

# United States Court of Appeals for the Federal Circuit

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**NOAH SYSTEMS, INC.,**  
*Plaintiff-Appellant,*

v.

**INTUIT INC.,**  
*Defendant-Appellee.*

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2011-1390

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Appeal from the United States District Court for the Western District of Pennsylvania in Case no. 06-CV-933, Judge Arthur J. Schwab.

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Decided: April 9, 2012

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ERIC G. SOLLER, Pietragallo Gordon Alfano Bosick & Raspanti, LLP, of Pittsburgh, Pennsylvania, argued for plaintiff-appellant. With him on the brief was ALAN G. TOWNER.

MICHAEL J. SACKSTEDER, Fenwick & West LLP, of San Francisco, California, argued for defendant-appellee. With him on the brief was DAVID D. SCHUMANN.

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Before RADER *Chief Judge*, O'MALLEY and REYNA, *Circuit Judges*.

O'MALLEY, *Circuit Judge*.

Noah Systems, Inc. ("Noah") appeals the district court's entry of judgment in favor of Intuit Inc. ("Intuit"). After construing the disputed terms of the asserted claims of U.S. Patent No. 5,875,435 ("the '435 patent"), the district court determined that an "access means" limitation in the claims of the '435 patent was indefinite, and, therefore, granted Intuit's Motion for Summary Judgment of Invalidity. Because we agree that the "access means" limitation is indefinite, we affirm the district court's judgment.

#### BACKGROUND

This appeal arises out of an action brought by Noah against Intuit for infringement of the '435 patent. The '435 patent relates to an automated financial accounting system. The system allows a business or individual to connect to the computers of companies with which that entity conducts business so that information regarding financial transactions can be transmitted between them. Noah asserts that Intuit's Quicken and QuickBooks products infringe system claims 12–17, 29–38, and 40–56. All of the asserted claims contain an "access means" limitation. The parties agree that this is a means-plus-function limitation performed by a processor. As such, the specification of the '435 patent must contain an algorithm to perform the function associated with the "access means" limitation, or the limitation is indefinite. This appeal turns on whether the specification discloses an algorithm to perform the function or functions associated with the "access means" limitation.

## I. The '435 Patent

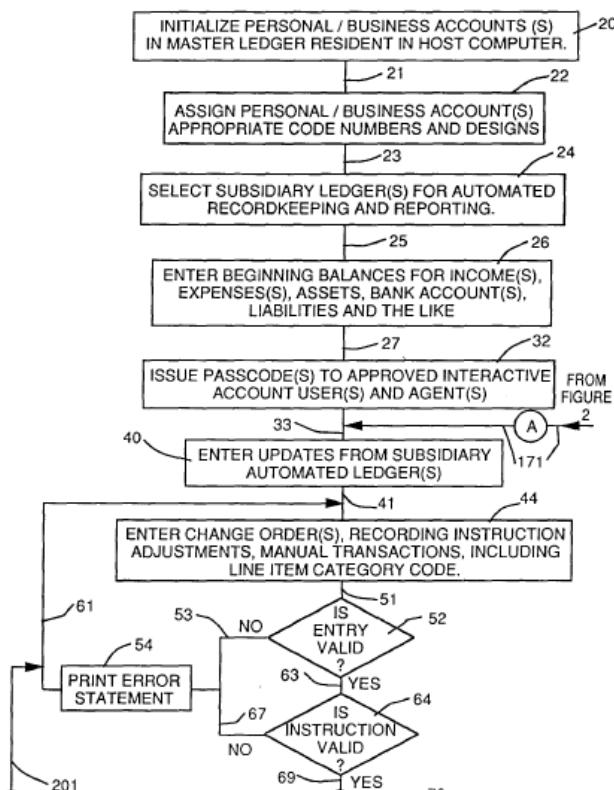
The '435 patent discloses an accounting system and methods for using the system.<sup>1</sup> The automated accounting system includes a financial accounting computer, a financial transaction computer, a communications means, and an access means. '435 patent col.2 ll.26–41. The disclosed system “brings together . . . all of the various entities that are involved with financial transactions between a first entity, such as an individual or a business, and other entities, such as merchants, financial institutions and the like.” *Id.* at col.3 ll.56–64. In the patented system, the financial accounting computer is associated with the first entity, whereas the “other entities” possess the financial transaction computers. *Id.* at col.3 l.66–col.4 l.10. The financial accounting computer contains a master ledger file that is used to receive and record data transmitted from the financial transaction computers. *Id.* at col.3 ll.26–30; col.4 ll.32–35. Each financial transaction computer, on the other hand, contains a subsidiary ledger file, which stores information regarding transactions made between the first entity and that second entity. *Id.* at col.4 ll.4–13. Periodically, financial transaction data is transferred from subsidiary ledger files to the master ledger file on the financial accounting computer. *Id.* at col.6 ll.9–14.

After the system transfers and incorporates the financial transaction data into the master ledger, the system provides authorized agents of the first entity with access to the master ledger, so they can “enter, delete, review, adjust and process data inputs” contained within the file. *Id.* at col.4 ll.45–61. The specification describes the “access means” in relation to the flow chart contained in

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<sup>1</sup> Noah does not assert that Intuit’s products infringe the patent’s method claims.

Figure 1. The relevant portion of Figure 1's flow chart discloses:



*Id.* at Fig. 1.

Describing Figure 1, the specification states, “line 27 leads to box 32 where passcodes are issued to approved interactive account user(s) and agent(s). . . . This access to the master ledger . . . allows the agents to perform activities selected from the group consisting of entering, deleting, reviewing, adjusting and processing data inputs in the master ledger . . . .” *Id.* at col.4 ll.47–56. After passcodes are issued, “[l]ine 41 then leads to box 44 where the access to the data inputs in the master ledger is set forth.

