IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF TENNESSEE
WESTERN DIVISION

ASENTINEL LLC,	)	
	)	
Plaintiff/Counter-Defendant,	)	
	)	
vs.	)	**No. 10-2706-Ml/P**
	)	
CASS INFORMATION SYSTEMS, INC.,	)	
	)	
Defendant/Counter-Plaintiff.	)	

REPORT AND RECOMMENDATION

Before the court by order of reference is defendant Cass Information Systems, Inc.'s ("Cass") Motion for Partial Summary Judgment, filed on July 22, 2011.[1] (ECF No. 102.) Plaintiff Asentinel LLC ("Asentinel") filed a response in opposition on August 22, 2011. Cass filed a reply on September 9, 2011, and Asentinel filed a sur-reply on October 5, 2011. At the request of the parties, on November 17, 2011, the undersigned Magistrate Judge heard oral argument on the motion. Based on the briefs filed in support of and in opposition to the motion, the exhibits submitted

[1]This Motion for Partial Summary Judgment was originally filed by defendants Cass, the Info Group, Inc., MTS IntegraTRAK, Inc., and MER Telemanagement Solutions, Ltd. On December 20, 2011, Asentinel and all defendants except Cass entered into a stipulation of dismissal with prejudice, based on a settlement agreement reached by those parties. Asentinel and Cass are the only remaining parties to this lawsuit.

by the parties, and the applicable law, the court submits the following proposed findings of fact and conclusions of law, and recommends that the Motion for Partial Summary Judgment be granted.[2]

I. PROPOSED FINDINGS OF FACT

Asentinel is a Memphis-based corporation that develops telecommunication expense management ("TEM") technology. Large national and multinational corporations purchase voice and data telecommunications services on a large scale and at significant expense, and TEM technology allows those corporations to detect billing errors and more effectively manage their telecommunications services. Asentinel was co-founded by Jason Fisher, who is listed as the inventor of two patents that involve the use of TEM technology. Asentinel is the owner of these two patents. Specifically, Asentinel was granted United States Patent No. 7,340,422 on March 4, 2008, titled "Systems and Methods for Processing and Managing Telecommunications Invoices" ("'422 patent"), and was granted United States Patent No. 7,805,342 on September 28, 2010, titled "Systems and Methods for Identifying and Processing Telecommunications Billing Exceptions" ("'342 patent") (collectively referred to as the "patents-in-suit"). In general terms, the technology in the patents-in-suit involves automated

[2]In addition to this Motion for Partial Summary Judgment, the parties have filed their claim construction briefs, which are before the District Judge.

auditing of telecommunications invoices by receiving the invoices, extracting data from the invoices, performing an automatic audit on the extracted data to check for billing errors, and generating reports for customers identifying these billing errors.

Asentinel brings this patent infringement action against Cass, alleging that Cass infringed one or more of the claims of the patents-in-suit, in violation of 35 U.S.C. § 271(a), (b), and (c). In the instant motion, Cass moves for partial summary judgment on the grounds that certain claims are invalid for indefiniteness pursuant to 35 U.S.C. § 112. These challenged claims include (1) from the '422 patent, Claim 38, Claims 39-45, 48, 50-52, and 54-55 (which depend from Claim 38), and Claim 56; and (2) from the '342 patent, Claim 10, Claims 11-13, 15, and 17-20 (which depend from Claim 10), Claim 21, and Claims 22 and 24-26 (which depend from Claim 21) (collectively referred to as the "claims-at-issue"). More specifically, the claims-at-issue from the '422 patent are the following:

> 38. A system for electronically identifying billing exceptions within a telecommunication invoices received from one or more vendors, comprising
>
> > a user database configured to store vendor mapping rules, telecommunications invoices and data extracted from telecommunications invoices; and
> >
> > a user application module coupled to the user database wherein the user application module includes:
> >
> > > means for extracting elements from the

telecommunications invoices;

means for organizing the elements into common categories; and

means for performing a reasonability test on the imported telecommunication invoices wherein performing the reasonability test includes evaluating the telecommunication invoices on an element basis to determine whether an element billing exception exists; and determining whether a cost center associated with the element is active

means for generating a report that identifies the element billing exceptions.

39. The system of claim 38, wherein an element is an individual charge at its smallest component.

40. The method of claim 38, wherein an element is a line item.

41. The method of claim 38, wherein an element is a service code.

42. The method of claim 38, wherein an element is a Universal Service Ordering Code (USOC).

43. The system of claim 38, wherein the telecommunications invoices are provided by at least two different vendors.

44. The system of claim 38, wherein the telecommunications invoices include charges for more than one of calling card services, conference call services, local voice services, long distance voice services, pager services, toll free voice services, wireless communication services, ATM services, frame relay services, Internet services, ISDN services, point-to-point trunk services, security services, VPN services telecommunications equipment purchases, telecommunications equipment repair, telecommunications equipment lease and telecommunication equipment maintenance.

45. The system of claim 38, further including a means for importing telecommunications invoices.

. . . .

48. The system of claim 38, further comprising a means of extracting elements from imported telecommunication invoices includes by applying a set of vendor mapping rules to vendor specific nomenclature for elements to transform the vendor specific nomenclature for the elements to categories that are comparable.

. . . .

