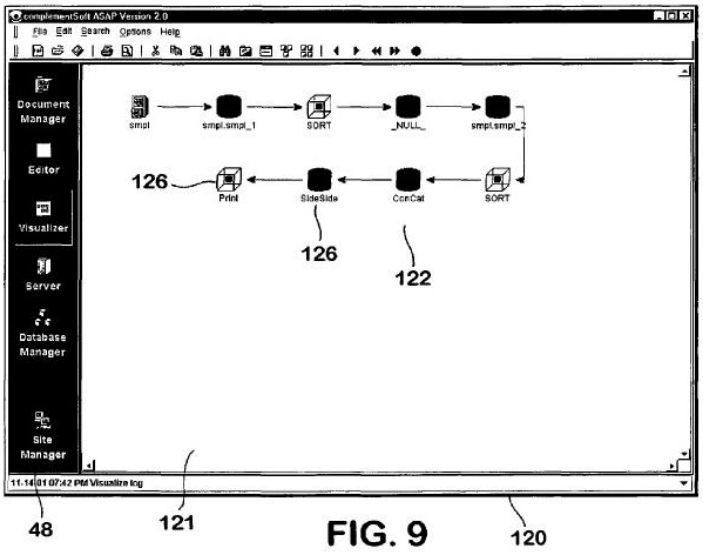

FIG. 9

Figure 9, above, shows visualizer 120 displaying source code. *Id.* Each program and data block of a code section is represented by an icon, program flow icon 126. *Id.* at 8:8-14. Program flow icons 126 are displayed in the order that they occur in the source code (*id.* at 15:56-59) and are connected by arrows that illustrate the flow of data (*id.* at 8:8-14).

Visualizer 120 also is shown in Figure 17, reproduced below, showing "a data flow" for the selected program. *Id.* at 4:12-13.

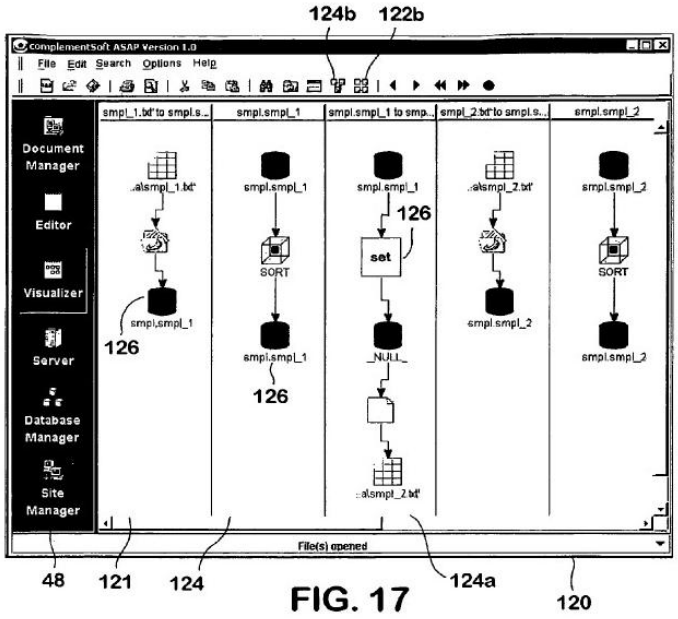

FIG. 17

Figure 17, above, shows visualizer 120 displaying individual processes and data blocks, represented by program flow icons 126, in separate columns. *Id.* at 16:6-12. The arrows that connect program flow icons 126 indicate the direction of the data flow. *Id.*

D. Illustrative Claim

Claim 1, reproduced below, is the '936 patent's only independent claim:

> 1. An integrated development environment, comprising:
>
> a document manager for retrieving source code programmed using one of a plurality of types of data manipulation languages;
>
> an editor for displaying the retrieved source code and providing a means for a user to edit the retrieved source code;

a parser layer which detects the one of the plurality of types of data manipulation languages in which the retrieved source code is programmed and which activates rules and logic applicable to the detected one of the plurality of types of data manipulation languages; and

a visualizer dynamically linked to the editor for displaying graphical representations of flows within the retrieved source code using the rules and logic applicable to the detected one of the plurality of types of data manipulation languages and activated by the parser,

wherein the editor, parser layer and visualizer cooperate such that edits made to the source code using the editor are automatically reflected in the graphical representations of flows displayed by the visualizer and edits made to the graphical representations of flows in the visualizer are automatically reflected in the source code displayed by the editor.

II. ANALYSIS

A. Claim Construction

For purposes of the Decision to Institute we expressly construed the terms "data manipulation language" and "graphical representation of flows." Dec. 6-9. We construed (1) "data manipulation language" as "a programming language used to access data in a database, such as to retrieve, insert, delete, or modify data in the database," and (2) "graphical representation of flows" as "a diagram that depicts a map of the progression (or path) through the source code." *Id.*

In the post-institution briefs, the parties directly disagree regarding only the construction of the term "data manipulation language." Paper 16 ("PO Resp.") 10-11; Paper 24 ("Reply") 1-2. In analyzing the issues in this case, however, we have determined that many of the arguments purportedly directed to the proposed obviousness grounds are more accurately arguments regarding claim construction. Thus, to properly resolve the issues presented in this proceeding, we construe several terms not addressed explicitly by either party, including "graphical representation of flows," "program flows," and "data flows." We construe all terms, whether or not expressly described below, using the broadest reasonable construction in light of the '936 patent specification. 37 C.F.R. § 42.100(b).

1. Data Manipulation Language

Much of this proceeding turns on the interpretation of the term "data manipulation language," recited by every challenged claim. In the Decision to Institute, we interpreted this term as "a programming language used to access data in a database, such as to retrieve, insert, delete, or modify data in the database." Dec. 6-8. This interpretation is consistent with dictionary definitions from the time period of the invention. *See* MICROSOFT COMPUTER DICTIONARY at 125 (4th ed. 1999) ("a language that is used to insert data in, update, and query a database"); Ex. 1040, 272 (THE AUTHORITATIVE DICTIONARY OF IEEE STANDARDS TERMS (7th ed. 2000)) ("A language used to retrieve, insert, delete, or modify the data in a database.").

a. "retrieve"

In its response brief, Patent Owner contends that the definition we adopted in the Decision to Institute is too broad. PO Resp. 10-11. Specifically, Patent Owner argues that a programming language that includes *only* the functionality for retrieving data would not have been considered a data manipulation language by a person of ordinary skill in the art. *Id.* Patent Owner's declarant, Ivan Zatkovich, testifies that an SQL [Structured Query Language] SELECT statement—which retrieves data from a database—"does not alter the data in any way and thus does not, by itself, perform any manipulation of data." Ex. 2001 ¶ 19. Accordingly, Patent Owner proposes that our interpretation of the term "data manipulation language" be altered to either remove the word "retrieve" or "qualify the use of the term retrieve by stating that the retrieval must be followed by some *manipulation* procedure." PO Resp. 11. Petitioner disagrees, asserting that Patent Owner's proposed change would result in too narrow an interpretation because retrieval of data *does* constitute data manipulation. Reply 1-2.

We decline to make Patent Owner's proposed change. First, this change does not affect the substantive analysis in this case. In other words, our decision on patentability is the same whether or not we adopt Petitioner's proposed modification.

Second, we are not persuaded by Patent Owner's arguments that we should depart from the dictionary definitions, proffered by Petitioner's declarant, Dr. Nick Roussopoulos (Ex. 1015 ¶ 48), and upon which we based our preliminary construction. For instance, during the oral hearing, Patent Owner conceded that

retrieving data from a database is a type of manipulation.

> JUDGE TURNER: But if I'm obtaining a smaller set [of data items from a database], isn't that manipulating or is it not? I understand I'm giving you a hypothetical and putting you on a spot.
>
> MR. HANFT: What I'm having trouble with is in that hypothetical you're talking about retrieving data from a dataset, but then you're trying to say, well, is that within the definition of a data manipulation language? It's just kind of slightly apples and oranges because the data manipulation language has to have certain characteristics and be capable of certain things.
>
> *Taking a dataset and reducing it down to a smaller set according to some characteristics is some type of manipulation*, but a data manipulation language has to be able to do more than just retrieve. It's got to do more than that.

Paper 36 ("Tr.") 38:7-18 (emphasis added). Fen Hiew, one of the named inventors of the '936 patent, agreed with this understanding. Ex. 1045, 47:15-18 (Q: "Would selection of data be a type of manipulation that's performed by a data manipulation system?" A: "Yes").

We are not persuaded otherwise by Mr. Zatkovich's testimony to the contrary. *See* Ex. 2001 ¶ 19. Mr. Zatkovich does not explain why retrieving data would not be considered manipulation of that data. Nor does he point to any objective evidence to support this conclusion. And Patent Owner does not point to persuasive language in the specification or other

evidence that supports an interpretation of "data manipulation language" with the word "retrieve" removed or qualified as proposed.

Thus, we decline to alter our preliminary construction of data manipulation language by removing or adding a qualification to the word "retrieve."

b. "directly"

Although not couched as claim construction, Patent Owner argues that a data manipulation language must *directly* access data in a database. PO Resp. 33, 38-39. Patent Owner argues that because of this requirement, an object-oriented programming language cannot be a data manipulation language, even if it includes extensions, such as JDBC [Java Database Connectivity] or embedded SQL, for accessing a database. *Id.* In explaining this assertion, Mr. Zatkovich testifies that object-oriented programming languages facilitate the creation of programs that are a collection of interacting objects, as opposed to conventional programming languages, in which a program is a list of tasks. Ex. 2001 ¶ 22. As part of this paradigm, according to Mr. Zatkovich, the object-oriented approach typically places data in an object, where the data are not directly accessible by the rest of the program, but instead are accessed solely through methods bundled with the object. *Id.* ¶ 23. Mr. Zatkovich concludes that "[o]ne skilled in the art would not consider C++ and Java [which are object-oriented programming languages] to be data manipulation languages since they do not directly interact or directly perform data manipulation within databases." *Id.* ¶ 24.

Patent Owner adds that simply adding database functionality in the form of JDBC or embedded SQL to an object-oriented language does not convert the language into a data manipulation language. PO Resp. 38-39. Mr. Zatkovich testifies that when SQL is embedded in Java, the Java program simply passes the SQL statement to the database system—the embedded SQL statement is "processed merely as a text string to be passed to the DataBase Management System." Ex. 2001 ¶ 47. According to Patent Owner, this shows that it is not actually Java or C++ code accessing data in a database, but instead the access is "being performed at and by the database itself." PO Resp. 39. Thus, Patent Owner concludes that Java and C++ are not data manipulation languages, even when augmented by JDBC or embedded SQL. *Id.*

Petitioner argues that a data manipulation language is a language that allows a program to simply access data in a database, without the requirement that the access be *direct*. Reply 9. According to Petitioner, Java and C++ access a database using embedded SQL and JDBC statements. *Id.* Petitioner relies on statements in the Oracle8 Primer to support this assertion. *Id.* at 9-10 (quoting Ex. 1013, 225 ("JDBC is an Application Programming Interface (API) that enables database access in Java."), 93, 96, 226). In addition, Dr. Roussopoulos testifies that "[e]mbedding SQL allows each of [the Java and C++] programming languages to access data in a database." Ex. 1015 ¶ 114 (citing Ex. 1013, 93, 95, 103, 108, 118, 277, 280, 281, 294, and 301); *see also* Ex. 1015 ¶¶ 49-51. Dr. Roussopoulos also states that "Oracle8 Primer discloses that the object-

oriented nature of Java is no bar to having data manipulation language operations." *Id.* ¶ 52 (quoting Ex. 1013, 281 (showing that the "select" statement is translated into pure Java code), 301 (showing the same for inserting data in a database), 294 (showing the same for creating database tables and rows)); *see also* Ex. 1015 ¶ 53 (showing the same for embedded C++).

We are persuaded by the testimony of Dr. Roussopoulos that a data manipulation language does not require *direct* access to data in a database. To the extent that Patent Owner argues that Java and C++ never actually retrieve or manipulate data in a database because the embedded functionality does not *directly* access the database, we credit Petitioner's evidence, particularly Exhibit 1013, which supports Dr. Roussopoulos's conclusion that embedded SQL accesses and manipulates data in a database. All of Patent Owner's evidence to the contrary hinges on the testimony of Mr. Zatkovich, which we do not find persuasive. Mr. Zatkovich's conclusion that access to a database from a data manipulation language must be direct is unsupported. Mr. Zatkovich simply asserts this to be the case, without providing credible support. *See* Ex. 2001 ¶ 47.

Patent Owner does not point to persuasive language in the specification or other evidence that supports an interpretation of data manipulation language restricted to *direct* access to a database. In fact, the '936 patent discusses, in several places, SQL and Oracle® RDBMS as examples of languages to which the invention is targeted. Ex. 1001 1:20-25; 1:64-2:3; 8:22-26; 9:47-53; 10:5-7; 16:34-49; 17:17-19.

And the '936 patent does not specify that these languages would be excluded if the database access functionality is indirect. Dr. Roussopoulos agrees, stating that the '936 patent's reference to these languages is consistent with embedding SQL in Java or C++. Ex. 1015 ¶ 54.

Thus, we decline to alter the interpretation of "data manipulation language" by adding a qualification that access to the database be direct.

c. Conclusion

For these reasons, we adopt the interpretation of "data manipulation language" used in the Decision to Institute—"a programming language used to access data in a database, such as to retrieve, insert, delete, or modify data in the database." We do not adopt any of the modifications to this interpretation urged by Patent Owner.

2. Graphical Representation of Flows

The term "graphical representation of flows" is recited by every challenged claim. In the Decision to Institute, we interpreted this term as "a diagram that depicts a map of the progression (or path) through the source code." Dec. 8-9. Patent Owner does not explicitly challenge this interpretation, but makes several arguments that amount to a narrowing of the interpretation of the term. We address these arguments here.

a. "data flows" and "program flows"

In the Decision to Institute, we explained that the '936 patent explicitly discusses two types of flow diagrams—"program flow diagrams" and "data flow diagrams." Dec. 8-9 (citing Ex. 1001, 2:38-42). The '936 patent describes a "program flow diagram"

as being "comprised of program block icons and arrows to depict the code's program flow" and a "[d]ata flow diagram" as "comprised of icons depicting data processing steps and arrows to depict the flow of the data through the program." Ex. 1001, 2:38-42. We were not persuaded, however, that the claim term "graphical representation of flows" is restricted to these two types of flow diagrams. Dec. 8-9.

Patent Owner does not explicitly argue otherwise. Nevertheless, in its analysis, Patent Owner often limits the term to either program or data flow diagrams. These arguments are appropriate only for dependent claims 3 ("wherein the graphical representations of flows depict program flows") and 4 ("wherein the graphical representations of data flows are expandable and collapsible"). Patent Owner goes further and applies the narrower interpretation to all the claims. For example, Patent Owner argues that Coad does not show "graphical representations of flows" by asserting that the "communications shown in Fig. 14 are not directly related to program or data flow" and "none of the remaining diagrams of Coad show program or data flow." PO Resp. 31-32.

Patent Owner, however, presents no persuasive explanation or evidence to support such a narrow interpretation of the claim term "graphical representations of flows." As we pointed out in the Decision to Institute, Patent Owner has not directed us to language in the '936 patent that limits the term to only these two examples. Nothing in Patent Owner's response brief persuades us otherwise.

b. "within the retrieved source code"

Patent Owner argues that the term "graphical representations of flows" cannot properly be interpreted without taking into consideration the phrase that follows it in the claims—"within the retrieved source code." PO Resp. 32-33. According to Patent Owner, because the source code is further defined in the claims to be a "data manipulation language," the "claims require that the flows show source code steps actually performing data manipulation procedures." *Id.* at 35. Patent Owner explains that the "intent and purpose of the invention is to permit the graphical representation of the flow within languages that manipulate data." *Id.* at 36. Patent Owner also points to Figure 19 as showing that the graphical representations depict the program flow within the "*actual source code that is manipulating the data.*" *Id.*

We agree with Patent Owner that the claim language clearly requires the graphical representations of flows to show flows within source code created with a data manipulation language. However, we are not persuaded that this requires the flows to show source code steps that are actually performing data manipulation. As described above, we have interpreted data manipulation language to be a programming language used to access data in a database, such as to retrieve, insert, delete, or modify data in the database. Although this interpretation requires that a data manipulation language allow a program to be written that manipulates data, the interpretation does not *limit* such a program to source code that manipulates data. In other words, source code written using a data manipulation

language performs many types of actions, including, but not limited to, manipulating data.