This access can be provided to interactive users and agents of the first entity.” *Id.* at col.6 ll.15–18. At box 44, the system enables authorized agents to enter “change order[s], recording instruction adjustments, manual transactions and the like . . .” *Id.* at col.6 ll.18–20. Once an agent has entered an order, the system, at box 52, determines whether the entry is valid. *Id.* at col.6 ll.22–23. An entry’s validity “is determined by whether the passcode matches the predesignated list of approved passcodes and whether the entry is complete in form and substance.” *Id.* at col.6 ll.28–30. The system will process only valid entries. *See id.* at col.6 ll.22–36.

Noah alleges that Intuit’s products infringe independent claims 12, 52, 53, and 56. Representative independent claim 12 recites:

A financial accounting system for a first entity such as an individual or a business, said system comprising:

a financial accounting computer having at least one file;

a financial transaction computer for receiving data inputs, said data inputs including electronically recorded financial transactions made between said first entity and a second entity;

first communication means for transferring said data inputs from said financial transaction computer to said file of said financial accounting computer; and

*means for providing access to said file of said financial accounting computer for said first entity and/or agents of said first entity so that said first entity and/or said agent can perform one or more activities selected from the group consisting of en-*

*tering, deleting, reviewing, adjusting and processing said data inputs.*

*Id.* at col.12 ll.25–41 (emphasis added). The parties agree that the emphasized language is the “access means” limitation.<sup>2</sup>

## II. Procedural History

Shortly after Noah filed its complaint, Intuit requested an *ex parte* reexamination of the ’435 patent. The PTO granted this request, and the litigation was stayed pending resolution of the reexamination. Ultimately, on June 9, 2009, the PTO confirmed the patentability of the original claims of the ’435 patent and determined that new claims 19–56 were patentable. Joint Appendix (“J.A.”) 138–42. Upon resolution of the reexamination proceedings, the district court lifted its stay, re-opened the case, and permitted Noah to also assert infringement with respect to its newly allowed claims.

After the case was re-opened, the parties proceeded with claim construction briefing. Although the parties disputed the construction of many terms, only the construction of “access means” is relevant to this appeal.<sup>3</sup> Both parties agreed that this limitation is a means-plus-

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<sup>2</sup> Claim 53’s “access means” limitation is worded slightly differently. Neither party argues that the slight difference has any effect on the outcome of this appeal.

<sup>3</sup> Intuit argues that, if we disagree with the district court’s construction of the term “access means” and its conclusion that such construction invalidates the ’435 patent on indefiniteness grounds, we should otherwise affirm summary judgment of invalidity on the alternative ground that a “first communication means” limitation in the asserted claim is indefinite. Given our conclusions here, we decline to reach the merits of this argument or to consider Noah’s contention that Intuit has waived the right to raise it.

function limitation. The parties also agreed that the function performed by the “access means” is “providing access to the file of the financial accounting computer for the first entity and/or agents of the first entity so that the first entity and/or the agent can perform one or more of the activities selected from the group consisting of entering, deleting, reviewing, adjusting and processing the data inputs.” Report and Recommendation of Special Master on Claim Construction at 38, *Noah Sys., Inc. v. Intuit Inc.*, No. 06-CV-933 (W.D. Pa. May 7, 2010), ECF No. 82 (“*Claim Construction R&R*”).

The parties did dispute, however, what structure performs this function. Noah argued that “[t]he structure includes the financial accounting computer . . . which is programmed to allow access to files on the computer upon entry of a passcode.” Noah’s Opening Claim Construction Br. at 25, *Noah Sys., Inc. v. Intuit Inc.*, No. 06-CV-933 (W.D. Pa. Nov. 13, 2009), ECF No. 73. Intuit, on the other hand, argued that the structure was indefinite because the specification disclosed no algorithm by which the computer was programmed to perform the function asserted in the claims. Intuit Inc.’s Opening Claim Construction Br. at 12–16, *Noah Sys., Inc. v. Intuit Inc.*, No. 06-CV-933 (W.D. Pa. Dec. 4, 2009), ECF No. 74. After conducting a day-long *Markman* hearing, the court-appointed special master issued his *Claim Construction R&R*. The special master concluded that the “access means” limitation was indefinite, agreeing with Intuit that the specification failed to disclose an algorithm by which the financial accounting computer was programmed to perform the limitation’s function. *Claim Construction R&R* at 42–47.

Objecting to the *Claim Construction R&R*, Noah filed a Motion to Modify the *Claim Construction R&R*. Intuit moved the district court to adopt the special master’s

*Claim Construction R&R* in all respects but one, which is not relevant to this appeal. On June 8, 2010, the district court adopted the *Claim Construction R&R* in full. Order Adopting Special Master's Report and Recommendations as to Claim Construction, *Noah Sys., Inc. v. Intuit Inc.*, No. 06-CV-933 (W.D. Pa. June 8, 2010), ECF No. 89. With respect to the "access means limitation," therefore, the district court found that this limitation functioned to "provid[e] access to the file of the financial accounting computer for the first entity and/or agents of the first entity so that the first entity and/or the agent can perform one or more of the activities selected from the group consisting of entering, deleting, reviewing, adjusting and processing the data inputs." *Id.* at ECF No. 89-3. In addition, the district court concluded that the specification failed to disclose an adequate structure for performing this function, rendering the asserted claims indefinite.