50. The system of claim 38, further comprising means for performing a reasonability test on an element by comparing an element charge against the contracted rate for the element.

51. The system of claim 38, further comprising means for displaying the report that identifies the element billing exceptions.

52. The system of claims 51, further comprising means for displaying details regarding an element billing exception upon receiving a request for more information on the element billing exception.

. . . .

54. The system of claim 38, further comprising means for notifying a vendor of an element billing exception.

55. The system of claim 38, further comprising means for interfacing with a remote system to receive vendor mapping rules updates.

56. A system for electronically processing telecommunications invoices for one or more vendors, comprising;

(a) means for importing telecommunications invoices;

(b) means for extracting elements from the imported telecommunications invoices;

(c) means for performing a reasonability test on the imported telecommunications invoices, wherein performing the reasonability test includes evaluating telecommunication invoices on an element basis to determine whether an element billing exception exists; and determining whether a cost center associated with the element is active.

(d) means for generating a report that identifies the element billing exceptions;

(e) means for receiving instructions for treatment of the element billing exceptions; and

(f) means for transmitting approved invoice information to either or both of an accounts processing system or a general ledger system.

The claims-at-issue from the '342 patent are the following:

10. A system for electronically identifying billing exceptions within telecommunication invoices received from one or more vendors, comprising:

A user database configured to store vendor mapping rules, telecommunications invoices and data extracted from telecommunications invoices, and

A user application module coupled to the user database, wherein the user application module includes:

means for extracting elements by a computing device from the telecommunications invoices;

means for organizing the elements into common categories by the computing device; and

means for performing a reasonability test by the computing device on the imported telecommunication invoices wherein performing the reasonability test includes evaluating the telecommunication

invoices on an element basis to determine whether an element billing exception exists, wherein the one or more reasonability tests includes determining whether the element is associated with an active employee; and

means for generating a report by the computing device that identifies the element billing exceptions.

11. The system of claim 10, wherein an element is an individual charge at its smallest component, a line item, a service code, or a Universal Service Ordering Code (USOC).

12. The system of claim 10, wherein the telecommunications invoices are provided by at least two different vendors.

13. The system of claim 10, wherein the telecommunications invoices include charges for more than one of calling card services, conference call services, local voice services, long distance voice services, pager services, toll free voice services, wireless communication services, ATM services, frame relay services, Internet services, ISDN services, point-to-point trunk services, security services, VPN services, telecommunications equipment purchases, telecommunications equipment repair, telecommunications equipment repair, telecommunications equipment lease and telecommunications equipment maintenance.

. . . .

15. The system of claim 10, further comprising means for extracting elements from imported telecommunications invoices by applying a set of vendor mapping rules to vendor specific nomenclature for elements to transform the vendor specific nomenclature for the elements to categories that are comparable.

. . . .

17. The system of claim 10, further comprising means for performing a reasonability test on an element

by comparing an element charge against the contracted rate for the element.

18. The system of claim 10, further comprising means for displaying the report that identifies the element billing exceptions.

19. The system of claim 18, further comprising means for displaying details regarding an element billing exception upon receiving a request for more information on the element billing exception.

20. The system of claim 10, further comprising means for interfacing with a remote system to receive vendor mapping rules updates.

21. A computer program product comprising a computer usable medium having control logic stored therein for causing a computer to identify billing exceptions within telecommunications invoices received from one or more vendors, said control logic comprising:

computer readable program code means for causing the computer to import telecommunication invoices;

Computer readable program code means for causing the computer to extract elements from the imported telecommunications invoices;

Computer readable program code means for causing the computer to perform a reasonability test on the imported telecommunication invoices wherein performing the reasonability test includes evaluating the telecommunication invoices on an element basis to determine whether an element billing exception exists and determine whether a cost center associated with the element is active; and

Computer readable program code means for causing the computer to generate a report that identifies the element billing exceptions.

22. The computer program product of claim 21, wherein extracting means further comprises computer

> readable program code means for causing a computer to apply a set of vendor mapping rules to vendor specific nomenclatures for elements to transform the vendor specific nomenclature for the elements to categories that are comparable.
>
> . . . .
>
> 24. The computer program product of claim 21, wherein an element is an individual charge at its smallest component or is a line item.
>
> 25. The computer program product of claim 21, wherein performing means further comprises computer readable program code means for causing a computer to compare an element charge against the contracted rate for the element.
>
> 26. The computer program product of claim 21, wherein performing means further comprises computer readable program code means for causing a computer to determine whether the element is associated with an active employee.

Cass contends (and Asentinel does not dispute) that all of the claims-at-issue include "means-plus-function" limitations pursuant to 35 U.S.C. § 112 ¶ 6. The parties further agree that, for purposes of this summary judgment motion, the '422 and '342 patents are substantially identical, as both contain similar asserted claims and supporting specification language. (Forys Aff. ¶ 20.) In essence, the claims-at-issue incorporate eleven means-plus-function limitations:

> 1. "means for performing a reasonability test by the computing device on the imported telecommunication invoices wherein performing the reasonability test includes evaluating the telecommunication invoices on an element basis . . . .";
>
> 2. "means for causing the computer to import telecommunications invoices" (and variations

thereof);

3. "means for extracting elements by a computing device from the telecommunications invoices" (and variations thereof);

4. "means for extracting elements by applying vendor mapping rules";

5. "means for organizing the elements into common categories by the computing device";

6. "means for generating a report by the computing device that identifies the element billing exceptions" (and variations thereof);

7. "means for displaying the report that identifies the element billing exceptions" (and variations thereof);

8. "means for notifying a vendor of an element billing exception";

9. "means for interfacing with a remote system to receive vendor mapping rules updates";

10. "means for receiving instructions for treatment of the element billing exceptions"; and

11. "means for transmitting approved invoice information to either or both of an accounts processing system or a general ledger system."