For example, Figure 20 of the '936 patent shows a portion of the source code being displayed in the graphical representation. One of the function calls listed in the source code is "PRINT," which is represented in the graphical representation as an icon. It is unclear, however, whether a print function is "actual manipulation of data." *See* Tr. 65:19-23 (Q: "In the patent in figure 20(a) there is some code, and it has print data. Is that a data manipulation procedure? I don't know if printing is manipulating." A: "You're not going to like my answer, which is I'm not an expert in this field, so I can't answer that."). And Patent Owner has not directed us to evidence that sheds light on this question.

Moreover, as discussed above, Patent Owner asserts that retrieving data, as in an SQL SELECT statement, is not a manipulation of data. PO Resp. 10-11 (citing Ex. 2001 ¶ 19). Nevertheless, Patent Owner concedes that a program written with a data manipulation language may include functions used for retrieving data. *See*, *e.g.*, PO Resp. 11 ("The Board's interpretation should be modified to either remove the term 'retrieve' or to qualify the use of the term retrieve by stating that the retrieval must be followed by some *manipulation* procedure."). Thus, it is undisputed that a program written using a data manipulation language may contain portions of code that perform actions independent from the manipulation of data. And Patent Owner does not point to persuasive language in the '936 patent or other evidence supporting an interpretation that excludes those portions of the source code from the

graphical representation. In other words, the claims require that the "received source code" is "programmed using one of a plurality of types of data manipulation languages," but nothing in the claims requires that the "retrieved source code" contain functionality that actually manipulates data.

Figure 19 does not persuade us otherwise. Patent Owner has not pointed to any indication in the '936 patent that this figure is meant to limit the subject matter of the claims. To the contrary, the "Brief Description of Drawings" clearly identifies all the figures as depicting a preferred embodiment of the invention. Ex. 1001, 3:24-26 ("For a better understanding of the invention, reference may be had to a preferred embodiment shown in the following drawings."). And the "Detailed Description" concludes by clarifying that the specific embodiments are not limiting. *Id.* at 17:62-66 ("While specific embodiments of the present invention have been described in detail, it will be appreciated by those skilled in the art that various modifications and alternatives to those details could be developed in light of the overall teachings of the disclosure."); 18:13-17 ("Accordingly, the particular arrangement disclosed is meant to be illustrative only and not limiting as to the scope of the invention which is to be given the full breadth of the appended claims and any equivalents thereof.").

Thus, we decline to alter the interpretation of "graphical representations of flows" by adding a requirement that the flows show source code steps that are actually performing data manipulation.

c. Actual Pathways

Petitioner states that Patent Owner improperly suggests that graphical representations of flows are limited to the *actual* path through source code as opposed to including *all possible* pathways through the code. Reply 8-9. In particular, Petitioner points to Patent Owner's description of Coad, "[t]he concept underlying Coad is limited to depicting all potential (as opposed to actual) scenarios within an object-oriented program." Reply 8 (citing PO Resp. 13). Patent Owner does not point to persuasive explanation or evidence supporting such a limitation. To the extent that Patent Owner is making this argument, we are not persuaded that the term should be so limited.

d. Conclusion

For these reasons, we adopt the interpretation of "graphical representations of flows" used for the Decision to Institute—"a diagram that depicts a map of the progression (or path) through the source code." We do not adopt any of the modifications to this interpretation urged by Patent Owner.

3. Program Flows

The term "program flows" is recited in dependent claim 3. In the Decision to Institute, we did not explicitly interpret this term as part of the claim construction section. *See* Dec. 5-10. In the analysis portion of our decision, however, we stated that "Figure 14 [of Coad] depicts the source code program's path of control from one step to another through the program—a program flow diagram." Dec. 14. Neither party directly challenges this statement.

Although the '936 patent does not explicitly define "program flows," it does define the term "program flow diagrams" as "comprised of program block icons and arrows to depict the code's program flow." Ex. 1001, 2:38-40. The specification then proceeds to use the terms "program flows" and "program flow diagrams" interchangeably. *See*, *e.g.*, *id.* at 3:49-51 ("FIG. 9 is an exemplary screen shot depicting a program flow for a selected file, along with arrows that indicate the flow of data within the program flow."); 16:3-5 ("By assigning meanings and attributes to tokens 144, the document view engine 200 allows the visualizer to create program flows 122 and data flows 124.").

Thus, we begin with the definition for "program flow diagrams" for our interpretation. Because it is not constructive for the definition of "program flows" to include the term "program flow," we adopt the following slightly modified version—"a graphical representation comprised of program block icons and arrows to depict the progression of control through source code."

4. Data Flows

The term "data flows" is recited by dependent claim 4. In the Decision to Institute, we did not explicitly interpret this term as part of the claim construction section. *See* Dec. 5-10. In the analysis portion of our decision, when discussing the data flow limitation, we stated that "[w]e are not persuaded that [the code view of Antis] is equivalent to a depiction of a map of the path of data through the executing source code." Dec. 19. Petitioner argues that the word "executing" in that statement is improper. Reply 4.

Although the '936 patent does not explicitly define "data flows," it does define the term "[d]ata flow diagrams" as "comprised of icons depicting data processing steps and arrows to depict the flow of the data through the program." Ex. 1001, 2:40-42. The specification then proceeds to use the terms "data flows" and "data flow diagrams" interchangeably. *See*, *e.g.*, *id.* at 4:12-13 ("FIG. 17 is an exemplary screen shot depicting a data flow for a selected file."); 16:3-5 ("By assigning meanings and attributes to tokens 144, the document view engine 200 allows the visualizer to create program flows 122 and data flows 124.").

Thus, we begin with the definition for "data flows diagrams," for our interpretation. Because it is not constructive to interpret the term "data flows" by using the phrase "flow of data," we adopt the following slightly modified version—"a graphical representation comprised of icons depicting data processing steps and arrows to depict the movement of data through source code."

B. Overview of Coad

Coad discloses a software development tool that allows a developer simultaneously to view and modify textual and graphical displays of source code regardless of the programming language in which the code is written. Ex. 1006, Abstract, 4:38-41. In the Background of the Invention, Coad describes conventional software development tools that allow the user to view Unified Modeling Language (UML)—a graphical representation or model using object-oriented design—and source code at the same time. *Id.* at 1:47–2:22.

C. Overview of the Oracle Primers

The Oracle Primers are books describing the Oracle database system. The Oracle8 Primer includes a chapter titled "Embedded SQL," which refers to adding embedded SQL to C++, thus allowing writing application programs in C++ that "interact (read and write) with the database." Ex. 1013, 93. Another chapter, titled "Oracle JDBC" describes JDBC, "an Application Programming Interface (API) that enables database access in Java" and "consists of a set of classes and interfaces written in Java that allow the programmer to send SQL statements to a database server for execution and, in the case of an SQL query, to retrieve query results." Ex. 1013, 225.

D. Alleged Obviousness over Coad and the Oracle Primers

Petitioner asserts that claim 1 would have been obvious over Coad combined with Oracle Primer and Oracle8 Primer. Petitioner relies on Coad for every limitation except that Petitioner relies on the Oracle Primers for describing the use of SQL within Java and C++ and thus disclosing the data manipulation language limitation. Pet. 31-32 (citing Ex. 1015 ¶¶ 111-115). Petitioner points to Figures 11-17 of Coad as depicting aspects of the view for displaying graphical representations of flows in source code. Pet. 29-30.

In the Decision to Institute, we determined that Petitioner had shown a reasonable likelihood of prevailing on this proposed ground of unpatentability. Dec. 15. In particular, we determined that Petitioner had a reasonable likelihood of prevailing on its assertions that the combination of Coad and the

Oracle Primers disclosed every limitation of claim 1. *Id.* at 12-14. We also found reasonable Petitioner's asserted rationale that a person of ordinary skill would have combined the teachings of Coad and the Oracle Primers in order to enhance the utility of the programming environment to include data manipulation. *Id.* at 14-15 (citing Pet. 25); *see* Ex. 1015 ¶ 115.

In its response brief, Patent Owner argues that the combination of Coad and the Oracle Primers fails to disclose the limitations "graphical representations of flows within the retrieved source code" where the source code is written in a "data manipulation language." PO Resp. 34-42. Patent Owner does not address any other limitations of claim 1 or the rationale to combine the references. *Id.*

1. Data Manipulation Language

Patent Owner argues that Coad combined with the Oracle Primers does not describe a data manipulation language because C++ and Java are object-oriented languages. PO Resp. 13, 36-39. According to Patent Owner, combining these languages with embedded SQL or JDBC, as disclosed by the Oracle Primers, does not solve the problem because the database access is not direct. *Id.*

As described above, our interpretation of the term "data manipulation language"—a programming language used to access data in a database, such as to retrieve, insert, delete, or modify data in the database—is broad enough to encompass object-oriented languages that do not directly access data in a database. We agree with Petitioner that when used with an embedded SQL or JDBC API, Java and C++

can be used to access data in a database and therefore qualify as data manipulation languages as we have construed that term. *See*, *e.g.*, Ex. 1015 ¶¶ 49-50 ("Java, C, C++, and other programming languages had functions and structures through the use of/embedding of SQL statements that allowed the programming language to access data, such as to retrieve, insert, delete, or modify data in a database.").

2. Graphical Representations of Flows

Patent Owner also argues that the combination of Coad and the Oracle Primers does not disclose the limitation "graphical representations of flows." PO Resp. 40-42. In particular, Patent Owner asserts that "[i]mplementing JDBC or embedded SQL within the environment of Coad would produce, at best, a graphical depiction of objects that show undefined external function calls, and would fail to show the program or data flow within the string quotes being passed to the database." PO Resp. 40.

We are not persuaded by this argument. First, this argument is based on an interpretation of the term "graphical representations of flows" that we rejected above. As explained, the interpretation we adopt is a diagram that depicts a map of the progression (or path) through the source code. This interpretation is broad enough to include, but is not limited to, program and data flows. We also reject Patent Owner's assertion that the graphical representation must show flow within source code steps that are actually performing data manipulation. Our interpretation of the term includes, but does not require, that the flows are shown within source code that is actually performing data manipulation.

Petitioner relies on Figures 11-17 (depicting UML diagrams) of Coad as disclosing graphical representations of flows. Pet. 28-30. We agree with Petitioner that at least Figures 14 and 17 of Coad disclose graphical representations of flows as we have construed that term. *See*, *e.g.*, Ex. 1015 ¶¶ 97-98; *see also* Ex. 1043, 88-89 (describing UML diagrams as showing flows).

Patent Owner concedes that Figure 14 shows communications between objects, which "would at best only show program flow in a purely object[-]oriented language—between objects." PO Resp. 32 (citing Ex. 2001 ¶ 36). Nonetheless, Patent Owner asserts that because object messages "cannot sensibly be asserted to constitute program or data flow," Figure 14 does not show flow through source code. *Id.* at 31-32. Because our interpretation of the term is broad enough to encompass flows that are not program or data flows, we conclude that Figure 14 discloses graphical representations of flows.

Similarly, Mr. Zatkovich agrees that Figure 17 shows a type of flow— "Figure 17 can depict a type of flow [ ], within an object, but only within state-based objects. So it's a very specialized type of flow in a very limited circumstance." Ex. 1044, 104:12-17. Because our interpretation of the term is broad enough to encompass flows that are not program or data flows, we conclude that Figure 17 discloses graphical representations of flows as well.

3. Conclusion

We conclude that a preponderance of the evidence demonstrates that claim 1 is unpatentable based on the combination of Coad and the Oracle Primers.

E. Overview of Antis

Antis relates to visually displaying structural characteristics of a large database in various graphical views for development purposes. Ex. 1005, Abstract. In particular, Antis describes a tool to display the characteristics of a database without semantic information such that explicit and implicit data structures can readily be observed to facilitate use, development, and maintenance of large databases. *Id.* 2:25-29.

F. Alleged Obviousness over Antis and Coad

As summarized in the table above, Petitioner asserts that claims 1 and 3-10 would have been obvious over Antis combined with Coad (claims 1, 3, 5, 6, 8, and 10) or Antis combined with Coad and one other reference (claims 4, 7, and 9). Pet. 41-52. In the Decision to Institute, we determined that Petitioner had shown a reasonable likelihood of prevailing on these proposed grounds of unpatentability. Dec. 18-19. In particular, we determined that Petitioner had a reasonable likelihood of prevailing on its assertions that the combination of asserted references discloses every limitation of the challenged claims. *Id.* We also found reasonable Petitioner's asserted rationale that a person of ordinary skill would have combined the teachings of the references in order to allow for easier source code debugging and a more accurate code view display. *Id.* at 18 (citing Pet 18); *see also* Ex. 1015 ¶¶ 164-67.

1. Independent Claim 1

In its response brief, Patent Owner argues that the combination of Antis and Coad fails to disclose the limitations (recited in every challenged claim)

"graphical representations of flows within the retrieved source code" where the source code is written in a "data manipulation language." PO Resp. 42-45. Patent Owner does not address any other limitations of claim 1 or Petitioner's asserted rationale to combine Antis and Coad. *Id.*

a. Data Manipulation Language

Patent Owner argues that Antis combined with Coad does not describe a data manipulation language because Antis instead describes the use of a data definition language. PO Resp. 42-45. A data definition language is designed specifically for describing the relationships between data in a database, such as defining data structures and schema. *Id.*

We agree with Patent Owner that a data definition language is different than a data manipulation language. *See* EX. 1015 ¶ 48 (quoting The Authoritative Dictionary of IEEE Standards Terms at 100 (7th 2000) (defining data manipulation language followed by ("*Contrast*: data definition language"))). However, we do not agree that Antis's disclosure is limited to data definition languages.

Antis also discusses the use of RDBMS. *See*, *e.g.*, Ex. 1005, 3:30-35, 5:4-8; Ex. 1044, 138:19-139:12. The '936 patent expressly mentions RDBMS several times, stating, for example, that "a need exists for a system and method for exchanging, editing, debugging, visualizing[,] and developing SAS®, SPSS®, SQL®, DB2 UDB®, Oracle RDBMS®[,] and other relational database management software." Ex. 1001, 1:66-2:3; *see also* 1:20-25; 8:26-30. Thus, the '936 patent contemplates the use of a database

management system with the invention. *Id.* Mr. Hiew testifies that a data management system typically includes a data manipulation language to retrieve and manipulate the data from the storage management by the system. Ex. 1045, 47:19-48:12. Consistent with this definition, Antis shows some source code that retrieves data from a database—a data manipulation language. Ex. 1005, Fig. 12 ("/HOME/PYRCE/DATA/*EXTRACT*/V6.0/") (emphasis added); Ex. 2002, 101:4-102:19 (Dr. Roussopoulos testifying that although he is not familiar with the language the source code in Figure 12 is in, it shows a database query).

We are persuaded that Antis discloses a data manipulation language as we have construed that term.

b. Graphical Representations of Flows

Patent Owner also argues that the combination of Coad and Antis does not disclose the limitation "graphical representations of flows." PO Resp. 42-45. Patent Owner argues that Antis does not disclose graphical representations of flows because it only shows relations within a database, not any type of flow. *Id.* at 43-44. We are not persuaded by this argument. As explained above, we have found that Coad discloses graphical representations of flows, so it is irrelevant that Antis does not also show this particular limitation, given that the asserted ground is based on the combination of the two references.

c. Conclusion

We conclude that a preponderance of the evidence demonstrates that independent claim 1 is

unpatentable based on the combination of Antis and Coad.