In response to the district court's Claim Construction order, Noah filed a Motion for Reconsideration. In this motion, Noah argued that neither the special master nor the district court properly could have concluded that the "access means" limitation was indefinite without expert evidence as to how one skilled in the art would have viewed the specification. The district court referred Noah's Motion for Reconsideration to the special master for consideration.

After briefing and a hearing, the special master recommended that the district court deny Noah's Motion for Reconsideration. Report and Recommendation of Special Master on Mot. for Recons. at 2–3, 8, *Noah Sys., Inc. v. Intuit Inc.*, No. 06-CV-933 (W.D. Pa. July 23, 2010), ECF No. 98. Reaching this conclusion, the special master noted that, in cases involving computer-implemented means-plus-function claims where the specification discloses no algorithm by which the computer or processor is

programmed, “the burden of establishing indefiniteness can be met in the first instance by showing the complete absence” of an algorithm in the specification. *Id.* at 7–8. The special master concluded that, in this case, the ’435 patent’s specification “only provide[s] functional descriptions and not structure.” *Id.* at 7. The special master reasoned, therefore, that expert testimony regarding how one of ordinary skill would view the disclosures in the specification was unnecessary. Upon Intuit’s motion, the district court adopted the special master’s Motion for Reconsideration R&R and denied Noah’s Motion for Reconsideration.<sup>4</sup>

While the special master was considering the Motion for Reconsideration, Intuit filed a Motion for Summary Judgment of Invalidity. Intuit Inc.’s Mot. for Summ. J. of Invalidity, *Noah Sys., Inc. v. Intuit Inc.*, No. 06-CV-933 (W.D. Pa. June 25, 2010), ECF No. 94. Intuit argued that, because the “access means” limitation was indefinite and this limitation was in every asserted claim, all of the asserted claims of the ’435 patent were invalid. Mem. in Supp. of Intuit Inc.’s Mot. for Summ. J. of Invalidity at 1, *Noah Sys., Inc. v. Intuit Inc.*, No. 06-CV-933 (W.D. Pa. June 25, 2010), ECF No. 95. In response to this argument, Noah again asserted that, because this case involved the sufficiency of a disclosed algorithm, and not the total absence of disclosure, Intuit could not establish indefiniteness without first presenting evidence of how

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<sup>4</sup> Responding to Intuit’s Motion to Adopt the Motion for Reconsideration R&R, Noah filed declarations from two experts, Jeffery Eppinger and Robert Kollar. These declarations discussed how a person of ordinary skill would view the sufficiency of the disclosures in the ’435 patent. Intuit filed a motion to strike these declarations as untimely. The district court denied this motion as moot in light of its decision to deny Noah’s Motion for Reconsideration.

one skilled in the art would view the specification. Noah’s Resp. to Intuit Inc.’s Mot. for Summ. J. of Invalidity at 4–6, *Noah Sys., Inc. v. Intuit Inc.*, No. 06-CV-933 (W.D. Pa. Aug. 9, 2010), ECF No. 102. In addition, Noah presented declarations from Jeffery Eppinger and Robert Kollar to establish that one skilled in the art “could readily identify the structure or algorithm described in the specification of the ’435 Patent that corresponds to the function of the recited access means.” *Id.* at 9. As with the other motions in this case, the district court referred Intuit’s Motion for Summary Judgment of Invalidity to the special master.

The special master, after reviewing the parties’ filings, recommended granting Intuit’s Motion for Summary Judgment of Invalidity. Addressing the crux of Noah’s argument, that expert testimony was required to establish that the asserted claims were indefinite, the special master clarified that its “earlier claim construction ruling was [not] based on a factual determination that, in effect, some but not all of the structure for the ‘access means’ limitation was made in the disclosure of the ’435 Patent.” Report and Recommendation of Special Master on Def.’s Mot. for Summ. J. and Mot. to Strike at 7, *Noah Sys., Inc. v. Intuit Inc.*, No. 06-CV-933 (W.D. Pa. Dec. 17, 2010), ECF No. 117. Instead, the special master explained that the specification disclosed no algorithm and, therefore, no structure. For this reason, the special master concluded that the court was not compelled to consider the expert testimony proffered by Noah because consideration of what one of ordinary skill in the art would understand from the specification is only necessary when the sufficiency of a disclosed algorithm is at issue.<sup>5</sup> *Id.* at 11–12.

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<sup>5</sup> The special master also recommended that the district court deny Intuit’s Motion to Strike the Eppinger

After considering Noah's objections to the Summary Judgment R&R and Intuit's response thereto, on January 24, 2011, the district court adopted the Summary Judgment R&R and granted Intuit's Motion for Summary Judgment of Invalidity.<sup>6</sup> Accordingly, the district court entered judgment in favor of Intuit.

Noah timely appealed, and we have jurisdiction pursuant to 28 U.S.C. § 1292(c)(2).

#### DISCUSSION

This court reviews a district court's claim construction de novo. *Cybor Corp. v. FAS Techs. Inc.*, 138 F.3d 1448, 1453 (Fed. Cir. 1998) (en banc). Similarly, we review the grant of summary judgment without deference. *Dynacore Holdings Corp. v. U.S. Philips Corp.*, 363 F.3d 1263, 1273 (Fed. Cir. 2004). Summary judgment is appropriate if no genuine issues of material fact exist such that the moving party is entitled to judgment as a matter of law. Fed. R. Civ. P. 56(c); see also *Ethicon Endo-Surgery, Inc. v. U.S. Surgical Corp.*, 149 F.3d 1309, 1315 (Fed. Cir. 1998). This court reviews the evidence in the light most favorable to the non-moving party. *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 255 (1986).