Cass argues that in order for a means-plus-function limitation to be valid, the patent specification must disclose a "structure" that constitutes the means by which each particular function is performed. In this case, Cass contends that the specifications for the claims-at-issue fail to disclose structure corresponding to the recited function in the form of a computer algorithm. Therefore, according to Cass, the court should find that the claims-at-issue are invalid for indefiniteness. Alternatively, Cass alleges that

the court should grant summary judgment on these claims because there is no clear link between the recited functions in these elements and any purported structure in the specifications.

II. PROPOSED CONCLUSIONS OF LAW

A. Summary Judgment Standard Under Fed. R. Civ. P. 56

Federal Rule of Civil Procedure 56 provides that "[t]he court shall grant summary judgment if the movant shows that there is no genuine dispute as to any material fact and the movant is entitled to judgment as a matter of law." Fed. R. Civ. P. 56(a); see also Geiger v. Tower Auto., 579 F.3d 614, 620 (6th Cir. 2009). In reviewing a motion for summary judgment, the court must view the evidence in the light most favorable to the nonmoving party. Matsushita Elec. Indus. Co. v. Zenith Radio Corp., 475 U.S. 574, 587 (1986) (citation omitted). "The moving party bears the initial burden of production." Palmer v. Cacioppo, 429 F. App'x 491, 495 (6th Cir. 2011) (citing Celotex Corp. v. Catrett, 477 U.S. 317, 323 (1986)). Once the moving party has met its burden, "the burden shifts to the nonmoving party, who must present some 'specific facts showing that there is a genuine issue for trial.'" Jakubowski v. Christ Hosp., Inc., 627 F.3d 195, 200 (6th Cir. 2010) (quoting Anderson v. Liberty Lobby, Inc., 477 U.S. 242, 248 (1986)). "[I]f the nonmoving party fails to make a sufficient showing on an essential element of the case with respect to which the nonmovant has the burden, the moving party is entitled to

summary judgment as a matter of law." Thompson v. Ashe, 250 F.3d 399, 405 (6th Cir. 2001). "The central issue 'is whether the evidence presents a sufficient disagreement to require submission to a jury or whether it is so one-sided that one party must prevail as a matter of law.'" Palmer, 429 F. App'x at 495 (quoting Anderson, 477 U.S. at 251-52).

B. Legal Principles Applicable to Analysis of Means-Plus-Function Claim Limitations

Title 35 U.S.C. § 112 provides that "[t]he 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. When a claim is written in means-plus-function form, "the written description must clearly link or associate structure to the claimed function" to satisfy the definiteness requirement of ¶ 2 of § 112. Telcordia Techs., Inc. v. Cisco Sys., Inc., 612 F.3d 1365, 1376 (Fed. Cir. 2010); see also 35 U.S.C. § 112 ¶ 6 ("An element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof, and such claim shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof."). "When a claim uses the term 'means' to describe a limitation, a presumption inheres that the inventor used the term to invoke § 112, ¶ 6." Biomedino, LLC v. Waters Techs. Corp., 490 F.3d 946, 950 (Fed. Cir. 2007). In

this case, Asentinel and Cass agree that all of the limitations in the claims-at-issue are means-plus-function limitations under ¶ 6 of § 112.

"'A determination of claim indefiniteness is a legal conclusion that is drawn from the court's performance of its duty as the construer of patent claims.'" Atmel Corp. v. Info. Storage Devices, Inc., 198 F.3d 1374, 1378 (Fed. Cir. 1999) (quoting Personalized Media Commc'ns, LLC v. Int'l Trade Comm'n, 161 F.3d 696, 705 (Fed. Cir. 1998)). The court, viewing the specification from the perspective of a person skilled in the art, must consider "[w]hether the written description adequately sets forth the structure corresponding to the claimed function." Telcordia, 612 F.3d at 1376. Under the patent statutory scheme, patents are entitled to a presumption of validity, and therefore any factual finding necessary for a holding of indefiniteness must be proven by the challenger by clear and convincing evidence. Intel Corp. v. VIA Techs., Inc., 319 F.3d 1357, 1367 (Fed. Cir. 2003); Eli Lilly and Co. v. Barr Labs., Inc., 251 F.3d 955, 962 (Fed. Cir. 2001). Therefore, when moving for invalidity pursuant to ¶ 6 of § 112, the moving party must prove "by clear and convincing evidence[] that the specification lacks adequate disclosure of structure to be understood by one skilled in the art as able to perform the recited functions." Intel Corp., 319 F.3d at 1366.