2. Claims 5, 6, 8, and 10

Claims 5, 6, and 8 depend directly from independent claim 1. Claim 10 depends from claim 8. Patent Owner does not separately argue the limitations added by these dependent claims. After considering all the papers filed in this proceeding, we are persuaded that dependent claims 5, 6, 8, and 10 are unpatentable based on the combination of Antis and Coad for the reasons argued by Petitioner.

3. Claim 3

Claim 3 depends directly from claim 1 and adds the limitation "wherein the graphical representations of flows depict program flows." Because claim 3 specifically limits the graphical representations to program flows, we revisit some of Patent Owner's arguments that we did not find persuasive when applied to the broader term. In other words, although we determined above that Coad discloses graphical representations of flows, we must now determine whether Coad shows *program flows* as we construe that term—a graphical representation comprised of program block icons and arrows to depict the progression of control through source code.

In our Decision to Institute, we stated that "Figure 14 [of Coad] depicts the source code program's path of control from one step to another through the program—a program flow diagram." Dec. 14. We based this determination on Coad's description that Figure 14, showing a sequence diagram, depicts "the time ordering of messages along the vertical axis" representing "an interaction . . . to effect a desired

operation or result." *Id.* (citing Ex. 1006, 17:1-15). Dr. Roussopoulos's testimony is consistent with this determination. Ex. 1015 ¶¶ 100, 101. In particular, Dr. Roussopoulos states that "Figure 14 depicts a program flow by showing a *particular sequence of operations*, where one operation follows another in time." *Id.* ¶ 100. He points to objective evidence supporting his conclusion that a person of ordinary skill would understand sequence diagrams to include program flows. *Id.* ¶ 101 (quoting Mehmet Aksit, *et. al.*, *Use Cases in Object-Oriented Software Development*, AMIDST, Feb. 5, 1999, at 10-11); *see also id.* ¶ 102.

Patent Owner argues that Figure 14 does not disclose program flows because "the sequence diagrams show the *communications* that occur between objects, not the flow of program control between objects, nor the flow of data being manipulated by the objects." PO Resp. 31. Mr. Zatkovich testifies similarly, stating that "sequence diagrams show the communications between active objects" and there is "nothing in this type of model representation that is intended to show how data flows." Ex. 2001 ¶¶ 28-29. Thus, according to Mr. Zatkovich, "one skilled in the art reviewing Fig. 14 and the accompanying text would not conclude that this discloses program or data flow in Java or C++, nor program or data flow in a data manipulation language." *Id.* ¶ 30.

We are persuaded that a person of ordinary skill in the art would conclude that Figure 14 discloses program flows as we have construed that term. Patent Owner does not persuasively address the language of Coad itself—that sequence diagrams

"emphasize the time ordering of messages along the vertical access" (Ex. 1006, 17:11-15), and thus depict the progression of control through the source code of an object. Moreover, Patent Owner does not persuasively address the supporting evidence stating that "[t]he flow of control in use cases can be displayed in interaction diagrams, especially the sequence diagrams." Ex. 1015 ¶ 101 (emphasis omitted).

As between the conflicting evidence on this point, we credit Petitioner's evidence, particularly Dr. Roussopoulos's testimony, which is supported by objective evidence. All of Patent Owner's evidence, to the contrary, hinges on the testimony of Mr. Zatkovich, which we do not find persuasive on this point. Mr. Zatkovich's conclusion that a person of ordinary skill would not conclude that Figure 14 depicts program flows is unsupported. Mr. Zatkovich simply asserts this to be the case, without providing credible support. *See* Ex. 2001 ¶¶ 28-30.

We conclude that a preponderance of the evidence demonstrates that claim 3 is unpatentable based on the combination of Antis and Coad.

4. Claim 4

Petitioner asserts that claim 4 would have been obvious over Antis, Coad, and Burkwald. Pet. 52-53. Claim 4 depends from claim 1 and adds the limitation that "the graphical representations of data flows are expandable and collapsible." Petitioner relies on Burkwald—a patent directed to a "system for visually representing modification information about a[ ] characteristic-dependent information processing system"—as disclosing this limitation. *See id.* at 52

(citing Ex. 1007, 14:43 – 15:4); Ex. 1007, Title. Petitioner explains that a person of ordinary skill in the art would have had a reason to combine the three references because they are all related to software development tools that provide visual representations of source code. Pet. 19. According to Petitioner, Burkwald's teaching of expanding and collapsing graphical representations of flows would have provided a developer with flexibility in the amount of detail shown in the view. *Id.* at 19-20. Patent Owner argues that the combination of Coad, Antis, and Burkwald does not disclose "data flows," but Patent Owner does not address any of the other limitations added by claim 4 or the rationale to combine the references. *See* PO Resp. 45-47.

Much like claim 3, claim 4 specifically limits the graphical representations, here to data flows. Thus, we must determine whether Coad shows *data flows* as we construe that term—a graphical representation comprised of icons depicting data processing steps and arrows to depict the movement of data through source code.

Petitioner argues that the UML sequence and collaboration diagrams of Coad show data flows. Pet. 43, 52-53; Reply 7. Consistent with this assertion, Dr. Roussopoulos explains that a person of ordinary skill in the art would understand Figure 14 to depict data flows. Ex. 1015 ¶¶ 97-98. According to Dr. Roussopoulos, "[t]he person of ordinary skill in the art would thus understand Figure 14 of Coad to disclose a graphical representation of data flow because it shows *which pieces of data* (*i.e.*, the data that is passed to the functions) *are accessed by which*

pieces of source code (*i.e.*, the source code comprising the functions)." *Id.* ¶ 98.

We are not persuaded by Dr. Roussopoulos's unsupported conclusions on this point. For example, although his testimony addresses part of our interpretation of the term "data flows"—"arrows to depict the movement of data through source code," his testimony does not explain how Coad depicts "icons depicting data processing steps." Conversely, Dr. Roussopoulos explicitly states that "[i]n Figure 14 of Coad, the horizontal dimension represents different objects" and "[i]n transitioning between the objects of the horizontal dimension, various functions are invoked." *Id.* Consistent with this testimony, Figure 14 appears to show "various functions" using arrows and objects using icons, but it is unclear that any icons represent "data processing steps" as required.

Dr. Roussopoulos also testifies that "a person of ordinary skill in the art would understand the statechart diagram of Figure 16 to disclose both data flows and program flows." *Id.* ¶ 103. This testimony relies on evidence that "a statechart diagram can be translated into a data flow diagram" leading a person of ordinary skill in the art to "understand that data flow must necessarily be depicted in a statechart diagram." *Id.* ¶ 104. Coad, however, explains that Figure 16 depicts "the sequences of states 1602 that an object or interaction goes through during its life." Ex. 1006, 17:16-20. Dr. Roussopoulos does not explain how this figure shows "icons depicting data processing steps." Dr. Roussopoulos's testimony that

Figure 17, an activity diagram, depicts data flows suffers from the same problem. *Id.* ¶ 107.[2]

In its reply brief, Petitioner adds that the UML diagrams of Coad (Figures 14-17) depict the same types of data flows as shown in Figures 8-2 and 8-3 of the UML Manual (Ex. 1043). Reply 6. The figures depicted in the UML Manual, however, suffer from the same problem as we have identified for Figures 14, 16, and 17 of Coad—they do not appear to show "icons representing data processing steps."

We conclude that Petitioner has not shown by a preponderance of the evidence that dependent claim 4 would have been obvious to a person of ordinary skill in the art based on the combined disclosure of Coad, Antis, and Burkwald.

5. Claims 7 and 9

Claim 7 depends from claim 6 and adds the limitation that "the document manager comprises a security layer for managing secure connections with the one or more remote computers." Petitioner relies on Eick—a patent directed to a "system and method for interactive visualization, analysis and control of a dynamic database"—as disclosing this limitation. *See* Pet. 53 (citing Ex. 1008, 4:19-27); Ex. 1008, Title. Petitioner explains that a person of ordinary skill in the art would have had a reason to combine the three references because they are all related to visual representations of source code and data structures. Pet. 21. Moreover, according to Petitioner, Eick's

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[2] This conclusion is consistent with our decision declining to institute an *inter partes* review of claim 2 because we were not persuaded that either Antis or Coad discloses the claimed "graphical representation" of a "data flow." Dec. 19.

teaching of a security layer for managing secure connections with remote computers would allow the systems of Antis and Coad to be distributed to one or more locations without a substantial security risk. *Id.* at 21-22.

Claim 9 depends from claim 8 and adds the limitation that "the template manager is adapted to automatically correct segments of the source code." Petitioner relies on Building Applications—a book including information about Microsoft Access 97 software—as disclosing this limitation. Pet. 54-55 (citing Ex. 1011, 52-54). Petitioner explains that a person of ordinary skill in the art would have had a reason to combine the three references because they are all related to software development tools that provide visual representations of source code. Pet. 23. According to Petitioner, Building Applications's teaching of automatically correcting segments of source code determined to have errors would simplify the debugging of source code in Antis and Coad. *Id.* at 23-24.

Patent Owner does not separately argue these grounds, but instead states that "[t]hese claims are patentable for the same reasons as set forth . . . with respect to claim 1." PO Resp. 47. For the reasons discussed with respect to claim 1, and considering the record, we conclude that a preponderance of the evidence demonstrates that claim 7 is unpatentable based on the combination of Antis, Coad, and Eick, and claim 9 is unpatentable based on the combination of Antis, Coad, and Building Applications for the reasons argued by Petitioner.

G. Patent Owner's Contingent Motion to Amend Claims

Patent Owner filed a motion to enter proposed, amended claims 17-25, contingent on the Board determining that claims 1 and 3-10, respectively, are unpatentable. Paper 20 ("Mot. to Amend"). Patent Owner also filed a Second Contingent Motion to Amend solely addressing potential antecedent basis issues in the proposed substitute claims. Paper 28 ("Second Mot. to Amend"). Because we determine that claims 1, 3, and 5-10 are unpatentable, we consider the proposed substitute claims 17, 18, and 20-25. However, because we do not determine that claim 4 is unpatentable, we do not consider the proposed substitute for that claim—claim 19.

During an *inter partes* review, we enter proposed amended claims only upon a showing that the amended claims are patentable. *Idle Free Sys. v. Bergstrom, Inc.*, Case IPR2012-00027, slip op. at 33 (PTAB Jan. 7, 2014) (Paper 66). This burden may not be met by merely showing that the proposed claims are distinguished over the prior art references applied to the original patent claims. Instead, because there is no examination of the proposed claims, the Patent Owner must show that the subject matter recited is not taught or suggested by the prior art for us to determine if they comply with 35 U.S.C. §§ 102 and 103. *Id.*

Petitioner argues that Patent Owner has not met its burden because it makes no statement that the substitute claims are patentable over prior art not of record, does not include any discussion of the level of ordinary skill in the art, and does not discuss what was previously known regarding the features of the substitute claims. Paper 25 ("Opp."), 2.

We agree that, although it is Patent Owner's burden to show patentability over the prior art, Patent Owner does not assert, or direct us to evidence, that the IDE claimed in the proposed substitute claims was novel over other IDE's known in the art. *See* Tr. 53:15-54:13. Instead, Patent Owner focuses only on Coad, the Oracle Primers, Antis, and U.S. Patent No. 6,785,668 B1 ("Polo"). Accordingly, Patent Owner has not met the burden it undertook by putting forth the proposed amended claims. For that reason, the Motion to Amend is *denied* to the extent it seeks entry of substitute claims 17, 18, and 20-25.

Even if Patent Owner's burden was to show patentability over only the prior art of record, we would not be persuaded that the proposed claims are patentable. To the contrary, we are persuaded that the proposed claims would have been obvious over Coad combined with either the Oracle Primers or Antis.

1. Proposed Substitute Claim 17

Claim 17, the proposed substitute for independent claim 1, is identical to original claim 1 except that it adds the following limitation to the visualizer element: "the graphical representations of flows showing a flow within the retrieved source code between data manipulation procedures in an order in which the data manipulation procedures are performed on retrieved data." Second Mot. to Amend 2 (emphasis omitted).

Patent Owner argues that proposed substitute claim 17 is patentable over Coad combined with the Oracle Primers, Coad combined with Antis, and Polo.

Mot. to Amend 8-11. According to Patent Owner, the added limitation "clarifies that the flow is 'between' data manipulation procedures and that the data manipulation procedures must be performed on 'retrieved data.'" Mot. to Amend 8-9.

Patent Owner explains that because the graphical depictions of JDBC or embedded SQL in the environment of Coad do not access a database *directly*, they would only show the retrieval of data ("retrieved data"), but would not show a subsequent data manipulation step or flow between subsequent data manipulation steps. *Id.* at 9 (citing Ex. 2001 ¶¶ 67-68). Thus, according to Patent Owner, proposed substitute claim 17 would not have been obvious over the combination of Coad and the Oracle Primers. *Id.* As for the combination of Antis and Coad, Patent Owner argues that neither Coad nor Antis discloses graphical representations of flows of data manipulation procedures being performed on retrieved data. *Id.* at 9-10 (citing Ex. 2001 ¶ 69).

We do not find these arguments persuasive. As discussed above, we have determined that a person of ordinary skill in the art would have found independent claim 1 obvious over the combination of Coad and the Oracle Primers. We are not persuaded that the added limitation of proposed substitute claim 17 would not have been obvious to a person of skill in the art in view of the disclosure of Coad and the Oracle Primers.

a. Data Manipulation Procedures

Patent Owner's arguments all rely on the added limitation requiring that a graphical representation show "a flow within the retrieved source code

between data manipulation procedures." Despite the fact that the term "data manipulation procedure" is not used in the '936 patent, Patent Owner does not provide a claim construction for the term. *See* Mot. to Amend. Based on Patent Owner's patentability arguments, we infer that a "data manipulation procedure" under Patent Owner's interpretation requires that the procedure *directly* access data in a database. *See* Paper 26 ("Mot. to Amend Reply") 2-3 ("A function call in source code to an external program is not a 'data manipulation procedure' since any data manipulation would occur *external* to the source code."); Tr. 47:20-24 ("I think that the base assumption there is that a function call within C++ would be a data manipulation procedure, and I think that's entirely inconsistent with the specification read by one skilled in the art in 2001.").

Petitioner argues that this interpretation of "data manipulation procedures" is too narrow. Opp. 5. Instead, Petitioner asserts that the proper interpretation of the claim term is based on the interpretation of "data manipulation language." *Id.* According to Petitioner, because a data manipulation procedure requires only a procedure that is used to access data in a database, but does not require that access to be direct, a "data manipulation procedure" correspondingly is a procedure that accesses data in a database, and extends to procedures that access the data indirectly. *Id.* Patent Owner appears to agree that the interpretation of "data manipulation procedure" is tied to the interpretation of "data manipulation language." *See* Tr. 49:22-50:9 ("Essentially, once you start defining data manipulation languages as broad as C++ with

embedded SQL, you've eviscerated the point of adding this claim limitation."); *see also* Mot. to Amend Reply 3 (referring to "data manipulation procedures" as "DML procedures").