On appeal, Noah raises two different, albeit closely related, arguments. Noah asserts that the district court

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and Kollar declarations from Noah's Response to the Motion for Summary Judgment of Invalidity, either because they were untimely filed or because they are moot given the recommendation that the court disallow expert testimony because no algorithm was disclosed which would require, or even permit, explication by one of skill in the art. *Id.* at 9–11, 11 n.1.

<sup>6</sup> In light of its conclusion with respect to invalidity, the district court again denied Intuit's Motion to Strike the expert declarations as moot.

erred when it: (1) construed the “access means” limitation in a manner that rendered it indefinite; and (2) granted summary judgment of invalidity without requiring Intuit to present expert testimony regarding how one of ordinary skill in the art would view the sufficiency of the disclosure in the ’435 patent. Intuit responds that Noah waived the claim construction argument it presents on appeal, and that, even if we consider this argument, the district court correctly construed the “access means” limitation to be indefinite, and, therefore, properly granted summary judgment of invalidity. We begin by addressing Intuit’s assertion of waiver and then turn to Noah’s indefiniteness arguments, which we address collectively.

## I.

“[P]resenting proposed claim constructions which alter claim scope for the first time on appeal invokes the doctrine of waiver as to the new claim constructions.” *NTP, Inc. v. Research In Motion, Ltd.*, 418 F.3d 1282, 1296 (Fed. Cir. 2005) (citations omitted). Intuit argues that Noah’s contention that the structure used to perform the function associated with the “access means” limitation “includes an algorithm by which a passcode is issued to a user or agent, the passcode is entered by a user or agent, and the passcode is validated, and equivalents thereof” is new on appeal. Appellee’s Br. 18–19. Accordingly, Intuit asserts that Noah waived this argument. We disagree.

In its Opening Claim Construction Brief, Noah asserted that the corresponding structure was “the financial accounting computer, as defined above, which is programmed to allow access to files on the computer upon entry of a passcode.” Noah’s Opening Claim Construction Br. at 25, *Noah Sys., Inc. v. Intuit Inc.*, No. 06-CV-933 (W.D. Pa. Nov. 13, 2009), ECF No. 73. In support of this

construction, Noah cited the flow chart in Figure 1 and a portion of the '453 patent's specification, which states:

Next, line 27 leads to box 32 where passcodes are issued to approved interactive account user(s) and agent(s). Agents can include accountants, brokers or other financial advisors. The account user(s) can include the first entity as well as authorized users of the first entity, such as the controller or bookkeeper of a business.

'435 patent col.6 ll.47–53. In addition, during the *Markman* hearing, Noah cited lines 22–37 of column 6 of the '435 patent as providing additional description of the corresponding structure. This portion of the specification discusses validation of user entries based upon “whether the passcode matches the predesignated list of approved passcodes . . . .” *Id.* at col.6 ll.29–30. In its Objections to the *Claim Construction R&R*, moreover, Noah specifically noted that the special master failed to address many of the portions of the specification that, according to Noah, provided the necessary corresponding structure for the “access means.” Mem. in Supp. of Noah’s Objections to and Mot. to Modify the Report and Recommendation of Special Master on Claim Construction at 4–5, 6–9, *Noah Sys., Inc. v. Intuit Inc.*, No. 06-CV-933 (W.D. Pa. May 27, 2010), ECF No. 84.

Significantly, all of the portions of the specification that Noah relies upon before this court were cited either in its opening claim construction brief, during the *Markman* hearing, or in its opposition to the *Claim Construction R&R*. Despite Intuit’s suggestion to the contrary, this is not a case where Noah is attempting to “adopt[] a new claim construction position on appeal.” *Interactive Gift Express, Inc. v. Compuserve Inc.*, 256 F.3d 1323, 1346 (Fed. Cir. 2001) (citation omitted). And, it is not a case

where Noah focused only on the nature of the computer hardware described and “never [addressed] the adequacy of the algorithm” disclosed in the ’435 patent before this appeal. *See HTC Corp. v. IPCOM GmbH & Co., KG*, 667 F.3d 1270, 1280, 1283 (Fed. Cir. 2012) (holding that, on appeal, HTC waived its argument that the specification disclosed no algorithm because, before the district court, it only asserted that the specification was indefinite as lacking disclosure of sufficient physical structure). All portions of the specification that Noah now argues provide the corresponding structure for the “access means” limitation were relied upon for the same purpose by Noah before the district court. Waiver, therefore, is not applicable. Accordingly, we turn to the merits of Noah’s claim construction and invalidity arguments.

## II.

Whether a claim complies with the definiteness requirement of 35 U.S.C. § 112 ¶ 2 is a matter of claim construction, which we review de novo.<sup>7</sup> *S3 Inc. v. nVIDIA Corp.*, 259 F.3d 1364, 1367 (Fed. Cir. 2001) (citation omitted). Similarly, “[a] determination that a patent claim is invalid for failure to meet the definiteness requirement of 35 U.S.C. § 112, paragraph 2, is a legal conclusion . . . that we review de novo.” *Intellectual Prop. Dev., Inc. v. UA-Columbia Cablevision of Westchester, Inc.*, 336 F.3d 1308, 1318 (Fed. Cir. 2003) (internal quotation omitted). Here, the disputed “access means” limitation qualifies as a means-plus-function limitation under 35 U.S.C. § 112 ¶ 6. Means-plus-function claim limitations

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<sup>7</sup> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.” 35 U.S.C. § 112 ¶ 2.

must satisfy the requirements of § 112 ¶ 2. *S3 Inc.*, 259 F.3d at 1367.