Assessing whether a means-plus-function limitation is

indefinite involves a two-step analysis. First, the court must identify the function of the limitation, and second, the court must look to the specification and identify the corresponding structure for that function. Biomedino, 490 F.3d at 950. "Under this second step, 'structure disclosed in the specification is 'corresponding' structure only if the specification or prosecution history clearly links or associates that structure to the function recited in the claim.'" Med. Instrumentation & Diagnostics Corp. v. Elekta AB, 344 F.3d 1205, 1210 (Fed. Cir. 2003). One who seeks to take advantage of ¶ 6 must therefore disclose the structure that carries out each function. "Thus, in return for generic claiming ability, the applicant must indicate in the specification what structure constitutes the means." Biomedino, 490 F.3d at 948. "'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 the price but is rather attempting to claim in functional terms unbounded by any reference to structure in the specification.'" Id. (quoting Elekta AB, 344 F.3d at 1211). Therefore, "'[i]f an applicant fails to set forth an adequate structure, the applicant has in effect failed to particularly point out and distinctly claim the invention as required by the second paragraph of § 112.'" Id. (quoting In re Donaldson Co., 16 F.3d 1189, 1195 (Fed. Cir. 1994) (en banc)).

C. Person of Ordinary Skill in the Art

"Whether a specification adequately sets forth structure corresponding to a claimed function is viewed from the perspective of one skilled in the art" at the time of the invention. HTC Corp. v. IPCom GmbH & Co., KG, No. 2011-1004, 2012 Wl 254804, at *8 (Fed. Cir. Jan. 30, 2012); see also Allvoice Computing PLC v. Nuance Communic'ns, Inc., 504 F.3d 1236, 1240 (Fed. Cir. 2007); Biomedino, 490 F.3d at 950; Budde v. Harley Davidson, Inc., 250 F.3d 1369, 1376-77 (Fed. Cir. 2001). "Thus, a challenge to a claim containing a means-plus-function limitation as lacking structural support requires a finding, by clear and convincing evidence, that the specification lacks disclosure of structure sufficient to be understood by one skilled in the art as being adequate to perform the recited function." Budde, 250 F.3d at 1376-77 (internal citations omitted).

While testimony from one skilled in the art may aid the court in interpreting the specification, "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). As the court explained in Atmel:

> 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 . . . .

Atmel, 198 F.3d at 1382. Indeed, if it is clear and convincing from the intrinsic record itself that there is no disclosed structure clearly linked to the recited function, a finding of indefiniteness is appropriate. See Blackboard, Inc. v. Desire2Learn, Inc., No. 9:06–CV–155, 2007 WL 2255227, at *9 (E.D. Tex. Aug. 3, 2007), aff'd Blackboard, Inc. v. Desire2Learn, Inc., 574 F.3d 1371 (Fed. Cir. 2009).

The parties have each submitted declarations from experts who purport to possess the level of skill required to be a person of ordinary skill in the art at the time of the invention. According to Asentinel's expert, Leonard J. Forys, Ph.D., a person of ordinary skill in the art must have an undergraduate degree in Electrical Engineering or equivalent training, together with three to five years of work in the telecommunications industry with a wide exposure to telecommunications technologies, including communications networks and operational issues, such as billing. (Forys Decl. ¶ 22.) Cass's expert, Charles H. Sauer, Ph.D., agrees with Dr. Forys's description. (Sauer Decl. ¶ 12.) For purposes of deciding the instant motion, the court accepts the experts' definition. The court has reviewed the experts' qualifications and finds, based on the experts' education, training, and experience, that both Dr. Forys and Dr. Sauer qualify as persons of ordinary skill in the art.

D. Federal Circuit Cases Analyzing Indefiniteness Challenges to Means-Plus-Function Claim Limitations

On numerous occasions, the Federal Circuit has addressed indefiniteness challenges to means-plus-function claim limitations. In WMS Gaming Inc. v. International Game Technology, 184 F.3d 1339 (Fed. Cir. 1999), a patentee claimed a slot machine that resembled a standard reel-based mechanical slot machine, but within which the reels were mechanically controlled to allow for a decreased probability of winning and potentially higher corresponding payoffs. One of the disputed claims construed by the court in determining infringement had a means-plus-function limitation that assigned randomly generated numbers to various stop positions on the reels. The district court found that the structure disclosed to carry out this function was "an algorithm executed by a computer." Id. at 1348. The Federal Circuit rejected this interpretation as overly broad, and held that the claim had to be limited to a specific algorithm actually disclosed in the specification. The court stated, "[i]n 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." Id. at 1349.

In Harris Corp. v. Ericsson Inc., 417 F.3d 1241 (Fed. Cir. 2005), Harris Corporation held a patent for a method of processing

and interpreting distorted wireless signals that traveled through various media to a receiving device. Id. at 1245. The means-plus-function limitation at issue was a "time domain processing means" that simulated the dispersive effect on the signals caused by the media through which they traveled. Id. at 1248-49. While not faced with a challenge for indefiniteness, the Federal Circuit addressed the construction of this claim in determining whether infringement had occurred. It rejected the district court's finding that a "symbol processor" was the corresponding structure that carried out the recited function, because the "symbol processor" did not incorporate any disclosed algorithm. Id. at 1254. Instead, the Federal Circuit held that the corresponding structure was a more specific "microprocessor programmed to carry out a two-step algorithm in which the processor calculates generally nondiscrete estimates and then selects the discrete value closest to each estimate." Id. Based on this narrower disclosed structure, the court found that Harris's patent had not been infringed by Ericsson, which employed a one-step algorithm of converting distorted wireless signals into discreet values.