For the reasons explained with respect to the interpretation of "data manipulation language," we agree with Petitioner that the broadest reasonable interpretation of "data manipulation procedure" does not require direct access to a database, and, thus, interpret "data manipulation procedure" to mean a procedure used to access data in a database, such as to retrieve, insert, delete, or modify data in the database.

b. Retrieved Data

Again, the term "retrieved data" is not used in the '936 patent and Patent Owner does not proffer a proposed interpretation of this term. However, Patent Owner asserts that data retrieved from a database are no longer "retrieved data" once they are returned to the database. Mot. to Amend Reply 3. Petitioner does not address the construction of this element. We are persuaded that our patentability analysis is unaffected, regardless of whether we adopt Patent Owner's definition. Therefore, we proceed under Patent Owner's understanding of the term.

c. Patentability

We are not persuaded that proposed substitute claim 17 is patentable over Coad combined with the Oracle Primers. Patent Owner argues because the "data manipulation procedures are performed on retrieved data," a C++ function call with embedded SQL would not meet the additional claim limitation

of proposed substitute claim 17. Mot. to Amend Reply 3; *see also* Tr. 50:10-16. Specifically, Patent Owner asserts that "one skilled in the art would not consider" following an embedded SQL retrieve step with a second embedded SQL manipulation step "because that would be inefficient and unnecessary." Mot. to Amend Reply 3. Patent Owner, however, does not direct us to evidence supporting this attorney argument.

Petitioner, on the other hand, states that "[a]fter retrieving data, additional functional calls may be used to perform data manipulation procedures on the retrieved data." Opp. 6-7 (citing Ex. 1015 ¶ 53). We credit Dr. Roussopoulos's testimony on this issue, which he bases on language in the Oracle8 Primer. Ex. 1015 ¶ 53 (citing Ex. 1013, 93, 95, 103, 118). We, therefore, are not persuaded that proposed substitute claim 17 is patentable over the combination of Coad and the Oracle Primers.

2. Proposed Substitute Claim 18

Claim 18, the proposed substitute for dependent claim 3, depends from proposed substitute claim 17 and adds the following limitation to claim 3: "having procedure icons and arrows that show an actual execution path within the retrieved source code as performed on the retrieved data." Second Mot. to Amend 2.

According to Patent Owner, proposed substitute claim 18 is patentable because "[t]he UML diagrams of Coad, at best, disclose all possible pathways within the source code, as opposed to the added limitation that would only show a graphical execution path of

the actual flow of data within the source code." Mot. to Amend 12.

We do not agree with Patent Owner's interpretation of the scope of proposed substitute claim 18. The claim does not require, on its face, that *only* the actual execution path be shown. Instead, it simply states that such "actual execution path" will be shown. Thus, Patent Owner concedes that Coad discloses this limitation by showing all possible pathways, which logically includes the actual execution path.

Thus, we are not persuaded that claim 18 is patentable over Coad combined with Antis.

3. Proposed Substitute Claim 23

Claim 23, the proposed substitute for dependent claim 8, is written in independent form to include the language of proposed substitute claim 17. Second Mot. to Amend 3-4. In addition, proposed substitute claim 23 adds the following limitations to the visualizer element: "having data processing procedure icons and arrows to depict program flow or icons depicting data processing steps and arrows to depict flow of data in an order data processing procedures or data processing steps occur" and "the data processing procedures or data processing steps being graphically depicted as being completed prior to showing flow to a next procedure or step." *Id.* at 4.

Patent Owner points to Figures 9 and 19 of the original '936 patent application as providing support for the feature that "the data processing procedures or data processing steps being graphically depicted as being completed prior to showing flow to a next procedure or step." Mot. to Amend 7-8. Specifically,

Patent Owner asserts that "one skilled in the art would understand that the ['936] patent discloses the graphical depiction of flow between completed DML procedures or steps." Mot. to Amend Reply 5 (citing Ex. 2001 ¶¶ 72-76).

Petitioner argues that proposed substitute claim 23 is unpatentable due to a lack of written description support because the '936 patent specification does not disclose graphical representations including steps that are completed prior to showing flow to the next step. Opp. 13-14. Addressing Mr. Zatkovich's testimony on the issue, Petitioner argues that the testimony describes aspects of the underlying source code from which a flow diagram may be created, but does not point to any particular feature of the figures or any particular language in the '936 patent application that depicts this limitation. *Id.* at 14.

A motion to amend must set forth the support in the original disclosure of the patent for each claim that is added or amended and the support in an earlier-filed disclosure for which the benefit of the filing date of the earlier filed disclosure is sought. 37 C.F.R. § 42.221(b). We agree with Petitioner that Patent Owner's Motion to Amend fails to show where the '936 patent supports the limitation "the data processing procedures or data processing steps being graphically depicted as being completed prior to showing flow to a next procedure or step."

As an initial matter, Patent Owner does not explain what is meant by "graphically depicted as being completed." This language is not found in the specification of the '936 patent, and Patent Owner does not direct us to language in the '936 patent that sheds light on the meaning of this phrase. In support

of the Motion to Amend, Patent Owner directs us to the declaration of Mr. Zatkovich. Ex. 2001. Mr. Zatkovich, however, also does not explain what meaning a person of ordinary skill in the art would give to the phrase. Without such explanation, Patent Owner has neither provided a sufficient explanation of the additional claim language nor established sufficient written description support for such language.

Moreover, in the Motion to Amend, Patent Owner does not identify specifically what portion of the specification actually supports this limitation. *See*, *e.g.*, Mot. to Amend 7 ("The limitations [of claim 23] are supported by the original specification, page 3, line 23 to page 4, line 2; page 28, lines 1—16; page 29, lines 3-6; and Figs. 9, 17, and 19."). In its Reply, Patent Owner asserts that Figure 19 of the '936 patent shows source code in the bottom of the window "and the corresponding graphical representation of flow between *completed* DML procedures in the top window." Mot. to Amend Reply 5. Patent Owner adds that the specification states that the visualizer window represents "the procedures and data blocks as program flow icons 126." *Id.* (emphasis omitted). Nothing in this language explains how any of the figures of the '936 patent "graphically depict [a procedure] as being completed." Patent Owner directs us to testimony of Mr. Zatkovich stating that Figure 9 depicts a "simple flow" where "[e]ach step is a process that begins when the process receives an[ ] input and terminates when the outputs are sent to another step." Ex. 2001 ¶ 73. However, we are not persuaded by this testimony that Figure 9 provides sufficient support for this limitation. For example, it

is unclear how Figure 9 "graphically depicts [a procedure] as being completed."

Thus, we are not persuaded that claim 23 is patentable over Coad combined with Antis.

4. Proposed Substitute Claims 20-22, 24, and 25

Patent Owner argues that proposed substitute claims 20-22, 24, and 25 are patentable over the prior art for the same reason as proposed substitute claims 17 and 23, and does not present separate arguments as to the alleged patentability of these claims. Mot. to Amend 14. For the reasons discussed above, we are not persuaded by these arguments. Thus, we are not persuaded that Patent Owner has met its burden to show that proposed substitute claims 20-22, 24, and 25 are patentable over the prior art.

III. CONCLUSION

Petitioner has shown, by a preponderance of the evidence, that the challenged claims are unpatentable based on the following grounds: (1) claim 1 would have been obvious over Coad combined with Oracle Primer and Oracle8 Primer; (2) claims 1, 3, 5, 6, 8, and 10 would have been obvious over Antis combined with Coad; (4) claim 7 would have been obvious over Antis combined with Coad and Eick; and (5) claim 9 would have been obvious over Antis combined with Coad and Building Applications.

Petitioner has not shown that claim 4 is unpatentable. Claims 2 and 11-16 are not at issue in this trial.[3]

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[3] In the Decision to Institute, we declined to institute an *inter partes* review of claims 2 and 11-16 because we were not persuaded that Petitioner had shown that there was a

Patent Owner has not shown that its proposed substitute claims 17, 18, and 20-25 are patentable over the prior art.

Accordingly, it is

ORDERED that claims 1, 3, and 5-10 of the '936 patent are determined to be *unpatentable*;

FURTHER ORDERED that Patent Owner's Motion to Amend Claims is *denied*; and

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

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reasonable likelihood of prevailing on its challenges to these claims. Dec. 11, 19, 21.

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APPENDIX C

United States Court of Appeals
for the Federal Circuit

SAS INSTITUTE, INC.,
Appellant

v.

COMPLEMENTSOFT, LLC.,
Cross-Appellant

2015-1346, 2015-1347

Appeals from the United States Patent and Trademark Office, Patent Trial and Appeal Board in No. IPR2013-00226.

ON PETITION FOR REHEARING EN BANC

JOHN MARLOTT, Jones Day, Chicago, IL, for appellant. Also represented by GREGORY A. CASTANIAS, Washington, DC; DAVID B. COCHRAN, Cleveland, OH; MATTHEW JOHNSON, Pittsburgh, PA.

MATTHEW TOPIC, Loevy & Loevy, Chicago, IL, for cross-appellant.

NATHAN K. KELLEY, Office of the Solicitor, United States Patent and Trademark Office, Alexandria, VA, for intervenor Michelle K. Lee. Also represented by

SCOTT WEIDENFELLER, JOSEPH GERARD PICCOLO, STACY BETH MARGOLIES, SARAH E. CRAVEN.

Before PROST, *Chief Judge*, NEWMAN, LOURIE, DYK, MOORE, REYNA, WALLACH, TARANTO, CHEN, HUGHES, and STOLL, *Circuit Judges*.*

NEWMAN, *Circuit Judge*, dissents from the denial of the petition for rehearing en banc.

PER CURIAM.

O R D E R

Appellant SAS Institute, Inc. filed a petition for rehearing en banc. Responses to the petition were invited by the court and filed by intervenor Michelle K. Lee and cross-appellant Complementsoft, LLC. The petition was first referred as a petition for rehearing to the panel that heard the appeal, and thereafter the petition for rehearing en banc was referred to the circuit judges who are in regular active service. A poll was requested, taken, and failed.

Upon consideration thereof,

IT IS ORDERED THAT:

The petition for panel rehearing is denied.

The petition for rehearing en banc is denied.

The mandate of the court will issue on November 14, 2016.

FOR THE COURT

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* Circuit Judge O'Malley did not participate.

November 7, 2016	/s/ Peter R. Marksteiner
Date	Peter R. Marksteiner Clerk of Court

United States Court of Appeals
for the Federal Circuit

SAS INSTITUTE, INC.,
Appellant

v.

COMPLEMENTSOFT, LLC.,
Cross-Appellant

2015-1346, 2015-1347

Appeals from the United States Patent and Trademark Office, Patent Trial and Appeal Board in No. IPR2013-00226.

NEWMAN, *Circuit Judge*, dissenting from denial of the petition for rehearing *en banc*.

Administrative agency practices are required to conform to the authorizing legislation and the statutory purpose. The Patent and Trademark Office ("PTO"), charged with administering the Leahy–Smith America Invents Act ("AIA"), P.L. 112–29, has adopted some implementing practices that are not authorized by the statute and not in accord with the legislative purpose of achieving final resolution of disputed patent validity issues by agency action in place of litigation.

This case concerns the PTO's adoption of the practice whereby on *inter partes* review ("IPR") the PTO may, in its sole discretion, choose to decide some, but not all, of the patent claims that are challenged

under the statute. This practice foils the legislative purpose of resolving certain patent issues in an administrative forum, newly available to litigants previously confined to the district court. From my colleagues' refusal to reconsider this agency practice *en banc*, I respectfully dissent.

DISCUSSION

The America Invents Act established a new adjudicatory body called the Patent Trial and Appeal Board ("PTAB"), an administrative tribunal vested with authority to conduct trials including discovery, evidence, testimony, briefs, argument, and final decision. The PTAB's decisions produce estoppel in all subsequent proceedings between the parties, both administrative and judicial. The goal is the efficient and reliable resolution of certain patent disputes without the cost and delay and uncertainty of district court litigation. As explained by Senator Kyl, a principal architect of the legislation, this system "ideally [will] completely substitute for at least the patents- and-printed-publication portion of the civil litigation." 157 CONG. REC. S1376 (daily ed. Mar. 8, 2011) (statement of Sen. Kyl).

This goal was paramount during the years of genesis of the America Invents Act. "It is clearly appropriate to have an administrative process for challenging patent validity, but it should exist within a structure that guarantees a quick–and final–determination." *Patent Reform Act of 2009: Hearing on H.R. 1260, House Comm. on the Judiciary*, 111th Cong. 153 (April 30, 2009) (statement of Rep. Manzullo). The AIA provides for final determination of validity as to the grounds asserted against the claims challenged in the petition.

However, the PTO adopted regulations that authorizes the PTAB to choose to decide some, but not all, of the challenged claims. The practice, called "partial" or "selective" institution, leaves the unselected claims dangling, lacking both finality and estoppel, preventing the expediency and economy and efficiency that motivated the America Invents Act. Senator Kyl stressed a primary purpose of the Act "to force a party to bring all of [its] claims in one forum . . . and therefore to eliminate the need to press any claims in other fora." 154 CONG. REC. S9989 (daily ed. Sept. 27, 2008) (statement of Sen. Kyl).

Instead, by "partial institution" the petitioner is not only mired in the proceeding for the claims that the PTAB has selected, but may also be obliged to litigate the other claims in other for a, even though those claims were properly presented to the PTAB for adjudication. The matter requires *en banc* correction, for this court has endorsed the PTO's position that "the final order of the Board need not address every claim raised in the petition for review" *Synopsys, Inc., v. Mentor Graphics Corp.*, 814 F.3d 1309, 1311 (Fed. Cir. 2016).

THE STATUTE

The provisions of the AIA form a coherent whole only when all of the properly challenged claims are decided by the PTAB. "The cardinal rule of statutory interpretation [is] that no provision should be construed to be entirely redundant." *Kungys v. United States*, 485 U.S. 759, 778 (1988). "It is the duty of the court to give effect, if possible, to every clause and word of a statute" *Inhabitants of Montclair Tp. v. Ramsdell*, 107 U.S. 147, 152 (1883).

Relevant statutory provisions include—

35 U.S.C § 311 *Inter Partes* Review

Section 311 authorizes the defined post-grant challenges in the PTO. The purpose is not only to avoid or reduce the burdens and costs and delays of litigation, but potentially to avert litigation. *See* 157 CONG. REC. S1053 (Mar. 1, 2011) (statement of Sen. Whitehouse) ("[T]he bill will improve administrative processes so that disputes over patents can be resolved quickly and cheaply without patents being tied up for years in expensive litigation."); *see also* H.R. REP. NO. 112-98 pt.1 at 48 (2011) ("[T]he purpose of the section is providing quick and cost effective alternatives to litigation."):

> **§ 311(a)** ***In general.***— Subject to the provisions of this chapter, a person who is not the owner of a patent may file with the Office a petition to institute an *inter partes* review of the patent. . . .
>
> **(b)** ***Scope.***— A petitioner in an *inter partes* review may request to cancel as unpatentable 1 or more claims of a patent only on a ground that could be raised under section 102 or 103 and only on the basis of prior art consisting of patents or printed publications.

The PTO's then-Director Dudas explained that the majority of validity challenges are on § 102 or §103 grounds based on reference patents and printed publications. *See Patent Reform: The Future of American Innovation: Hearing Before the Senate Comm. on the Judiciary*, 110th Cong. 7 (2007) (statement of Director Jon Dudas).

The legislative record is unambiguous: the purpose of the AIA procedure is to move these validity challenges into the PTO, whose expertise in technology and experience in the relevant law are intended to produce decisions entitled to estoppel in any judicial or administrative proceeding between these parties or their privies. Senator Grassley explained the intended effect: "If an *inter partes* review is instituted while litigation is pending, that review will completely substitute for at least the patents-and-printed-publications portion of the civil litigation." 157 CONG. REC. S1376 (daily ed. Mar. 8, 2011) (statement of Sen. Grassley). This complete substitution, as enacted by Congress, cannot occur if the validity of only some of the challenged claims is decided, leaving the other challenged claims untouched.

35 U.S.C. § 312 Petitions

Section 312 states the required content of these postgrant petitions. When the specified content is not provided, the petition must be denied. When the specified content is provided, the petition may or may not be "instituted," in the PTO's unchallenged discretion. However, the statute does not contemplate the partial institution of only those parts selected by the PTO:

> **§ 312(a)** ***Requirements of petition.***—A petition filed under section 311 may be considered only if—
>
> . . . .
>
> **(3)** the petition identified, in writing and with particularity, each claim challenged, the grounds on which the challenge to each

> claim is based, and the evidence that supports the grounds for the challenge to each claim, including— . . . .