Construction of a means-plus-function limitation includes two steps. “First, the court must determine the claimed function. Second, the court must identify the corresponding structure in the written description of the patent that performs the function.” *Applied Med. Res. Corp. v. U.S. Surgical Corp.*, 448 F.3d 1324, 1332 (Fed. Cir. 2006) (internal citations omitted). On appeal, neither party disputes the function performed by the access means, so the inquiry on appeal is whether the specification adequately discloses a corresponding structure that performs the function associated with the “access means” limitation.

A structure disclosed in the specification qualifies as a “corresponding structure” if the specification or the prosecution history “clearly links or associates that structure to the function recited in the claim.” *B. Braun Med., Inc. v. Abbott Labs.*, 124 F.3d 1419, 1424 (Fed. Cir. 1997). Even if the specification discloses a “corresponding structure,” the disclosure must be adequate; the patent’s specification must provide “an adequate disclosure showing what is meant by that [claim] language. If an applicant fails to set forth an adequate disclosure, the applicant has in effect failed to particularly point out and distinctly claim the invention as required by the second paragraph of section 112.” *In re Donaldson Co.*, 16 F.3d 1189, 1195 (Fed. Cir. 1994) (en banc). Under 35 U.S.C. § 112 ¶ 2 and ¶ 6, therefore, “a means-plus-function clause is indefinite if a person of ordinary skill in the art would be unable to recognize the structure in the specification and associate it with the corresponding function in the claim.” *AllVoice Computing PLC v. Nuance Commc’ns., Inc.*, 504 F.3d 1236, 1241 (Fed. Cir. 2007) (citing *Atmel Corp. v. Info.*

*Storage Devices, Inc.*, 198 F.3d 1374, 1381–82 (Fed. Cir. 1999)).

While it is undisputed that the question of whether a claim is indefinite is based on how the claim limitation would be understood by one of skill in the art, “the testimony of one of ordinary skill in the art cannot supplant the total absence of structure from the specification.” *Default Proof Credit Card Sys., Inc. v. Home Depot U.S.A., Inc.*, 412 F.3d 1291, 1302 (Fed. Cir. 2005); *see also Biomedino, LLC v. Waters Techs. Corp.*, 490 F.3d 946, 950–53 (Fed. Cir. 2007). The prohibition against using expert testimony in this manner is a direct consequence of the requirement that the specification itself adequately disclose the corresponding structure. *AllVoice Computing*, 504 F.3d at 1240 (“The test for definiteness asks whether one skilled in the art would understand the bounds of the claim when read in light of the specification.” (citation omitted)).

In cases such as this one, involving a special purpose computer-implemented means-plus-function limitation, “this court has consistently required that the structure disclosed in the specification be more than simply a general purpose computer or microprocessor.” *Aristocrat Techs. Austl. Pty Ltd. v. Int’l Game Tech.*, 521 F.3d 1328, 1333 (Fed. Cir. 2008).<sup>8</sup> We require that the specification “disclose an algorithm for performing the claimed func-

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<sup>8</sup> Because the ’435 patent requires a special purpose computer specifically programmed to carry out the recited functions associated with the “access means” limitation, this case is controlled by *Aristocrat* and its progeny and not *In re Katz Interactive Call Processing Patent Litig.*, 639 F.3d 1303 (Fed. Cir. 2011), which is applicable only in situations involving functions that can be accomplished by “any general purpose computer without special programming.” *In re Katz*, 639 F.3d at 1316.

tion.” *Net MoneyIN, Inc. v. VeriSign, Inc.*, 545 F.3d 1359, 1367 (Fed. Cir. 2008); *Aristocrat*, 521 F.3d at 1333 (“Thus, in a means-plus-function claim ‘in which the disclosed structure is a computer, or microprocessor, programmed to carry out an algorithm, the disclosed structure is not the general purpose computer, but rather the special purpose computer programmed to perform the disclosed algorithm.’” (quoting *WMS Gaming, Inc. v. Int’l Game Tech.*, 184 F.3d 1339, 1349 (Fed. Cir. 1999))). The specification can express the algorithm “in any understandable terms including as a mathematical formula, in prose, or as a flow chart, or in any other manner that provides sufficient structure.” *Finisar Corp. v. DirecTV Grp., Inc.*, 523 F.3d 1323, 1340 (Fed. Cir. 2008) (internal citation omitted). Simply disclosing software, however, “without providing some detail about the means to accomplish the function[,] is not enough.” *Id.* at 1340–41 (citation omitted).

Ultimately, on the basis of the special master’s recommendation, the district court concluded that the ’435 patent’s specification did not disclose an algorithm for performing the function associated with the “access means” limitation. This determination rendered all of the asserted claims indefinite, as lacking the required corresponding structure. Accordingly, the court entered summary judgment of invalidity in favor of Intuit.

Noah argues that: (1) the district court erred because it applied the incorrect case law; and (2) since the ’435 patent’s specification discloses some form of algorithm for performing the function associated with the “access means” limitation, the district court erred by not requiring expert testimony before finding the claims indefinite and invalid.