In Aristocrat Technologies Australia PTY Ltd. v. International Game Technology, 521 F.3d 1328 (Fed. Cir. 2008), the patentee argued that "computer-implemented means-plus-function claims do not require disclosure of a corresponding algorithm," and that the disclosure of "any standard microprocessor base gaming machine with

appropriate programming" was sufficient. Id. at 1332. The Federal Circuit rejected this contention, finding that since a "general purpose computer can be programmed to perform very different tasks in very different ways, simply disclosing a computer as the structure designated to perform a particular function" is insufficient. Id. at 1333. The court held that a patentee must "at least disclose the algorithm that transforms the general purpose microprocessor to a 'special purpose computer programmed to perform the disclosed algorithm.'" Id. at 1338 (quoting WMS Gaming, 184 F.3d at 1349).

In Net MoneyIn, Inc. v. VeriSign, Inc., 545 F.3d 1359 (Fed. Cir. 2008), the court addressed a patentee's argument that reference to a computer provided sufficient structure for a means-plus-function claim limitation. In that case, the patentee argued that the reference to a "bank computer" provided sufficient structure to support the function of "generating an authorization indicia in response to queries containing a customer account number and amount." Id. at 1365. The patentee contended that "a person skilled in the art would know that such a computer would be programmed to compare account data and amount data to those data structures and generate an authorization indicia if credit were available." Id. at 1366-67. The Federal Circuit rejected that argument and explained that when a computer is referenced as support for a function in a means-plus-function claim, there must

be some explanation of how the computer performs the claimed function. Id. at 1367. The court stated that "a means-plus-function claim element for which the only disclosed structure is a general purpose computer is invalid if the specification fails to disclose an algorithm for performing the claimed function." Id. The court held that, because there was no disclosed algorithm, the claims were invalid for lack of a sufficient recitation of structure. Id.

In Blackboard, Inc. v. Desire2Learn, Inc., the plaintiff, Blackboard, owned a patent for an internet-based educational support system, which included several claims with means-plus-function limitations which called for a server computer to store data files associated with a particular course, assign various levels of access to particular users, and control access to the data files based on the users' access level. Blackboard argued that the structure that performed these functions was the server computer's software feature known as the "access control manager," or "ACM," which:

> creates an access control list (ACL) for one or more subsystems in response to a request from a subsystem to have its resources protected through adherence to an ACL. Education support system 100 provides multiple levels of access restrictions to enable different types of users to effectively interact with the system (e.g. access web pages, upload or download files, view grade information) while preserving confidentiality of information.

Blackboard, 574 F.3d at 1382. The Federal Circuit found that the ACM did not constitute a structure capable of carrying out the

corresponding functions. Instead, the court stated that the ACM was "simply an abstraction that describes the function of controlling access to course material, which is performed by some undefined component of the system. The ACM is essentially a black box that performs a recited function. But how it does so is left undisclosed." Id. at 1383.

In In re Katz Interactive Call Processing Patent Litigation, 639 F.3d 1303 (Fed. Cir. 2011), the patents in dispute were related to interactive call processing systems and call conferencing systems. Id. at 1308. The district court had invalidated several means-plus-function claims as indefinite because the only corresponding structure disclosed was a general purpose computer, and no algorithm had been disclosed in the specification by which the computer performed the recited function. The Federal Circuit affirmed the district court's decision with respect to certain disputed claims, but reversed as to others. With respect to the claims that recited a "processing means . . . for receiving customer number data entered by a caller and for storing the customer number data . . . and based on a condition coupling an incoming call to the operator terminal, the processing means visually displaying the customer number data," the court found that no algorithm had been disclosed that informed the public "as to the way Katz's invention conditionally couples calls." Id. at 1315. These claims were therefore deemed invalid for indefiniteness.

However, the court reached a different conclusion for several "processing," "receiving," and "storing" functions, finding that these functions, "[a]bsent a possible narrower construction . . . can be achieved by any general purpose computer without special programming." Id. at 1316. The court went on to state that these functions were "coextensive with the structure disclosed, i.e., a general purpose processor," and therefore, no algorithm needed to be disclosed. In other words, the court found that a corresponding algorithm is not required for all means-plus-function claims, but only those where the patentee asserts a claim "in which the computer would be specially programmed to perform the recited function." Id.

In Typhoon Touch Technologies, Inc. v. Dell, Inc., No. 2009-1589, 2011 WL 5289603 (Fed. Cir. Nov. 4, 2011), the Federal Circuit dealt with a patent held by the plaintiff for a portable, keyboardless computer with a touch screen display, and related applications for data entry. The claim at issue in Typhoon Touch was a "means for cross-referencing," which was described in the patent as "entail[ing] the matching of entered responses with a library or possible responses, and, if a match is encountered, displaying the fact of the match, other alerting the use, or displaying information stored in memory field associated with that library entry." Typhoon Touch, 2011 WL 5289603, at *7. The patent also provided further detail within the specification, stating:

> [c]ross–Referencing imports that, for each answer field, the entered response can be related to a library to determine if the response in the answer field is existent in the library. In other words, the answer information is cross-referenced against that specific library. If it is available in that library, then, corresponding to that library entry, an action is executed. For instance, the associated action can involve an overlay window that alerts the user of the fact of the match with the library entry, or displays the contents of an information field stored in association with that entry in the memory.