At enactment Senator Grassley explained that "by requiring petitioners to tie their challenges to particular validity arguments against particular claims, the new threshold will prevent challenges from 'mushrooming' after the review is instituted into additional arguments employing other prior art or attacking other claims." 157 CONG. REC. S1376 (daily ed. Mar. 8, 2011). Emphasis on this requirement pervaded the genesis of the legislation. Senator Kyl explained that the petitioner "must present a full affirmative case" as to every challenged claim. 154 CONG. REC. S9987 (daily ed. Sept. 25, 2008) (statement by Sen. Kyl on S. 3600).

While § 314(d), discussed *infra*, provides that the PTO may refuse to accept any petition in its entirety, it was never contemplated that only some of the challenged claims might be reviewed, nor does § 314(d) provide such discretion, for this defeats the purpose of the proceeding.

The legislative record stresses the intent "to eliminate the need to press any claims in other fora." 154 CONG. REC. S9989 (daily ed. Sept. 27, 2008) (statement of Sen. Kyl).

35 U.S.C. § 313 Preliminary response to petition

The patent owner is authorized to respond, and to argue that "no *inter partes* review should be instituted."

There is no suggestion of partial institution.

35 U.S.C. § 314 Institution of *inter partes* review

"What the bill does . . . is very simple. It says the Patent Office will make an administrative determination before the years of litigation as to whether this patent is a legitimate patent so as not to allow the kind of abuse we have seen." 157 CONG. REC. S5437 (daily ed. Sept. 8, 2011) (Statement of Sen. Schumer on Senate consideration of H.R. 1249). Section 314 provides for the threshold determination of whether to proceed at all and sets time limits for the decision of whether to institute review:

> **§ 314(a)** ***Threshold.***—The Director may not authorize an *inter partes* review to be instituted unless the director determines that the information presented in the petition filed in section 311 and any response filed under section 313 shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.
>
> **(b)** ***Timing.***—The Director shall determine whether to institute an *inter partes* review under this chapter pursuant to a petition filed under section 311 within 3 months after—
>
> > (1) receiving a preliminary response to the petition under section 313; or
> >
> > (2) if no such preliminary response is filed, the last date on which such response may be filed.

In legislative response to the PTO's concern about its ability to meet a sudden increase in workload, the statute provides that the PTO is not obligated to accept every petition, even when meritorious. Senator Kyl explained that this "reflects a legislative judgment that it is better that the Office turn away

some petitions that otherwise satisfy the threshold for instituting and *inter partes* or post-grant review than it is to allow the Office to develop a backlog of instituted reviews that precludes the Office from timely completing proceedings." 157 CONG. REC. S1377 (daily ed. Mar. 8, 2011) (statement of Sen. Kyl). As part of this expedient, as well as to avert delay due to interlocutory appeal, the Act provides that the threshold decision whether to institute review is not appealable:

> **(d) No appeal.**— The determination by the Director whether to institute an *inter partes* review under this section shall be final and nonappealable.

Thus, when a petition for review is declined, litigation may proceed. The statutory plan is for an alternative to litigation, not duplicative litigation as may arise from partial institution.

> **35 U.S.C § 315 Relation to other proceedings or actions**

A primary focus of the AIA is to avoid the cost and delay and uncertainty of patent litigation. Thus the statute places controls on the relation between these PTO proceedings and district court and ITC litigation. Of particular concern is the effect of partial institution on the integrity of the new estoppel provisions:

> **§ 315(e)** ***Estoppel*****—**
>
> **(1)** ***Proceedings before the Office.***—The petitioner in an *inter partes* review of a claim in a patent under this chapter that results in a final written decision under section 318(a), or the real party in interest or privy of the

> petitioner, may not request or maintain a proceeding before the Office with respect to that claim on any ground that the petitioner raised or reasonably could have raised during that *inter partes* review.
>
> **(2) *Civil actions and other proceedings.*—** The petitioner in an *inter partes* review of a claim in a patent under this chapter that results in a final written decision under section 318(a), or the real party in interest or privy of the petitioner, may not assert either in a civil action arising in whole or in part under section 1338 of title 28 or in a proceeding before the International Trade Commission under section 337 of the Tariff Act of 1930 that the claim is invalid on any ground that the petitioner raised or reasonably could have raised during that *inter partes* review.

A goal of these new PTO proceedings is finality of decision. As the legislation evolved, it was stressed that "if [such] proceedings are to be permitted, they should generally serve as a complete substitute for at least some phase of the litigation." S. REP. NO. 110-259, at 67 (2008) (Additional Views of Sen. Specter joined with Minority Views of Sens. Kyl, Grassley, Coburn and Brownback).

The estoppel provisions were controversial. *See, e.g.,* S. REP. NO. 111-18, at 17 (2009) ("Many businesses also have described could-have-raised estoppel as a powerful brake on their use of *inter partes* reexamination. They find this standard vague and uncertain, and fear that if they challenge a patent in an *inter partes* reexamination, they will lose the ability to raise later-discovered prior art against

the patent if they are subsequently sued for infringement."). The statute as enacted embodies the dominant policy weight on the benefits of finality and estoppel, as explained by then-Director of the USPTO David Kappos: "Those estoppel provisions mean that your patent is largely unchallengeable by the same party." *Hearing on H.R. 1249 before the Subcomm. on Intell. Prop., Competition and the Internet of the House Comm. on the Judiciary*, 112th Cong. (2011).

On enactment, Senator Grassley flagged the purpose and significance of the estoppel provisions:

> In addition, the bill would improve the current *inter partes* administrative process for challenging the validity of a patent. It would establish an adversarial *inter partes* review, with a higher threshold for initiating a proceeding and procedural safeguards to prevent a challenger from using the process to harass patent owners. It also would include a strengthened estoppel standard to prevent petitioners from raising in a subsequent challenge the same patent issues that were raised or reasonably could have been raised in a prior challenge. The bill would significantly reduce the ability to use post-grant procedures for abusive serial challenges to patents. These new procedures would also provide faster, less costly, alternatives to civil litigation.

157 CONG. REC. S952 (daily ed. Feb. 28, 2011) (statement of Sen. Grassley). These goals are thwarted by the partial institution practice.

Estoppel cannot arise as to claims that the PTO declined to review. Partial institution negates the

purpose that any patent claim challenged by the petitioner and any new claim added during the proceeding could be fully and finally decided, thereby bringing "more certainty in litigation." 157 CONG. REC. S948 (daily ed. Feb. 28, 2011) (statement of Sen. Leahy).

35 U.S.C § 316 Conduct of inter partes review

Section 316 authorizes the PTO Director to issue regulations, sets some evidentiary standards, and provides rules whereby the patent owner may file one motion to amend its claims. The rules here of concern are 37 C.F.R. 42.108(a) ("When instituting *inter partes* review, the Board may authorize the review to proceed on all or some of the challenged claims and on all or some of the grounds of unpatentability asserted for each claim."); 37 C.F.R. 42.108(b) ("At any time prior to institution of *inter partes* review, the Board may deny some or all grounds for unpatentability for some or all of the challenged claims. Denial of a ground is a Board decision not to institute *inter partes* review on that ground."). These practices work against the statutory purpose of final resolution of § 102 and § 103 issues.[1]

The Administrative Procedure Act requires that a reviewing court "shall hold unlawful and set aside agency action, findings, and conclusions found to be

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[1] The estoppel in IPR proceedings differs from the estoppel in the CBM transitional proceedings, 35 U.S.C. § 18(a)(1)(D) ("The petitioner in a transitional proceeding that … results in a final written decision … may not assert … that the claim is invalid on any ground that the petitioner raised during that transitional proceeding."). Both the "raised" and "could-have-raised" standards are affected by partial institution.

in excess of statutory jurisdiction, authority, or limitations, or short of statutory right." 5 U.S.C. § 706(2)(C). "If the intent of Congress is clear, that is the end of the matter; for the court, as well as the agency, must give effect to the unambiguously expressed intent of Congress." *Chevron U.S.A., Inc. v. Natural Resources Defense Council, Inc.*, 467 U.S. 837, 842-43 (1984).

35 U.S.C. § 318 Decision of the Board

The legislation requires a final decision as to every claim challenged in the petition.

> **§ 318(a)** ***Final Written Decision***— If an *inter partes* review is instituted and not dismissed under this chapter, the Patent Trial and Appeal Board shall issue a final written decision with respect to the patentability of any patent claim challenged by the petitioner and any new claim added under section 316(d).

The statute requires the Board's final decision to encompass "the patentability of any patent claim challenged by the petitioner and any new claim added under section 316(d)."

This requirement to render a final decision for each of the challenged claims directly comports with the estoppel provisions. Fidelity to this legislative purpose is a necessity if the AIA's new adjudicatory proceeding is to substitute for major aspects of patent validity litigation.[2] Such substitution will serve the

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[2] I have focused on the question of partial institution, mindful that other aspects of AIA implementation are arising in other cases, all of which together affect the vitality of the statute. *See Davis v. Michigan Dept. of Treasury*, 489 U.S. 803, 809 (1989) ("A court must therefore interpret the statute 'as a symmetrical

Nation's interest in technological innovation and resultant societal benefits.

CONCLUSION

On this petition for rehearing *en banc*, the judicial obligation is to assure fidelity to the intent of Congress, as expressed in the statute and the legislative record, lest we become complicit in "frustrating the policy that Congress sought to implement:"

> [T]he courts are the final authorities on issues of statutory construction. They must reject administrative constructions of the statute, whether reached by adjudication or by rulemaking, that are inconsistent with the statutory mandate or that frustrate the policy that Congress sought to implement.

Fed. Energy Comm'n v. Democratic Senatorial Campaign Comm., 454 U.S. 27, 32 (1981). Thus I must, respectfully, dissent from the denial of rehearing *en banc*.

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and coherent regulatory scheme,' and 'fit, if possible, all parts into an harmonious whole.'") (internal citations omitted).

APPENDIX D

Trials@uspto.gov Paper 9
Tel: 571-272-7822 Entered: August 12, 2013

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

SAS INSTITUTE, INC.
Petitioner

v.

COMPLEMENTSOFT, LLC
Patent Owner

Case IPR2013-00226
Patent 7,110,936 B2

Before KEVIN F. TURNER, JUSTIN T. ARBES, and JENNIFER S. BISK, *Administrative Patent Judges*.

BISK, *Administrative Patent Judge*.

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

I. INTRODUCTION

A. Background

SAS Institute, Inc. ("SAS") filed a petition ("Pet.") (Paper 1) to institute an *inter partes* review of claims 1-16 of Patent 7,110,936 B2 (the "'936 patent") pursuant to 35 U.S.C. § 311 *et seq.* ComplementSoft, LLC ("ComplementSoft") filed a preliminary response ("Prelim. Resp.") (Paper 8). We have jurisdiction under 35 U.S.C. § 314. We conclude that SAS has satisfied the burden to show, under 35 U.S.C. § 314(a), that there is a reasonable likelihood that it would prevail with respect to at least one of the challenged claims.

SAS contends that the challenged claims are unpatentable under 35 U.S.C. §§ 102 and/or 103 based on the following specific grounds (Pet. 11-12):[1]

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[1] SAS also asserts that "[t]o the extent not explicitly enumerated above, claims 2-16 are unpatentable over each reference and combination of references asserted for claim 1 in view of the prior art." Pet. 12. This assertion fails to satisfy the requirement that a petition must identify with particularity each claim challenged, the grounds on which the challenge is based, and the evidence that supports the grounds for the challenge to each claim. *See* 35 U.S.C. § 312(a)(3); 37 C.F.R. §§ 42.22(a), 42.104(b)(4)-(5). We, therefore, do not further address these unsupported challenges.

Reference[s][2]	Basis	Claims challenged
Coad	§102	1
Coad, Oracle Primer, and Oracle8 Primer	§103	1
Antis	§102	1-3 and 5
Antis and Coad	§103	1-3, 5, 6, 8, 10-12, 15, and 16
Antis, Coad, and Burkwald	§103	4
Antis, Coad, and Eick	§103	7
Antis, Coad, and Building Applications	§103	9
Antis, Coad, and Corda	§103	13
Antis, Coad, and Access 97 Visual Basic	§103	14

For the reasons described below, we institute an *inter partes* review of claims 1 and 3-10 based on the following grounds: (1) claim 1 is obvious over Coad combined with Oracle Primer and Oracle8 Primer; (2) claims 1, 3, 5, 6, 8, and 10 are obvious over Antis

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[2] U.S. Patent 5,572,650 (Ex. 1005) ("Antis"); U.S. Patent 6,851,107 (Ex. 1006) ("Coad"); U.S. Patent 6,356,285 (Ex. 1007) ("Burkwald"); U.S. Patent 5,937,064 (Ex. 1008) ("Eick"); Evan Callahan, MICROSOFT ACCESS 97 VISUAL BASIC STEP BY STEP (1997) (Ex. 1009) ("Access 97 Visual Basic"); U.S. Patent 5,782,122 (Ex. 1010) ("Corda"); Microsoft Corporation, BUILDING APPLICATIONS WITH MICROSOFT ACCESS 97 (1996) (Ex. 1011) ("Building Applications"); Rajshekhar Sunderraman, ORACLE PROGRAMMING: A PRIMER (1999) (Ex. 1012) ("Oracle Primer"); and Rajshekhar Sunderraman, ORACLE8 PROGRAMMING: A PRIMER (2000) (Ex. 1013) ("Oracle8 Primer").

combined with Coad; (3) claim 4 is obvious over Antis combined with Coad and Burkwald; (4) claim 7 is obvious over Antis combined with Coad and Eick; and (5) claim 9 is obvious over Antis combined with Coad and Building Applications.

We decline to institute *inter partes* review of (1) claims 2 or claims 11-16; (2) claim 1 based on anticipation by Coad; or (3) claims 1, 3, or 5 based on anticipation by Antis.

B. The Invention

The '936 patent describes a language independent software development tool having a graphical user interface, also referred to as an Integrated Development Environment or IDE. Ex. 1001, col. 1, ll. 15-19. In particular, the patent describes an IDE for exchanging, editing, debugging, visualizing, and developing software code for "data manipulation centric languages." *Id.* at col. 1, 1.64-col. 2, l. 3.

The Summary of the Invention describes the IDE as including each of the following: (1) a document manager that manages connections between computers and transfers files (col. 2, ll. 20-26); (2) an editor that can modify code within an existing file using advanced editing features or create a new file (col. 2, ll. 27-33); (3) a visualizer that generates a graphical representation of the program flow, data flow, or logic of the code (col. 2, ll. 34-49); (4) a template manager that allows the user to browse through a repository of existing code or templates and copy a selected template into a file for editing (col. 2, ll. 50-54); and (5) a parser layer that detects the type of code in the selected file and activates the corresponding rules and logic (col. 2, ll. 55-62).

Claim 1, reproduced below, is the '936 patent's only independent claim:

1. An integrated development environment, comprising:

a document manager for retrieving source code programmed using one of a plurality of types of data manipulation languages;

an editor for displaying the retrieved source code and providing a means for a user to edit the retrieved source code;

a parser layer which detects the one of the plurality of types of data manipulation languages in which the retrieved source code is programmed and which activates rules and logic applicable to the detected one of the plurality of types of data manipulation languages; and

a visualizer dynamically linked to the editor for displaying graphical representations of flows within the retrieved source code using the rules and logic applicable to the detected one of the plurality of types of data manipulation languages and activated by the parser,

wherein the editor, parser layer and visualizer cooperate such that edits made to the source code using the editor are automatically reflected in the graphical representations of flows displayed by the visualizer and edits made to the graphical representations of flows in the visualizer are

automatically reflected in the source code displayed by the editor.