## A.

Currently, our case law regarding special purpose computer-implemented means-plus-functions claims is divided into two distinct groups: First, cases in which the specification discloses no algorithm; and second, cases in which the specification does disclose an algorithm but a defendant contends that disclosure is inadequate. *Compare Blackboard, Inc. v. Desire2Learn Inc.*, 574 F.3d 1371, 1383–85 (Fed. Cir. 2009) (no algorithm) *with WMS Gaming*, 184 F.3d at 1349 (algorithm). This distinction is important because we have clarified that, while “[i]t is certainly true that the sufficiency of the disclosure of algorithmic structure must be judged in light of what one of ordinary skill in the art would understand the disclosure to impart,” in a situation in which the specification discloses no algorithm, “[t]hat principle . . . has no application . . . .” *Aristocrat*, 521 F.3d at 1337; *see Atmel*, 198 F.3d at 1382 (“Fulfillment of the § 112, ¶ 6 tradeoff cannot be satisfied when there is a total omission of structure. There must be structure in the specification. This conclusion is not inconsistent with the fact that the knowledge of one skilled in the particular art may be used to understand what structure(s) the specification discloses . . . because such resources may only be employed in relation to structure that is disclosed in the specification.”); *see also Default Proof Credit Card Sys.*, 412 F.3d at 1301 (“The inquiry under § 112, ¶ 2 . . . asks first ‘whether structure *is* described in [the] specification, and, if so, whether one skilled in the art would identify the structure from that description.’ ” (quoting *Atmel*, 198 F.3d at 1381)). Where no structure appears, the question “is not whether the algorithm that was disclosed was described with sufficient specificity, but whether an algorithm was disclosed at all.” *Aristocrat*, 521 F.3d at 1337. When the specification discloses some algorithm, on the other hand,

the question is whether the disclosed algorithm, from the viewpoint of a person of ordinary skill, is sufficient to define the structure and make the bounds of the claim understandable. *AllVoice Computing*, 504 F.3d at 1245. Noah argues that the district court improperly classified this case as a case involving no disclosed algorithm, and, because of this error, also improperly refused to allow Noah to present expert testimony regarding the sufficiency of the purportedly disclosed algorithm.

Contrary to the district court's conclusion and Intuit's arguments, Noah is correct that the specification discloses an algorithm for the passcode function associated with the "access means." The specification clearly discloses that authorized agents are provided with passcodes and that agents cannot enter, delete, review, adjust or process data inputs within the master ledger unless the passcode is verified. '435 patent Fig. 1, col.4 ll.47–56, col.6 ll.15–36. This disclosure is sufficient to clearly link this structure with the "access means" limitation. The district court was, accordingly, incorrect when it said that the specification disclosed no algorithm describing how the disclosed function is to be carried out. This determination does not resolve our inquiry in favor of Noah, however.

This case involves a means-plus-function limitation with two distinct functional components. The "access means" performs the function of: "*providing access to the file* of the financial accounting computer for the first entity and/or agents of the first entity so that the first entity and/or the agent can perform one or more of the activities selected from the group consisting of entering, deleting, reviewing, adjusting and processing the data inputs." *Claim Construction R&R* at 38 (emphases added). Thus, there are really two functions recited, namely: (1) providing access to the file; and (2) once access is provided, enabling the performance of delineated opera-

tions. Any algorithm must, therefore, address both aspects of this functional language. *Default Proof Credit Card Sys.*, 412 F.3d at 1298 (“While corresponding structure need not include all things necessary to enable the claimed invention to work, it must include all structure that actually performs the recited function.” (citing *Cardiac Pacemakers, Inc. v. St. Jude Med., Inc.*, 296 F.3d 1106, 1119 (Fed. Cir. 2002))).

We, thus, turn to the question of whether the specification discloses an algorithm that enables “the first entity and/or the agent [to] perform one or more of the activities selected from the group consisting of entering, deleting, reviewing, adjusting and processing the data inputs.” *Claim Construction R&R* at 38. In addition, if we conclude that the specification does not disclose an algorithm for performing this aspect of the recited function, i.e., the specification discloses a partial algorithm, we must determine whether that means this case falls into the “disclosed algorithm” line of cases as Noah argues, thereby requiring consideration of what one skilled in the art would understand from that disclosure, whether by way of expert testimony or otherwise.

## B.

Noah asserts that Figure 1, and the portions of the specification disclosing the issuance of passcodes and the verification thereof provide the algorithm for both of the functions associated with the “access means” limitation. In the alternative, Noah asserts that Figure 3 and the portions of the specification describing this figure separately provide the algorithm for the second recited function. We disagree.

Contrary to Noah’s assertion, the algorithm disclosed in Figure 1 and the portions of the specification describing the issuance and verification of passcodes do not provide

an algorithm that enables “the first entity and/or the agent [to] perform one or more of the activities selected from the group consisting of entering, deleting, reviewing, adjusting and processing the data inputs.” These portions of the specification only describe how passcodes are issued to authorized agents, ’435 patent col.4 ll.47–53, and how the system prevents entries to the master ledger from being processed unless the passcode is verified, *id.* at col.6 ll.14–36. These portions of the specification disclose that a valid passcode is required before the agent’s order to enter, delete, review, adjust, or process the data inputs in the master ledger will be recognized by the system. This discloses nothing about how the system is programmed to enable the “entering, deleting, reviewing, adjusting and processing [of] the data inputs.” These sections of the specification merely disclose a means to unlock a file on a computer. If a computer lacks a program to actually read the data contained in the file, however, a user cannot perform any operations on the data in the file.

For example, imagine a password protected Microsoft® Word document. Unless a user has a valid password, the user cannot open the file. But, if the computer does not have a word processing program, the user cannot edit the file, even if he has the password to open it. Because data is stored on a computer in binary code, a collection of 1s and 0s, unless a user has a program to make this data comprehensible to humans, one cannot enter, delete, review, adjust, or process data in the file. The acts of “entering” “deleting” “reviewing” and “adjusting” financial transaction data, moreover, are specialized functions which cannot be accomplished absent specialized programming. Noah’s arguments regarding Figure 1 do not, therefore, provide an algorithm for the “enabling the performance” function associated with the “access means” limitation.