Id. The court found that the patent sufficiently established in prose the algorithm to be implemented by the programmer and could be "readily implemented by person of skill in computer programming." Id. at *8. In so ruling, the court defined "algorithm" as follows:

> The usage "algorithm" in computer systems has broad meaning, for it encompasses "in essence a series of instructions for the computer to follow," whether in mathematical formula, or a word description of the procedure to be implemented by a suitably programmed computer. The definition in Webster's New Collegiate Dictionary (1976) is quoted in In re Freeman, 573 F.2d 1237, 1245 (CCPA 1978): "a step-by-step procedure for solving a problem or accomplishing some end." In Freeman the court referred to "the term 'algorithm' as a term of art in its broad sense, i.e., to identify a step-by-step procedure for accomplishing a given result." The court observed that "[t]he preferred definition of 'algorithm' in the computer art is: 'A fixed step-by-step procedure for accomplishing a given result; usually a simplified procedure for solving a complex problem, also a full statement of a finite number of steps.'"

Id. at *7 (internal citations omitted). The court concluded that the patent had sufficiently disclosed the structure corresponding to the "means for cross-referencing." Id. at *8.

More recently, in Dealertrack, Inc. v. Huber, Nos. 2009-1566,

2009-1588, 2012 WL 164439 (Fed. Cir. Jan. 20, 2012), the owner of two patents for a computer-aided method and system for processing credit applications over electronic networks brought suit for infringement. The Federal Circuit, after construing the proper structure for a separate "central processing means" asserted in the patents, dealt with three additional claims which contained the following limitation: "wherein said central processing means computer program which implements and controls credit application processing and routing . . . ." Id. at *13. The court found that this limitation "recite[d] an additional function for the 'central processing means' to perform." Id. at *14. Because the patent specification disclosed no algorithm that would allow the "central processing means" to perform this additional "tracking" function, the court found these claims to be indefinite. Id.

Finally, in HTC Corp. v. IPCom GmbH & Co., KG, IPCom held a patent that purportedly reduced the chance of interrupted service during a cellular telephone "handover," which occurs when a cellular telephone switches its link from one base tower to another (e.g. when a cellular telephone user travels between coverage areas). The challenged means-plus-function claim limitation was an "arrangement for reactivating the link with the first base station if the handover is unsuccessful." Id. at *1. While the Federal Circuit refused to invalidate the disputed claims for indefiniteness due to a waiver of this argument by HTC, it

discussed in significant detail the indefiniteness inquiry. The district court had determined, and the Federal Circuit agreed, that the structure disclosed to carry out this function was a processor and transceiver. Id. at *7. However, the circuit court found that while no other hardware disclosure was needed, the "processor and transceiver amount to nothing more than a general-purpose computer." The court went on to state that IPCom had to identify a corresponding "algorithm that the processor and transceiver execute." Id. at *9. The court added that IPCom "had to do more than parrot the recited function; it had to describe a means for achieving a particular outcome, not merely the outcome itself." Id. (citing Blackboard, 574 F.3d at 1382–85).

With the above-described principles in mind, the court now turns to the application of those principles to the means-plus-function claim limitations at issue in the present case.

E. Identifying the Function of the Claim Limitations

First, the court must identify the claimed functions of the limitations at issue. Biomedino, 490 F.3d at 950. In doing so, the court looks to the expert declarations of Dr. Forys and Dr. Sauer. With respect to five limitations, the parties' experts agree on the functions. The agreed upon functions include the following: (1) means for importing telecommunications invoices (Claims 45 and 56 of the '422 patent and Claim 21 of the '342 patent) - the experts agree this function is "to receive (as in

data)" (Forys Decl. ¶ 84; Sauer Decl. ¶ 21); (2) means for organizing elements into common categories (Claims 38 of the '422 patent and Claim 10 of the '342 patent) - the experts agree that this function is "to arrange several elements into common categories" (Forys Decl. ¶ 119; Sauer Decl. ¶ 41); (3) means for notifying a vendor of an element billing exception (Claim 54 of the '422 patent) - the experts agree that this function in the context of the patent is "informing a vendor of an element billing exception" (Forys Decl. ¶ 158; Sauer Decl. ¶ 64); (4) means for receiving instructions for treatment of the element billing exceptions (Claim 56 of the '422 patent) - the experts agree that this function is "accepting data (e.g. from an external communication system) regarding instructions for treatment of the element billing exception" (Forys Decl. 164; Sauer Decl. ¶ 68); and (5) means for transmitting approved invoice information to either or both of an accounts processing system or a general ledger system (Claim 56 of the '422 patent) - the experts agree that this function is "sending approved invoice information (e.g. over a communications line or circuit) to either or both of an accounts processing system or a general ledger system" (Forys Decl. ¶ 171; Sauer Decl. ¶ 73).