We note that the '936 patent is asserted currently in *ComplementSoft, LLC v. SAS Institute, Inc.*, Docket No. l:12-cv-07372 (N.D. Ill. Sept. 14, 2012) ("the related litigation"). *See* Pet. 58; Paper 6 at 2.

C. Claim Construction

As a step in our analysis for determining whether to institute a trial, we determine the meaning of the claims. Consistent with the statute and the legislative history of the America Invents Act (AIA), the Board will interpret claims using the broadest reasonable construction in light of the specification. *See* Office Patent Trial Practice Guide, 77 Fed. Reg. 48756, 48766 (Aug. 14, 2012); 37 CFR § 42.100(b). Both parties submit proposed constructions for several claim terms. Pet. 12-14; Prelim. Resp. 10-15. We summarize each of the proposed interpretations below:

Claim Term	**SAS Proposal**	**ComplementSoft Proposal**
automatically [reflected]	without user intervention	generated by the IDE, not by the user
data manipulation language	a programming language used to access data in a database, such as to retrieve, insert, delete, or modify data in a database	a computer programming language that enables a programmer to create a datacentric program
integrated		a single

development environment		comprehensive software development tool capable of assisting users in the editing, visualizing, debugging, and development of software
editor		a component of the IDE that can create new source code files, and also display and modify source code within existing source code files
graphical representation of flows		a diagram using icons and arrows to depict procedures in the order they occur in a data manipulation language and/or the movement of data through the processes performed by the procedures in the order they occur

We have considered the parties' proposals, but conclude that only the terms "data manipulation language" and "graphical representation of flows"

require an explicit construction for purposes of this decision.

1. Data Manipulation Language

Both parties offer a proposed interpretation of the claim term "data manipulation language." SAS asserts that the term means "a programming language used to access data in a database, such as to retrieve, insert, delete, or modify data in the database." Pet. 14. SAS bases this proposed interpretation on the '936 patent's disclosure of SQL® and Oracle® RDBMS as data manipulation languages for accessing data in a database. *Id.* (citing Ex. 1001, col. 1, ll. 20-25).

ComplementSoft argues that SAS's proposed definition is "inadequate" in that it "only provides examples of what a data manipulation language can do, not what a data manipulation language is." Prelim. Resp. 10-11. ComplementSoft proposes instead that "data manipulation language" means "a computer programming language that enables a programmer to create a datacentric program," i.e., a program in which "the data drives the objectives." *Id.* at 10. As support for this definition, ComplementSoft cites to the same language in the specification as does SAS. *Id.* (citing Ex. 1001, col. 1, ll. 20-30). In addition, ComplementSoft points to several other sections of the Specification, including language stating that the preferred embodiment is designed to work with specific types of code (col. 9, ll. 47-53; col. 17, ll. 40-45), language referring to "data processing steps" (col. 2, ll. 40-42), and figures illustrating data accessing and processing (Figs. 9 and 17).

We are persuaded that the definition proposed by SAS is the broadest reasonable construction of the term. The phrase "data manipulation language" is not defined explicitly in the written description of the '936 patent. Thus, there is a "heavy presumption" that the term carries its ordinary and customary meaning. *CCS Fitness, Inc. v. Brunswick Corp.,* 288 F.3d 1359, 1366 (Fed. Cir. 2002). We are persuaded that SAS's proposed definition is consistent with the ordinary and customary meaning of the term—"a language that is used to insert data in, update, and query a database." MICROSOFT COMPUTER DICTIONARY at 125 (4th ed. 1999).

We are not persuaded by ComplementSoft's arguments for its proposed interpretation. First, *both* proposed definitions define the term by describing what a "data manipulation language can do": SAS's proposal is that the language can be "used to access data in a database, such as to retrieve, insert, delete, or modify data in the database," while ComplementSoft proposes that the language "enables a programmer to create a datacentric program." Second, none of the citations to the '936 patent relied upon by ComplementSoft mandate its more narrow interpretation. The citations pointed to by ComplementSoft also support SAS's broader proposed definition.

Thus, for purposes of this decision, we construe the claim term "data manipulation language" to be a programming language used to access data in a database, such as to retrieve, insert, delete, or modify data in the database.

2. Graphical Representation of Flows

SAS does not address explicitly the construction of the claim term "graphical representation of flows." ComplementSoft asserts that the term should be defined as "a diagram using icons and arrows to depict procedures in the order they occur in a data manipulation language and/or the movement of data through the processes performed by the procedures in the order they occur." Prelim. Resp. 13-14. We are not persuaded that this is the broadest reasonable interpretation of the term.

First, we are not persuaded that the term "graphical representation" is limited to "icons and arrows" as proposed by ComplementSoft. *See id.* The plain and ordinary meaning of the word "graphical representation" is using a picture or graph to depict something else. *See, e.g.*, AMERICAN HERITAGE DICTIONARY at 573, 1049 (2nd College Ed. 1982) (defining "graphical" as "of or pertaining to pictorial representation"). Thus, the plain and ordinary meaning of "graphical representation of flows" is a picture or graph that depicts flows. Although the '936 patent describes the use of icons and arrows in diagrams *(see, e.g.,* col. 2, ll. 38-42), ComplementSoft does not point to language in the patent that limits the diagrams to those particular symbols.

Second, we are not persuaded that the "flows" are limited to "procedures in the order they occur in a data manipulation language and/or the movement of data through the processes performed by the procedures in the order they occur" as asserted by ComplementSoft. *See* Prelim. Resp. 13-14. The plain and ordinary meaning of the term "flow" in the context of computer software is a map of the

progression (or path) through the executing source code.[3] The '936 patent describes two kinds of flows, "program flows" and "data flows." Ex. 1001, col. 2, ll. 38-42. For example, a "program flow diagram" depicts a map of the progression of control through the executing source code and a "data flow diagram" depicts a map of the path of data through the executing source code. Ex. 1001, col. 2, ll. 33-43. ComplementSoft, however, does not point to language in the patent that limits the term "flows" to only those examples.

For purposes of this decision, therefore, we are persuaded that the broadest reasonable interpretation of the term "graphical representation of flows" is a diagram that depicts a map of the progression (or path) through the source code.

3. Means-Plus-Function Limitations

Several of the challenged claims include the language "means" or "means for" and therefore are presumed to invoke 35 U.S.C. § 112 ¶ 6. [4] *Personalized Media Commc'ns LLC v. Int'l Trade Comm'n,* 161 F.3d 696, 703-04 (Fed. Cir. 1998). This presumption is not conclusive. *Sage Prods., Inc. v. Devon Indus., Inc.,* 126 F.3d 1420, 1427-28 (Fed. Cir. 1997). For example, section 112 is not implicated

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[3] See, for example, flowchart: "A graphic map of the path of control or data through the operations in a program or an information-handling system." MICROSOFT COMPUTER DICTIONARY at 190 (4th ed. 1999).

[4] Section 4(c)of the AIA re-designated 35 U.S.C. § 112 ¶ 6, as 35 U.S.C. § 112(f). Because the '936 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.

where a claim uses the word "means" but does not specify a corresponding function. *Id.* at 1427-28. Section 112 also is not implicated where a claim recites a corresponding function, but the claim also recites sufficient structure, material, or acts to perform entirely the recited function. *Id.*

Claim 1 recites "an editor for displaying the retrieved source code and providing a *means for a user to edit* the retrieved source code" (emphasis added). SAS does not propose, specifically, a construction for this limitation. ComplementSoft asserts that this language is not a statutory means-plus-function clause because it "provides further definition for the functionality of the editor." Prelim. Resp. 11. ComplementSoft's argument appears to be that the recited editor provides sufficient structure to perform entirely the recited function—editing the retrieved source code—and, therefore, this limitation does not implicate section 112. This is consistent with ComplementSoft's proposed interpretation of the claim term "editor" as summarized above. On this record, we conclude that ComplementSoft's argument is reasonable, and do not interpret the phrase "means for a user to edit" to be a means-plus-function limitation.

Claim 11 depends from claim 1 and further recites "a *means for allowing* the source code to be executed both locally and remotely" (emphasis added). Neither party proposes an interpretation for this limitation. Because claim 11 uses the words "means for" modified by functional language and the limitation is not modified by any structure recited in the claim to perform the claimed function—allowing source code to be executed both locally and remotely—we

interpret this limitation to be a means-plus-function limitation. As discussed in more detail below, SAS did not meet its burden to identify how claim 11 is to be construed. *See* 37 C.F.R. § 42.104(b)(3). Specifically, SAS did not address the corresponding structure in the Specification for the means-plus-function limitation.

II. ANALYSIS

A. Claims 11-16

SAS has the burden to establish a reasonable likelihood of prevailing on its assertion that claim 11, and those claims that depend from claim 11—claims 12-16—are unpatentable over the asserted prior art. An essential part of that showing is identifying how each challenged claim is to be construed. 37 C.F.R. § 42.104(b)(3). Specifically, the rules require that "[w]here the claim to be construed contains a means-plus-function or step-plus-function limitation[,] . . . the construction of the claim must identify the specific portions of the specification that describe the structure, material, or acts corresponding to each function." *Id.* As discussed above, SAS does not identify what structure in the Specification it believes corresponds to the means-plus-function limitation of claim 11. This failure is fatal to SAS's challenge of claims that include that limitation. Indeed, SAS's discussion of the asserted prior art (Coad and Antis) in relation to claim 11, as well as the analysis of Dr. Roussopoulos, does not address any corresponding structure in the Specification of the '936 patent. *See* Pet. 47-48 (citing Ex. 1015, ¶¶ 191-95). SAS's analysis, therefore, is insufficient to show that the prior art teaches the means-plus-function limitation

of claim 11. Thus, we decline to institute *inter partes* review on any proposed ground for claims 11-16.

B. Coad

1. Overview of Coad

Coad discloses a software development tool that allows a developer to view and modify simultaneously textual and graphical displays of source code regardless of the programming language in which the code is written. Ex. 1006, Abstract, col. 4, ll. 38-41. In the Background of the Invention, Coad describes conventional software development tools that allow the user to view Unified Modeling Language (UML)—a graphical representation or model using object oriented design—and source code at the same time. *Id.* at col. 1, l. 47 – col. 2, l. 22. Coad lists several disadvantages of these prior art systems, including that the files containing the source code and UML are not synchronized and that the tools work with only a single programming language. *Id.* at col. 2, ll. 22-36. "Thus, a tool **100** that is designed for Java™ programs cannot be utilized to develop a program in C++." *Id.* at col. 2, ll. 36-40.

Coad describes using the software development tool to: (1) open a file that contains existing source code or create a file in which source code will be developed (col. 15, ll. 60-64); (2) modify existing source code using an incremental code editor (ICE) (col. 4, ll. 54-58); (3) view several models of the source code using static, dynamic, and functional diagrams (col. 16, l. 58 – col. 17 l. 32); (4) obtain templates for the current programming language (col. 16, ll. 4-9); and (5) convert source code into the language-neutral

representation for viewing and vice versa using a parser layer (col. 5, ll. 50-55; col. 16, ll. 4-16).

2. Anticipation of Claim 1

SAS asserts that Coad anticipates claim 1. Pet. 25-31. In particular, SAS asserts that Coad discloses the limitation of "source code programmed using one of a plurality of types of data manipulation languages" because it discusses the use of "a plurality of types of programming languages," including C++ and Java. Ex. 1006, Abstract; col. 16, ll. 1-4. SAS also provides the testimony of Dr. Nick Roussopoulos stating that Java and C++ "had functions and structures through the use of/embedding of SQL statements that allowed the programming language to access data, such as to retrieve, insert, delete, or modify data in a database." Ex. 1015, ¶ 49. Dr. Roussopoulos testified that "a well-known product (Oracle) allowed a Java program to use SQL to retrieve data query results." *Id.* at ¶ 50. Dr. Roussopoulos, however, did not testify that all versions of C++ or Java included data manipulation functionality or that Coad's disclosure necessarily included data manipulation languages.

ComplementSoft responds that Coad does not meet its burden of showing anticipation of the required data manipulation language limitation by showing that Coad either explicitly or inherently discloses the use of data manipulation languages. Prelim. Resp. 27. We agree with ComplementSoft. Coad does not explicitly disclose that any of the programming languages referred to in the specification include data manipulation capabilities. Further, SAS does not meet its burden to prove inherency by showing that such capability is inherent in Coad's disclosure. Therefore, we are not persuaded that SAS has shown

a reasonable likelihood of prevailing in its assertion that claim 1 is anticipated by Coad.

3. Obviousness of Claim 1 over Coad, Oracle Primer, and Oracle8 Primer

SAS asserts that claim 1 is obvious over Coad combined with Oracle Primer and Oracle8 Primer. SAS relies on the Oracle documents for describing the use of SQL within Java and C++ and thus disclosing the data manipulation language limitation. Pet. 31-32 (citing Ex. 1015, ¶¶ 111-115). SAS points to Figures 11-17 of Coad as depicting aspects of the view for displaying graphical representations of flows in source code. Pet. 29-30. In addition, SAS asserts, and ComplementSoft does not dispute, that in the related district court litigation, ComplementSoft conceded that Coad discloses the "editor" limitation. Pet. 27 (citing Ex. 1016 (ComplementSoft's Response to SAS's Invalidity Contentions) at 18).

ComplementSoft argues that the asserted combination of references does not meet the required "graphical displays of flows"[5] limitation. Prelim. Resp. 28. According to ComplementSoft, the focus in Coad on object-oriented languages, and an incompatibility of the treatment of data between object-oriented languages and relational databases, means that the graphical representations of flows in Coad are incompatible with those claimed in the '936 patent. Prelim. Resp. 28-32. We are not persuaded by this argument. Figure 14 of Coad, pointed to by SAS (Pet. 28-30), "displays a sequence diagram of source code."

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[5] Because none of the claims include this particular language, we assume that ComplementSoft is referring to the limitation "graphical representations of flows."

Ex. 1006, col. 4, ll. 16-18. As described in Coad, in a sequence diagram, "the vertical dimension represents time" and the diagram depicts "the time ordering of messages along the vertical axis" representing "an interaction ... to effect a desired operation or result." *Id.* at col. 17, ll. 1-15. Figure 14, therefore, depicts a step-by-step progression through the source code. *See id.* at Fig. 14. More specifically, Figure 14 depicts the source code program's path of control from one step to another through the program—a program flow diagram. Thus, Coad discloses "graphical representations of flows" as we interpret the term.

ComplementSoft also argues that the Oracle Primers are non-analogous art to Coad. Prelim. Resp. 33. According to ComplementSoft, Coad's field of endeavor is IDEs and that of the Oracle Primers is introductory texts for SQL programming of Oracle. *Id.* ComplementSoft asserts that these fields are not analogous. *Id.* ComplementSoft adds that the two references also do not relate to the same problem of improving IDEs. *Id.* SAS, however, asserts that all three references are directed to computer programming, generally, and to the Java and C++ programming languages, specifically. Pet. 25. We agree with SAS that the references have similar purposes and overlapping teachings and all relate to software development using Java and C++. We also find reasonable SAS's rationale that a person of ordinary skill would have combined the teachings of these references in order to enhance the utility of the programming environment to include data manipulation. *See* Pet. 25.

We are persuaded that SAS has shown a reasonable likelihood of prevailing in its assertion

that claim 1 is obvious over Coad combined with Oracle Primer and Oracle8 Primer.

4. Previous Office Consideration of Coad

Finally, we note that Coad was applied as a prior art reference during prosecution of the '936 patent. *See, e.g.*, Ex. 1002.[6] The Oracle Primers—and the specific combination of Coad and the Oracle Primers asserted by SAS—however, were not considered. While we are mindful of the burden on ComplementSoft and the Office in analyzing previously considered prior art, substantially the same prior art and arguments were not before the Office previously. *See* 35 U.S.C. § 325(d). Moreover, for the reasons explained above, we conclude that SAS's arguments based on the combination of Coad and the Oracle Primers have merit.