As with the portions of the specification describing the issuance and verification of passcodes, Figure 3 and the portions of the specification describing that figure also do not disclose an algorithm to enable “entering, deleting, reviewing, adjusting and processing the data inputs.” The specification is clear that box 44 of Figure 1 is “where the access to the data inputs in the master ledger is set forth. . . . At this box 44, change orders, recording instruction adjustments, manual transactions and the like can be entered by the agents or the interactive users.” *Id.* at col.6 ll.16–21. Access to the data inputs at box 44, therefore, “allows the agents to perform activities selected from the group consisting of entering, deleting, reviewing, adjusting and processing data inputs in the master ledger . . . .” *Id.* at col.4. ll.53–56. The validity of an entry, i.e., the requested operation on a data input, moreover, is determined in box 52 of Figure 1. At this point in the flow chart disclosed in Figure 1, all of the functions associated with the “access means” are completed. The flow chart disclosed in Figure 3, however, is implemented after boxes 44 and 52. As a consequence, the flow chart disclosed in Figure 3 has nothing to do with the non-password function associated with the “access means.”

This conclusion is reinforced by the structure of Figure 3’s flow chart. Figure 3 discloses:

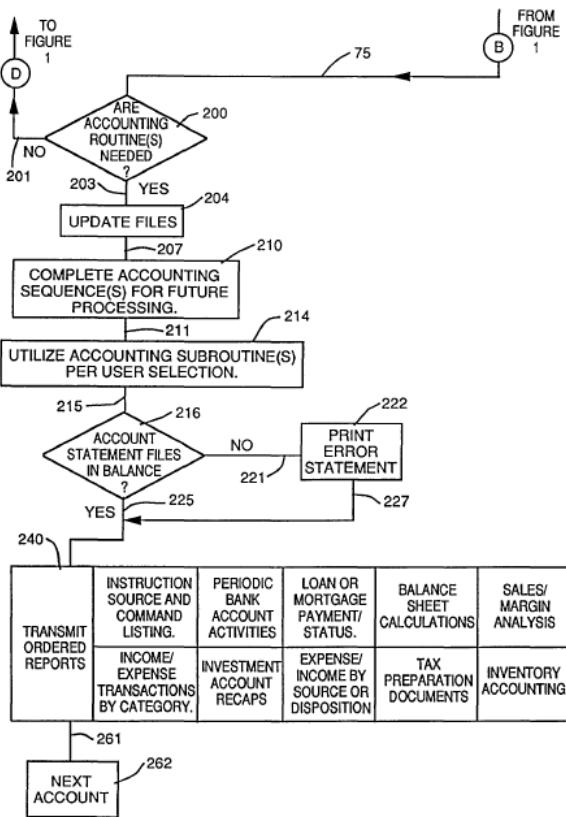


FIG. 3

*Id.* at Fig. 3. Notice that, after the validity of an entry associated with the “access means” is determined in box 52, if the system does not need to produce any additional outputs as a result of the box 44 operation, the flow chart cycles from Figure 3 back to Figure 1 above box 44, enabling the agent to perform a new operation. Accordingly, unless the operation performed in box 44 requires the system to produce an output, Figure 3 is superfluous. Figure 3’s flow chart cannot, therefore, provide the algorithm for the “enabling the performance” function associated with the “access means” because the system does not use Figure 3’s flow chart until after the entire function of

the “access means” is complete, and it uses the flow chart only in certain circumstances.

Finally, the specification itself makes clear that some type of accounting software is required for the patented system to operate. The specification states that the master or host computer, upon which the master ledger is stored, could be a personal computer. *Id.* at col.3 ll.26–32. Where the master or host computer is a personal computer, the specification explains that the computer must use “off-the-shelf accounting software” to process the data inputs. *Id.* at col.3 ll.32–36. When a personal computer is not used, however, nothing in the specification explains how the central or host computer is to be programmed to allow processing of the data.

As indicated above, a careful reading of the specification indicates that such software would be implemented inside box 44 in Figure 1. The portions of the specification that describe what occurs inside box 44, however, merely recite functional, not structural, language. *E.g., id.* at col.4 ll.53–56 (“This access to the master ledger . . . allows the agents to perform activities selected from the group consisting of entering, deleting, reviewing, adjusting and processing data inputs in the master ledger.”); col.6 ll.15–21 (“Line 41 then leads to box 44 where the access to the data inputs in the master ledger is set forth. . . . At this box 44, change orders, recording instruction adjustments, manual transactions and the like can be entered by the agents or the interactive users.”). This type of purely functional language, which simply restates the function associated with the means-plus-function limitation, is insufficient to provide the required corresponding structure. *E.g., Blackboard*, 574 F.3d at 1384; *Aristocrat*, 521 F.3d at 1334.

In addition to pointing to Figures 1 and 3—which we have already found to contain no disclosure for the second functional element claimed—Noah attempts to fill the gaps in its specification in two ways. First, it attempts to import its “off the shelf software” reference from the personal computer portions of its specification into these claims.<sup>9</sup> Next, it asserts that individuals of ordinary skill in the art would understand how to accomplish the function described with the assistance of such off the shelf software. Appellant’s Br. 42 (citing Eppinger Decl.). Neither argument aids Noah.