However, the experts strongly disagree on the functions of other limitations, including the following: (1) means for extracting elements from telecommunication invoices (Claims 38 and

56 of the '422 patent and Claim 10 of the '342 patent) (Forys Decl. ¶ 102; Sauer Decl. ¶ 32); (2) means for extracting elements by applying vendor mapping rules (Claim 48 of the '422 patent and Claims 15 and 22 of the '342 patent) (Forys Decl. ¶ 112; Sauer Decl. ¶ 36-37); (3) means for interfacing with a remote system to receive vendor mapping rules updates (Claim 55 of the '422 patent and Claim 20 of the '342 patent) (Forys Decl. ¶ 128; Sauer Decl. ¶ 45); (4) means for performing a reasonability test (Claims 38, 50, and 56 of the '422 patent and Claims 10, 17, 21, 25, and 26 of the '342 patent) (Forys Decl. ¶ 139; Sauer Decl. ¶ 53(1)-(5)); (5) means for generating a report (Claims 38 and 56 of the '422 patent and Claims 10 and 21 of the '342 patent) (Forys Decl. ¶ 146; Sauer Decl. ¶ 56); and (6) means for displaying a report (Claims 51 and 52 of the '422 patent and Claims 18 and 19 of the '342 patent) (Forys Decl. ¶ 153; Sauer Decl. ¶ 60).[3]

For purposes of deciding this Motion for Partial Summary Judgment, the court will construe the functions associated with (1) means for importing, (2) means for organizing, (3) means for notifying, (4) means for receiving, and (5) means for transmitting,

[3]In addition to disputing the functions for these six means-plus-function limitations, the parties in their claim construction briefs dispute the construction of several of these terms, including "reasonability test," "element," "displaying details regarding an element billing exception," "displaying the report that identifies the element billing exception," "generating a report that identifies the element billing exceptions," and "generating by the computing device a report that identifies the element billing exceptions."

by using the construction agreed to by the parties. Regarding the other limitations to which the parties disagree on the proper functions, the court does not need to resolve these disputed matters because, as discussed below, the specifications do not sufficiently disclose the algorithms associated with the "means for importing" and "means for organizing elements into common categories." The court further submits that, because at least one of these two means-plus-function limitations is contained in each of the four independent claims (and by incorporation all of the dependent claims), all of the claims-at-issue in the patents-in-suit are invalid for indefiniteness. See, e.g., Blackboard, 574 F.3d at 1382 (affirming district court's ruling that patent Claims 1-35 were invalid for indefiniteness, where district court only found that one of the four means-plus-function limitations contained in Claim 1 lacked corresponding structure, and as a result Claim 1 and dependent Claims 2-35 were all deemed invalid); Aristocrat, 521 F.3d at 1331 (affirming district court's indefiniteness ruling where court only found that one of the means-plus-function limitations contained in Claim 1 lacked corresponding structure, and as a result all claims in the patent were deemed invalid for indefiniteness).

F. Identifying the Disclosure of Corresponding Structure

1. Means for Importing

Claims 45 and 56 of the '422 patent recite "means for

importing telecommunications invoices" and Claim 21 of the '342 patent recites "computer readable program code means for causing the computer to import telecommunication invoices." ('422 patent, col. 19, ln. 13-14 & col. 20, ln. 14-35; '342 patent, col. 18, ln. 63, col. 19, ln. 17.) As stated above, the function for this claim limitation is "to receive (as in data)." Dr. Forys states in his declaration, "[i]n general, the specification describes that invoices come in various formats, either paper or electronic (e.g., EDI, XML or other custom formats), and that a combination of hardware and/or software is used to receive the invoice (e.g., on a daily, hourly, minute, or real-time basis) into user application 5 and/or user database 3 for further processing." (Forys Decl. ¶ 85.) Dr. Forys claims that the disclosed structure in the specification includes a combination of hardware and software components. The hardware component proposed for each embodiment is a "data communications pathway" and various input devices such as a mouse, keyboard, or monitor.

According to Dr. Forys, different software-based algorithms are disclosed by the specification, depending on the embodiment utilized. For paper invoices, he opines that the disclosed algorithm for this function includes the following steps: (1) enabling the user to select the vendor from the current list of active vendors; (2) enabling the user to select the types of services in the invoice; (3) enabling the user to enter the line

items and charges manually; (4) enabling the user to save the invoice; and (5) invoking the Invoice Management module 23 to complete the processing of the invoice.[4] (Id.) (citing '422 patent, col. 5, ln. 25-33; col. 7, ln. 16-24.)

Similarly, for electronic invoices received in EDI and XML formats, the disclosed software-based algorithm includes the following steps: (1) monitoring a common location for incoming invoices; (2) user application 5 receiving incoming invoices; (3) either (a) determining the file type and invoking the appropriate module for future processing or (b) loading the invoice(s) into a system file folder and periodically invoking the appropriate module to process the invoice; and (4) causing the invoice to be entered into the user database. (Id. ¶ 92) (citing '422 patent, col. 4, ln. 46 - col. 5, ln. 15; '422 patent, col. 7, ln. 25-67.)