C. Antis

1. Overview of Antis

Antis relates to visually displaying structural characteristics of a large database for development purposes. Ex. 1005, Abstract. Antis describes a long felt need for a tool to display the characteristics of a database without semantic information such that explicit and implicit data structures can readily be observed to facilitate use, development, and maintenance of large databases. *Id.* at col. 2, ll. 25-29. Antis solves this problem by displaying statistics and characteristics of an entire relational database in one overall view with semantic information separated out and shown in additional views that interactively are

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[6] This exhibit is not marked with individual page numbers, which is a violation of 37 C.F.R. § 42.63(d)(2)(i).

linked to the overall view and to each other. *Id.* at ll. 31-39.

Antis describes several specific views, including: (1) an "over view," the highest view level of the large relational database (col. 4, ll. 1-3); (2) a "specification view," a view of the actual specification(s) of the database in the database description language or languages (col. 5, ll. 4-8); (3) an "associations view" showing associations between a selected relation and other relations of the database through queries and other supported relational database management system (RDBMS) mechanisms (col. 5, ll. 32-36); (4) a "path view" presenting all of the shortest paths connecting any two selected relations (col. 6, ll. 43-47); (5) a "code view" that displays the application source code that uses the currently selected relation (col. 7, ll. 31-35); (6) a "layout view" showing the physical layout in memory of a tuple of a relation as well as the relative sizes of attributes of the relation (col. 8, ll. 5-9); and (7) a "domain view" that shows the domains used by a given relation and that is useful to the user for exploring how domains are used and shared among relations (col. 8, ll. 22-25).

2. Anticipation of Claims 1-3 and 5

SAS asserts that Antis anticipates claims 1-3 and 5. Pet. 32-41. Specifically, SAS asserts that the "code view" of Antis is used to edit retrieved source code. Pet. 34-35 (citing Ex. 1005, Fig. 12; col. 8, 63-66). According to SAS, "Antis discloses that changes made in any of the disclosed views (*e.g.*, edits to the source code made in the expanded code view of a definition of a new object) cause corresponding changes in the other views." Pet. 35 (citing Ex. 1005, col. 9, ll. 17-28).

ComplementSoft argues that Antis fails to disclose the claimed "editor" because Antis does not disclose the capability of modifying code within files. Instead, the language relied upon by SAS discloses only that the expanded code view is used to view code, not actually change that code. ComplementSoft points out that although Antis discloses that a "change" in any one view will cause corresponding "changes" in other views, this does not mean necessarily that the underlying source code is changed, but instead could simply mean that what is shown in the view could change. Prelim. Resp. 34.

We agree with ComplementSoft. SAS does not point to any language in Antis stating explicitly that any underlying files are ever changed or that the computer system described is used for anything other than viewing the source code of the application. Consistent with this interpretation of Antis as a system for visually displaying a static view, the specification describes user inputs as "cursor touches" or "mouse button clicks." Ex. 1005, col. 9, ll. 30-35. For example, Antis states that the user can use the keyboard and mouse to "examine the results in more detail, or call up other linked displays to obtain more information" (col. 3, ll. 58-60), and "touching any code box with a cursor causes that box to be highlighted and its designation to be displayed" and "[c]licking the mouse button on a code box highlights in the over view all relations that use the corresponding unit of code" (col. 7, ll. 46-54). Antis does not, however, describe editing or modifying underlying source code files.

Thus, we agree with ComplementSoft that SAS has not shown a reasonable likelihood of prevailing in its

assertion that claims 1-3 and 5, all of which require an editor, are anticipated by Antis.

3. Obviousness of Claims 1-3, 5, 6, 8, and 10 over Antis and Coad

SAS asserts that claims 1-3, 5, 6, 8, and 10 are obvious over Antis combined with Coad. Pet. 41-52. SAS points to Coad as disclosing an incremental code editor for displaying and editing retrieved source code. Pet. 41 (citing Ex. 1006, col. 4, ll. 54-60). ComplementSoft argues that incorporating the editor of Coad into Antis is not possible because Antis does not actually manipulate data. Prelim. Resp. 37. This argument is not persuasive. "It is well-established that a determination of obviousness based on teachings from multiple references does not require an actual, physical substitution of elements." *In re Mouttet,* 686 F.3d 1322, 1332 (Fed. Cir. 2012) (citing *In re Etter,* 756 F.2d 852, 859 (Fed. Cir. 1985) (en banc) (noting that the criterion for obviousness is not whether the references can be physically combined, but whether the claimed invention is rendered obvious by the teachings of the prior art as a whole)).

ComplementSoft also argues that neither reference on its own, nor the combination of the two references, teaches "graphical representations of flows" as required by the challenged claims. Prelim. Resp. 36-38. As discussed above, we are persuaded that Coad discloses this limitation. SAS explains that a person of ordinary skill in the art would have had a reason to combine Antis and Coad because they are both directed to software development tools that provide visual representations of source code. Pet. 18. The combination of the Coad with Antis would have allowed for easier source code debugging and a more

accurate code view display according to SAS. *Id.* (citing Ex. 1015, ¶¶ 164-67). We are persuaded that this rationale is reasonable.

In summary, we have reviewed SAS's arguments in relation to each of the claims 1, 3, 5, 6, 8, and 10 and find that there is a reasonable likelihood that SAS will prevail in its challenge that these claims are obvious over a combination of Antis and Coad.

Claim 2 depends from claim 1 and adds the additional limitation that "the graphical representations of flows depict data flows." As discussed above, we are persuaded that Figure 14 of Coad depicts the source code program's path of control from one step to another through the program—a program flow diagram. ComplementSoft argues that neither Antis nor Coad nor the combination of the two references discloses a "graphical representation" of a "data flow." Prelim. Resp. 38-40.

We agree with ComplementSoft. SAS points to the code view of Antis as disclosing this limitation because "the code view provides a visualization of data flows in the retrieved source by providing a visual representation of which pieces of source code access which data in the relational database." Pet. 39 (citing Ex. 1005, col. 7, ll. 31-45). We are not persuaded that this is equivalent to a depiction of a map of the path of data through the executing source code. SAS also points to Coad as disclosing this limitation, generally pointing to a description of all views of Coad. Pet. 43-44 (citing Ex. 1006, col. 16, l. 57 – col. 17, l. 47). It is unclear exactly which view SAS equates to the claimed "graphical representation" of a "data flow." Moreover, it is not clear on its face

that Coad discloses this limitation as claimed. SAS has failed to demonstrate a reasonable likelihood that it would prevail on a challenge of claim 2 based on obviousness over Antis and Coad.

4. Obviousness of Claim 4 over Antis, Coad, and Burkwald

Claim 4 depends from claim 1 and adds the limitation that "the graphical representations of data flows are expandable and collapsible." SAS relies on Burkwald—a patent directed to a "system for visually representing modification information about a[ ] characteristic-dependent information processing system"—as disclosing this limitation. *See* Pet. 52 (citing Ex. 1007, col. 14, l. 43 – col. 15, l. 4); Ex. 1007, Title. SAS explains that a person of ordinary skill in the art would have had a reason to combine the three references because they are all related to software development tools that provide visual representations of source code. Pet. 19. Burkwald's teaching of expanding and collapsing graphical representations of flows would have provided a developer with flexibility in the amount of detail shown in the view according to SAS. *Id.* at 19-20. ComplementSoft does not address this proposed ground of unpatentability.

We are persuaded that there is a reasonable likelihood that SAS will prevail in its challenge that claim 4 is obvious over a combination of Antis, Coad, and Burkwald.

5. Obviousness of Claim 7 over Antis, Coad, and Eick

Claim 7 depends from claim 6 and adds the limitation that "the document manager comprises a security layer for managing secure connections with

the one or more remote computers." SAS relies on Eick—a patent directed to a "system and method for interactive visualization, analysis and control of a dynamic database"—as disclosing this limitation. *See* Pet. 53 (citing Ex. 1008, col. 4, ll. 19-27); Ex. 1008, Title. SAS explains that a person of ordinary skill in the art would have had a reason to combine the three references because they are all related to visual representations of source code and data structures. Pet. 21. Moreover, Eick's teaching of a security layer for managing secure connections with remote computers would allow the systems of Antis and Coad to be distributed to one or more locations without a substantial security risk according to SAS. *Id.* at 21-22. ComplementSoft does not address this proposed ground of unpatentability.

We are persuaded that there is a reasonable likelihood that SAS will prevail in its challenge that claim 7 is obvious over a combination of Antis, Coad, and Eick.

6. Obviousness of Claim 9 over Antis, Coad, and Building Applications

Claim 9 depends from claim 8 and adds the limitation that "the template manager is adapted to automatically correct segments of the source code." SAS relies on Building Applications—a book including information about Microsoft Access 97 software—as disclosing this limitation. Pet. 54-55 (citing Ex. 1011, pp. 52-54). SAS explains that a person of ordinary skill in the art would have had a reason to combine the three references because they are all related to software development tools that provide visual representations of source code. Pet. 23. Building Applications's teaching of automatically

correcting segments of source code determined to have errors would simplify the debugging of source code in Antis and Coad according to SAS. *Id.* at 23-24. ComplementSoft does not address this proposed ground of unpatentability.

We are persuaded that there is a reasonable likelihood that SAS will prevail in its challenge that claim 9 is obvious over a combination of Antis, Coad, and Building Applications.

III. CONCLUSION

We institute an *inter partes* review of claims 1 and 3-10 based on the following grounds under 35 U.S.C. § 103(a): (1) claim 1 is obvious over Coad combined with Oracle Primer and Oracle8 Primer; (2) claims 1, 3, 5, 6, 8, and 10 are obvious over Antis combined with Coad; (3) claim 4 is obvious over Antis combined with Coad and Burkwald; (4) claim 7 is obvious over Antis combined with Coad and Eick; and (5) claim 9 is obvious over Antis combined with Coad and Building Applications.

We decline to institute *inter partes* review of (1) claims 2 or claims 11-16; (2) claim 1 based on anticipation by Coad; or (3) claims 1, 3, or 5 based on anticipation by Antis.

IV. ORDER

For the reasons given, it is

ORDERED that the Petition is granted as to claims 1 and 3-10.

FURTHER ORDERED that pursuant to 35 U.S.C. § 314(a), *inter partes* review of the '936 patent is hereby instituted commencing on the entry date of this Order, and 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.

FURTHER ORDERED that the trial is limited to the grounds and claims listed in the Conclusion. No other grounds are authorized as to these claims.

FURTHER ORDERED that an initial conference call with the Board is scheduled for 2 PM Eastern Time on September 12, 2013. The parties are directed to the Office Trial Practice Guide, 77 Fed. Reg. 48756, 48765-66 (Aug. 14, 2012) for guidance in preparing for the initial conference call, and should come prepared to discuss any proposed changes to the Scheduling Order entered herewith and any motions the parties anticipate filing during the trial.

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Paper 40
Entered: November 10, 2014

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

SAS INSTITUTE, INC.,
Petitioner,

v.

COMPLEMENTSOFT, LLC,
Patent Owner.

Case IPR2013-00226
Patent 7,110,936 B2

Before KEVIN F. TURNER, JUSTIN T. ARBES, and JENNIFER S. BISK, *Administrative Patent Judges.*

BISK, *Administrative Patent Judge.*

DECISION
Request for Rehearing
37 C.F.R. § 42.71(d)

SUMMARY

SAS Institute, Inc. ("Petitioner") requests rehearing of the Board's Final Decision ("Dec."), dated August 6, 2014 (Paper 38). In the Final Decision, we determined that claims 1, 3, and 5–10 of U.S. Patent No. 7,110,936 B2 (Ex. 1001) (the "'936 patent") were unpatentable, but that Petitioner had not shown that claim 4 was unpatentable. Petitioner requests rehearing on two issues: (1) Petitioner's contention that we are required to conduct an *inter partes* review of "all claims of the '936 patent, including claims 2 and 11–16"; and (2) the proper interpretation of the claim term "data flows." Paper 39, 3 ("Req. Reh'g"). For the reasons that follow, Petitioner's request for rehearing is *denied*.

DISCUSSION

A party challenging a final written decision by way of a request for rehearing must identify specifically all matters the party believes the Board misapprehended or overlooked. 37 C.F.R. § 42.71(d). The challenging party bears the burden of showing that the decision should be modified. *Id*.

We are not persuaded by Petitioner's argument that we overlooked the contention that 35 U.S.C. § 318(a) requires that we address in the Final Decision the patentability of all claims challenged by Petitioner, including claims 2 and 11–16. Req. Reh'g 3–5. All claims at issue in this trial (claims 1 and 3–10) were addressed in the Final Decision. As stated in the Final Decision, trial was not instituted on claims 2 and 11–16, because Petitioner did not show a reasonable likelihood of prevailing on its challenges to those claims. Dec. 41. Accordingly, the

unpatentability of claims 2 and 11–16 was not at issue in this trial. Dec. 41.

We also are not persuaded by Petitioner's argument that we misapprehended the construction of the claim term "data flows." Req. Reh'g 5–15. Petitioner argues on rehearing that in the Decision to Institute, "the Board interpreted 'data flow' to mean 'a depiction of a map of the path of data through the executing source code." *Id*. at 6. Further, Petitioner asserts that "neither party challenged that interpretation during the IPR" and that the construction adopted in the Decision to Institute "is consistent with the broadest reasonable construction." *Id*. at 6, 12. This assertion is contrary to the argument in Petitioner's reply brief that "the 'executing' requirement for 'data flows' is improper, especially in view of the BRI [broadest reasonable interpretation] standard." Paper 24 ("Reply") 4; *see* Dec. 18. Thus, Petitioner *did* challenge the interpretation of "data flows" during the IPR.[1]

Moreover, we are not persuaded by Petitioner's assertion that the construction of "data flows" in the Final Decision was erroneous. Petitioner asserts that our interpretation of "data flows" results in claim 4 reciting "graphical representations of a graphical representation," which is "obviously repetitive." Req.

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[1] To the extent Petitioner contends that it was prejudiced by not being able to respond to the interpretation of "data flows" in the Final Decision, Petitioner had the opportunity in the Petition to argue its position on claim interpretation and explain why it believes the prior art teaches "data flows." *See, e.g.*, 37 C.F.R. § 42.104(b) (requiring a petition to explain "[h]ow the challenged claim is to be construed" and "[h]ow the construed claim is unpatentable").

Reh'g 11. Similarly, Petitioner asserts that there is a difference between a "data flow" and the depiction of a "data flow." We agree that the Final Decision could have further defined "data flow diagrams" and "graphical representations of data flows" to be equivalent. However, we are not persuaded that our interpretation of "data flows" was erroneous.

As discussed in the Final Decision, the '936 patent defines "data flow diagrams" as "comprised of icons depicting data processing steps and arrows to depict the flow of the data through the program." Dec. 18 (citing Ex. 1001, 2:40-42). The '936 patent does not explicitly define the term "data flows," or "graphical representations of data flows," but uses the term "data flows" interchangeably as meaning both the flow of data ("data flows") and visualization of the flow of data ("data flow diagrams" and "graphical representations of flows"). *See, e.g., id.* at 4:12-13 ("FIG. 17 is an exemplary screen shot *depicting a data flow* for a selected file.") (emphasis added), 16:3-5 ("By assigning meanings and attributes to tokens 144, the document view engine 200 allows the *visualizer to create* program flows 122 and *data flows* 124.") (emphasis added). Petitioner appears to agree on this point because its own proposed construction of the term "data flows" conflates the flow of the data with the visualization of that flow— "*a depiction of a map* of the path of data through the executing source code." Req. Reh'g 6, 12 (emphasis added).