In *Blackboard* we considered the adequacy of the disclosure for an “access control manager” limitation in a means-plus-function claim. There, the patentee argued that the access control manager could be “any computer-related device or program that performs the function of access control.” *Blackboard*, 574 F.3d at 1383. We concluded that this type of disclosure was insufficient because “[b]y failing to describe the means by which the access control manager will create an access control list, Blackboard has attempted to capture any possible means for achieving that end. Section 112, paragraph 6, is intended to prevent such pure functional claiming.” *Id.* at 1385. In reaching this conclusion, we rejected the argument that no more specificity was needed to support the claimed function because “a person skilled in the art could readily fashion a computer-based means for performing the ‘assigning function’ . . . .” *Id.* We explained

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<sup>9</sup> The Court] ‘How do you get access to the file where, where you start . . . handling the transactions and, and all of these other functions?’ [Noah’s attorney] ‘Well that’s, that, I guess, is the point where I’m talking about off the shelf software.’ ” Oral Argument at 5:46–6:01, *Noah Sys., Inc. v. Intuit Inc.*, No. 2011-1390, available at <http://oralarguments.cafc.uscourts.gov/default.aspx?fl=2011-1390.mp3>.

that the *disclosure* must identify the method for performing the function, whether or not a skilled artisan might otherwise be able to glean such a method from other sources or from his own understanding. *Id.* (citing *Med. Instrumentation & Diagnostics Corp. v. Elekta AB*, 344 F.3d 1205, 1212 (Fed. Cir. 2003)). That various methods might exist to perform a function is “precisely why” the disclosure of specific programming is required. *Id.* So too here, Noah’s efforts to find structure in the portion of a specification linked to a different claim element or in the common ken of a skilled computer artisan does not allow it to “avoid providing [the] specificity as to structure” required by § 112 ¶ 6. *Id.*

For all of these reasons, we conclude that the specification of the ’435 patent does not disclose an algorithm for the “enabling the performance” function associated with the “access means” limitation.

### C.

Because we conclude that the specification discloses only a partial algorithm for the functional language associated with the “access means” limitation, we must determine whether this “partial disclosure” case should be analyzed in accordance with our “no disclosed algorithm” or “disclosed algorithm” cases. As discussed above, the answer to this question determines whether the court was required to consider Noah’s argument and evidence regarding what one skilled in the art would understand from the specification before determining whether the claim was indefinite. *Default Proof Credit Card Sys.*, 412 F.3d at 1302 (“[T]he testimony of one of ordinary skill in the art cannot supplant the total absence of structure from the specification. Because the specification of the ’182 patent discloses no structure corresponding to the claimed function of the ‘means for dispensing,’ Default

Proof cannot use the declaration of its expert to rewrite the patent's specification." (citation omitted)). Given the purpose for requiring disclosure of an algorithm in special purpose computer implemented means-plus-function claims, we conclude that where, as here, a claim recites multiple identifiable functions and the specification discloses an algorithm for only one, or less than all, of those functions, we must analyze the disclosures as we do when no algorithm is disclosed.

Means-plus-function claiming involves a quid pro quo. *Med. Instrumentation*, 344 F.3d at 1211 ("The duty of a patentee to clearly link or associate structure with the claimed function is the quid pro quo for allowing the patentee to express the claim in terms of function under section 112, paragraph 6." (citation omitted)). In exchange for being able to draft a claim limitation in purely functional language, "[t]he applicant must describe in the patent specification some structure which performs the specified function." *Valmont Indus., Inc. v. Reinke Mfg. Co.*, 983 F.2d 1039, 1042 (Fed. Cir 1993). And, importantly, the functional claim language covers only " 'the corresponding structure, material, or acts described in the specification and equivalents thereof.' " *Id.* (quoting § 112 ¶ 6). Requiring the disclosure of a corresponding structure, thus, "confines the breadth of protection otherwise permitted by" purely functional claiming. *Id.* (citation omitted); *see also Med. Instrumentation*, 344 F.3d at 1211 ("If the specification is not clear as to the structure that the patentee intends to correspond to the claimed function, then the patentee has not paid that price but is rather attempting to claim in functional terms unbounded by any reference to structure in the specification.").

This court imposed the algorithm requirement to prevent purely functional claiming when a patentee employs a special purpose computer-implemented means-plus-

function limitation. *Aristocrat*, 521 F.3d at 1333 (“The point of the requirement that the patentee disclose particular structure in the specification and that the scope of the patent claims be limited to that structure and its equivalents is to avoid pure functional claiming.”). As we have explained, the algorithm requirement is necessary “[b]ecause general purpose computers can be programmed to perform very different tasks in very different ways . . . .” *Id.* Without disclosing any corresponding structure, “one of skill simply cannot perceive the bounds of the invention.” *Finisar*, 523 F.3d at 1341.

Accordingly, where a disclosed algorithm supports some, but not all, of the functions associated with a means-plus-function limitation, we treat the specification as if no algorithm has been disclosed at all. In such instances, we are not faced with a disclosure which addresses itself to an identifiable function, but arguably does so inadequately. We are faced with an identifiable function, which all parties concede is claimed, but as to which there is a total absence of structure. We cannot allow disclosure as to one function to fill the gaps in a specification as to a different, albeit related, function. To hold otherwise would allow a patentee to employ generic functional claiming “unbounded by any reference to structure in the specification.” *Biomedino*, 490 F.3d at 948 (citation omitted). This outcome is impermissible under the plain terms of § 112 ¶ 6.

For these reasons, we conclude that the district court did not err when it refused to allow expert testimony or other evidence regarding what one skilled in the art would understand from the specification before it construed the “access means” limitation as indefinite, or concluded that summary judgment of invalidity was appropriate in light of that construction.

**CONCLUSION**

Computer-implemented means-plus-function claims are indefinite unless the specification discloses an algorithm to perform the function associated with the limitation. When the specification discloses an algorithm that only accomplishes one of multiple identifiable functions performed by a means-plus-function limitation, the specification is treated as if it disclosed no algorithm. Because the '435 patent's specification discloses an algorithm for performing only one of the functions associated with the "access means" limitation, the limitation is indefinite. All of the asserted claims contain this limitation; the asserted claims are, therefore, invalid as indefinite.

**AFFIRMED****COSTS**

Each party shall bear its own costs.