Petitioner asserts that the '936 patent reasonably supports a reading that "data flows" may be illustrated with more general "program flow icons" that do not necessarily depict data processing steps. *Id.* at 9–10 (citing Ex. 1001, Abstract, 8:8–14, 16:12–

30). "Program flow icons" are used in the '936 patent to represent both program "code sections" and "data blocks." *See, e.g.*, Ex. 1001, 8:8–14 ("For viewing the program flow and data flow of a selected program . . . the visualizer 120 . . . displays the code for the selected program, *representing each program and data block with a program flow icon 126*.") (emphasis added), 15:63–67 ("Using information provided by the parser layer 140, the document view engine can . . . represent the procedures and data blocks as program flow icons 126."). It does not follow that visualization of a data flow may be shown by program code sections that are unrelated to data processing. Instead, the '936 patent consistently differentiates the visualization of program flows and data flows; the visualization of program flows as "program block icons and arrows to depict the code's program flow" and the visualization of data flows as "icons depicting data processing steps and arrows to depict the flow of the data through the program." *Id.* at 2:38–42, 8:8–14, 16:6–30. We are not persuaded by Petitioner's arguments to the contrary. *See* Req. Reh'g 5–15. Thus, we are not persuaded that our interpretation requiring the visualization of "data flows" to include "icons depicting data processing steps and arrows to depict the movement of data through source code" was erroneous.

CONCLUSION

We have reviewed and considered all arguments in Petitioner's request for rehearing and determine that Petitioner has not carried its burden of demonstrating that the Board misapprehended or overlooked any matters in rendering the Final

Decision. 37 C.F.R. § 42.71(d). The request for rehearing is *denied*.

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APPENDIX F

Public Law 112-29 provides in relevant part:

* * *

SEC. 6. POST-GRANT REVIEW PROCEEDINGS.

(a) INTER PARTES REVIEW.—Chapter 31 of title 35, United States Code, is amended to read as follows:

"CHAPTER 31—INTER PARTES REVIEW

"§ 311. Inter partes review

"(a) IN GENERAL.—Subject to the provisions of this chapter, a person who is not the owner of a patent may file with the Office a petition to institute an inter partes review of the patent. The Director shall establish, by regulation, fees to be paid by the person requesting the review, in such amounts as the Director determines to be reasonable, considering the aggregate costs of the review.

"(b) SCOPE.—A petitioner in an inter partes review may request to cancel as unpatentable 1 or more claims of a patent only on a ground that could be

raised under section 102 or 103 and only on the basis of prior art consisting of patents or printed publications.

"(c) FILING DEADLINE.—A petition for inter partes review shall be filed after the later of either—

"(1) the date that is 9 months after the grant of a patent or issuance of a reissue of a patent; or

"(2) if a post-grant review is instituted under chapter 32, the date of the termination of such post-grant review.

"§ 312. Petitions

"(a) REQUIREMENTS OF PETITION.—A petition filed under section 311 may be considered only if—

"(1) the petition is accompanied by payment of the fee established by the Director under section 311;

"(2) the petition identifies all real parties in interest;

"(3) the petition identifies, in writing and with particularity, each claim challenged, the grounds on which the challenge to each claim is based, and the evidence that supports the grounds for the challenge to each claim, including—

"(A) copies of patents and printed publications that the petitioner relies upon in support of the petition; and

"(B) affidavits or declarations of supporting evidence and opinions, if the petitioner relies on expert opinions;

"(4) the petition provides such other information as the Director may require by regulation; and

"(5) the petitioner provides copies of any of the documents required under paragraphs (2), (3), and (4) to the patent owner or, if applicable, the designated representative of the patent owner.

"(b) PUBLIC AVAILABILITY.—As soon as practicable after the receipt of a petition under section 311, the Director shall make the petition available to the public.

"§ 313. Preliminary response to petition

"If an inter partes review petition is filed under section 311, the patent owner shall have the right to file a preliminary response to the petition, within a time period set by the Director, that sets forth reasons why no inter partes review should be instituted based upon the failure of the petition to meet any requirement of this chapter.

"§ 314. Institution of inter partes review

"(a) THRESHOLD.—The Director may not authorize an inter partes review to be instituted unless the Director determines that the information presented in the petition filed under section 311 and any response filed under section 313 shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.

"(b) TIMING.—The Director shall determine whether to institute an inter partes review under this chapter pursuant to a petition filed under section 311 within 3 months after—

"(1) receiving a preliminary response to the petition under section 313; or

"(2) if no such preliminary response is filed, the last date on which such response may be filed.

"(c) NOTICE.—The Director shall notify the petitioner and patent owner, in writing, of the Director's determination under subsection (a), and shall make such notice available to the public as soon as is practicable. Such notice shall include the date on which the review shall commence.

"(d) NO APPEAL.—The determination by the Director whether to institute an inter partes review under this section shall be final and nonappealable.

"§ 315. Relation to other proceedings or actions

"(a) INFRINGER'S CIVIL ACTION.—

"(1) INTER PARTES REVIEW BARRED BY CIVIL ACTION.—An inter partes review may not be instituted if, before the date on which the petition for such a review is filed, the petitioner or real party in interest filed a civil action challenging the validity of a claim of the patent.

"(2) STAY OF CIVIL ACTION.—If the petitioner or real party in interest files a civil action challenging the validity of a claim of the patent on or after the date on which the petitioner files a petition for inter partes review of the patent, that civil action shall be automatically stayed until either—

"(A) the patent owner moves the court to lift the stay;

"(B) the patent owner files a civil action or counterclaim alleging that the petitioner or

real party in interest has infringed the patent; or

"(C) the petitioner or real party in interest moves the court to dismiss the civil action.

"(3) TREATMENT ON COUNTERCLAIM.—A counterclaim challenging the validity of a claim of a patent does not constitute a civil action challenging the validity of a claim of a patent for purposes of this subsection.

"(b) PATENT OWNER'S ACTION.—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. The time limitation set forth in the preceding sentence shall not apply to a request for joinder under subsection (c).

"(c) JOINDER.—If the Director institutes an inter partes review, the Director, in his or her discretion, may join as a party to that inter partes review any person who properly files a petition under section 311 that the Director, after receiving a preliminary response under section 313 or the expiration of the time for filing such a response, determines warrants the institution of an inter partes review under section 314.

"(d) MULTIPLE PROCEEDINGS.—Notwithstanding sections 135(a), 251, and 252, and chapter 30, during the pendency of an inter partes review, if another proceeding or matter involving the patent is before the Office, the Director may determine the manner in which the inter partes review or other proceeding or

matter may proceed, including providing for stay, transfer, consolidation, or termination of any such matter or proceeding.

"(e) ESTOPPEL.—

"(1) PROCEEDINGS BEFORE THE OFFICE.—The petitioner in an inter partes review of a claim in a patent under this chapter that results in a final written decision under section 318(a), or the real party in interest or privy of the petitioner, may not request or maintain a proceeding before the Office with respect to that claim on any ground that the petitioner raised or reasonably could have raised during that inter partes review.

"(2) CIVIL ACTIONS AND OTHER PROCEEDINGS.—The petitioner in an inter partes review of a claim in a patent under this chapter that results in a final written decision under section 318(a), or the real party in interest or privy of the petitioner, may not assert either in a civil action arising in whole or in part under section 1338 of title 28 or in a proceeding before the International Trade Commission under section 337 of the Tariff Act of 1930 that the claim is invalid on any ground that the petitioner raised or reasonably could have raised during that inter partes review.

"§ 316. Conduct of inter partes review

"(a) REGULATIONS.—The Director shall prescribe regulations—

"(1) providing that the file of any proceeding under this chapter shall be made available to the public, except that any petition or

document filed with the intent that it be sealed shall, if accompanied by a motion to seal, be treated as sealed pending the outcome of the ruling on the motion;

"(2) setting forth the standards for the showing of sufficient grounds to institute a review under section 314(a);

"(3) establishing procedures for the submission of supplemental information after the petition is filed;

"(4) establishing and governing inter partes review under this chapter and the relationship of such review to other proceedings under this title;

"(5) setting forth standards and procedures for discovery of relevant evidence, including that such discovery shall be limited to—

"(A) the deposition of witnesses submitting affidavits or declarations; and

"(B) what is otherwise necessary in the interest of justice;

"(6) prescribing sanctions for abuse of discovery, abuse of process, or any other improper use of the proceeding, such as to harass or to cause unnecessary delay or an unnecessary increase in the cost of the proceeding;

"(7) providing for protective orders governing the exchange and submission of confidential information;

"(8) providing for the filing by the patent owner of a response to the petition under section 313 after an inter partes review has been instituted,

and requiring that the patent owner file with such response, through affidavits or declarations, any additional factual evidence and expert opinions on which the patent owner relies in support of the response;

"(9) setting forth standards and procedures for allowing the patent owner to move to amend the patent under subsection (d) to cancel a challenged claim or propose a reasonable number of substitute claims, and ensuring that any information submitted by the patent owner in support of any amendment entered under subsection (d) is made available to the public as part of the prosecution history of the patent;

"(10) providing either party with the right to an oral hearing as part of the proceeding;

"(11) requiring that the final determination in an inter partes review be issued not later than 1 year after the date on which the Director notices the institution of a review under this chapter, except that the Director may, for good cause shown, extend the 1-year period by not more than 6 months, and may adjust the time periods in this paragraph in the case of joinder under section 315(c);

"(12) setting a time period for requesting joinder under section 315(c); and

"(13) providing the petitioner with at least 1 opportunity to file written comments within a time period established by the Director.

"(b) CONSIDERATIONS.—In prescribing regulations under this section, the Director shall consider the effect of any such regulation on the economy, the

integrity of the patent system, the efficient administration of the Office, and the ability of the Office to timely complete proceedings instituted under this chapter.

"(c) PATENT TRIAL AND APPEAL BOARD.—The Patent Trial and Appeal Board shall, in accordance with section 6, conduct each inter partes review instituted under this chapter.

"(d) AMENDMENT OF THE PATENT.—

"(1) IN GENERAL.—During an inter partes review instituted under this chapter, the patent owner may file 1 motion to amend the patent in 1 or more of the following ways:

"(A) Cancel any challenged patent claim.

"(B) For each challenged claim, propose a reasonable number of substitute claims.

"(2) ADDITIONAL MOTIONS.—Additional motions to amend may be permitted upon the joint request of the petitioner and the patent owner to materially advance the settlement of a proceeding under section 317, or as permitted by regulations prescribed by the Director.

"(3) SCOPE OF CLAIMS.—An amendment under this subsection may not enlarge the scope of the claims of the patent or introduce new matter.

"(e) EVIDENTIARY STANDARDS.—In an inter partes review instituted under this chapter, the petitioner shall have the burden of proving a proposition of unpatentability by a preponderance of the evidence.

"§ 317. Settlement

"(a) IN GENERAL.—An inter partes review instituted under this chapter shall be terminated with respect

to any petitioner upon the joint request of the petitioner and the patent owner, unless the Office has decided the merits of the proceeding before the request for termination is filed. If the inter partes review is terminated with respect to a petitioner under this section, no estoppel under section 315(e) shall attach to the petitioner, or to the real party in interest or privy of the petitioner, on the basis of that petitioner's institution of that inter partes review. If no petitioner remains in the inter partes review, the Office may terminate the review or proceed to a final written decision under section 318(a).

"(b) AGREEMENTS IN WRITING.—Any agreement or understanding between the patent owner and a petitioner, including any collateral agreements referred to in such agreement or understanding, made in connection with, or in contemplation of, the termination of an inter partes review under this section shall be in writing and a true copy of such agreement or understanding shall be filed in the Office before the termination of the inter partes review as between the parties. At the request of a party to the proceeding, the agreement or understanding shall be treated as business confidential information, shall be kept separate from the file of the involved patents, and shall be made available only to Federal Government agencies on written request, or to any person on a showing of good cause.

"§ 318. Decision of the Board

"(a) FINAL WRITTEN DECISION.—If an inter partes review is instituted and not dismissed under this chapter, the Patent Trial and Appeal Board shall issue a final written decision with respect to the

patentability of any patent claim challenged by the petitioner and any new claim added under section 316(d).

"(b) CERTIFICATE.—If the Patent Trial and Appeal Board issues a final written decision under subsection (a) and the time for appeal has expired or any appeal has terminated, the Director shall issue and publish a certificate canceling any claim of the patent finally determined to be unpatentable, confirming any claim of the patent determined to be patentable, and incorporating in the patent by operation of the certificate any new or amended claim determined to be patentable.

"(c) INTERVENING RIGHTS.—Any proposed amended or new claim determined to be patentable and incorporated into a patent following an inter partes review under this chapter shall have the same effect as that specified in section 252 for reissued patents on the right of any person who made, purchased, or used within the United States, or imported into the United States, anything patented by such proposed amended or new claim, or who made substantial preparation therefor, before the issuance of a certificate under subsection (b).

"(d) DATA ON LENGTH OF REVIEW.—The Office shall make available to the public data describing the length of time between the institution of, and the issuance of a final written decision under subsection (a) for, each inter partes review.

"§ 319. Appeal

"A party dissatisfied with the final written decision of the Patent Trial and Appeal Board under section 318(a) may appeal the decision pursuant to sections

141 through 144. Any party to the inter partes review shall have the right to be a party to the appeal.".

(b) CONFORMING AMENDMENT.—The table of chapters for part III of title 35, United States Code, is amended by striking the item relating to chapter 31 and inserting the following:

"31. Inter Partes Review.....311"

(c) REGULATIONS AND EFFECTIVE DATE.—

(1) REGULATIONS.—The Director, shall not later than the date that is 1 year after the date of the enactment of this Act, issue regulations to carry out chapter 31 of title 35, United States Code, as amended by subsection (a) of this section.

(2) APPLICABILITY.—

(A) IN GENERAL.—The amendments made by subsection (a) shall take effect upon the expiration of the 1-year period beginning on the date of the enactment of this Act and shall apply to any patent issued before, on, or after that effective date.

(B) GRADUATED IMPLEMENTATION.—The Director may impose a limit on the number of inter partes reviews that may be instituted under chapter 31 of title 35, United States Code, during each of the first 4 1-year periods in which the amendments made by subsection (a) are in effect,if such number in each year equals or exceeds the number of inter partes reexaminations that are ordered under chapter 31 of title 35, United States Code, in the last fiscal year

ending before the effective date of the amendments made by subsection (a).

(3) TRANSITION.—

(A) IN GENERAL.—Chapter 31 of title 35, United States Code, is amended—

(i) in section 312—

(I) in subsection (a)—

(aa) in the first sentence, by striking "a substantial new question of patentability affecting any claim of the patent concerned is raised by the request," and inserting "the information presented in the request shows that there is a reasonable likelihood that the requester would prevail with respect to at least 1 of the claims challenged in the request,"; and

(bb) in the second sentence, by striking "The existence of a substantial new question of patentability" and inserting "A showing that there is a reasonable likelihood that the requester would prevail with respect to at least 1 of the claims challenged in the request"; and

(II) in subsection (c), in the second sentence, by striking "no substantial new question of patentability has been raised," and inserting "the showing required by subsection (a) has not been made,"; and

(ii) in section 313, by striking "a substantial new question of patentability affecting a claim of the patent is raised" and inserting "it has been shown that there is a reasonable likelihood that the requester would prevail with respect to at least 1 of the claims challenged in the request".

(B) APPLICATION.—The amendments made by this paragraph—

(i) shall take effect on the date of the enactment of this Act; and

(ii) shall apply to requests for inter partes reexamination that are filed on or after such date of enactment, but before the effective date set forth in paragraph (2)(A) of the subsection.

(C) CONTINUED APPLICABILITY OF PRIOR PROVISIONS.—The provisions of chapter 31 of title 35, United States Code, as amended by this paragraph, shall continue to apply to requests for inter partes reexamination that are filed before the effective date set forth in paragraph (2)(A) as if subsection (a) had not been enacted.

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