As for custom electronic invoices (invoices sent in the vendor's specific billing format), the disclosed software-based algorithm purportedly includes the following steps: (1) enabling the user to select the vendor and the location for the custom electronic invoice such as a floppy disc, CDROM, or local folder;

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[4]The experts offer conflicting opinions on the sufficiency of the disclosures of the structure. However, factual questions raised by extrinsic evidence, such as expert declarations, do not necessarily preclude summary judgment, as definiteness is a legal question to be decided by the court. Fujitsu Ltd., 782 F. Supp. 2d at 643-45 (citing Praxair, Inc. v. ATMI, Inc., 543 1306, 1319 (Fed. Cir. 2008); Microprocessor Enhancement Corp. v. Texas Instruments Inc., 520 F.3d 1367, 1374 (Fed. Cir. 2008); Exxon Research & Eng'g Co. v. United States, 265 F.3d 1371, 1376 (Fed. Cir. 2001)).

(2) analyzing the custom electronic invoice to determine the hard-coded algorithm to be used for that type of file format and that vendor; (3) further processing according to the hard-coded algorithm for that type of file format; and (4) causing the invoice to be entered into the user database. (Id. ¶ 95) (citing '422 patent, col. 5, ln. 16-24; '422 patent, col. 8, ln. 1-15.)

Regarding Asentinel's inclusion of hardware within the structure, these items "amount to nothing more than a general-purpose computer," and because general-purpose computers or processors can be "programmed to perform very different tasks in very different ways . . . simply disclosing a computer as the structure designated to perform a particular function does not limit the scope of the claim to the corresponding structure, material, or acts that perform the function, as required by section 112 paragraph 6." HTC Corp., 2012 WL 254804, at *9 (internal quotation marks and citations omitted.) "Rather than relying on [computer hardware], [a patentee] ha[s] to identify an algorithm that the [computer hardware] execute[s]." Id. (citing Aristocrat, 521 F.3d at 1333). Moreover, a data communications pathway does not receive data; instead, it transfers data between a sender and recipient. (Sauer Decl. ¶ 22(1).) Similarly, input devices (such as a keyboard, mouse, or monitor) do not receive data; they are used to transmit keystrokes, cursor positions, or display character and graphical data. (Sauer Decl. ¶ 22(2).)

Regarding the purported software-based algorithms disclosed by the specifications, the "steps" described by Dr. Forys do not amount to an algorithm, as they are purely functional in nature. In other words, the steps describe *what* the software does, but do not describe *how* the software performs the function of receiving data. Blackboard, 574 F.3d at 1383-84. For example, the '422 patent specification provides in part that the "user application 5 then imports the invoices using algorithms hard coded for that type of file format and that vendor." However, there is no algorithm disclosed regarding how the user application 5 receives invoice data or how the hard-coded algorithms work. Moreover, there is no disclosure regarding the algorithmic steps performed by the Invoice Management module 23. In sum, the court finds by clear and convincing evidence that a person of ordinary skill in the art would not recognize the patent specification as disclosing the required algorithm.

2. Means for Organizing Elements Into Common Categories

Claim 38 of the '422 patent and Claim 10 of the '342 patent assert a "means for organizing elements into common categories." Dr. Forys states as follows in support of a corresponding structure for this function:

> 122. The structures disclosed in the specification that perform the recited functions consist of a combination of hardware and software.
>
> 123. Multiple embodiments are described in the '422 and '342 patents that perform the recited function.

> Therefore, there are a number of alternate structures disclosed in the specification that perform the recited function, depending on the application. In one embodiment, the specification describes organizing elements into common categories by EDI Mapping Module 20. In another embodiment, the specification describes organizing elements into common categories by XML Mapping Module 21. In another embodiment, the specification describes organizing elements into common categories by Custom Mapping Module 22. In yet another embodiment, the specification describes organizing elements into common categories by Invoice Management Module 23.
>
> 124. The hardware component includes a data communications pathway. . . . In one embodiment, the hardware may also include a database (e.g., user database 3). . . . With respect to the software, the '422 and '342 patents describe algorithmic or step-by-step processes which, in effect, produce a special-purpose computer programmed to perform the function of organizing elements into common categories. The disclosed algorithm includes the steps of: (1) each mapping module selecting the appropriate invoice from incoming invoices; (2) (a) if vendor is known importing rules (if any) (e.g., from user database 3) into the mapping module, (b) otherwise applying generic procedures; (3) comparing several elements; and (4) arranging common elements into common categories (common categories can include, but are not limited to, such items as features, taxes and surcharges) in a table for further processing.

(Forys Decl. ¶¶ 122-124.)

The court finds by clear and convincing evidence that a person of ordinary skill in the art would not recognize the patent specification as disclosing the required algorithm. As stated above, these hardware components do not "limit the scope of the claim to the corresponding structure, material, or acts that perform the function, as required by section 112 paragraph 6." HTC Corp., 2012 WL 254804, at *9. In addition, a "data communications pathway" is not capable of performing the function of arranging

several elements into common categories; rather, it only transfers data between a sender and recipient. (Sauer Decl. ¶ 41(i).) Regarding the "steps" described by Dr. Forys, they are functional and do not provide an algorithm for *how* the software performs the function of arranging several elements into common categories. For example, there is no description of how each mapping module selection is made, what the generic procedures are and how are they applied, how the elements are chosen for selection, or how the software defines and manipulates the table. (Sauer Decl. ¶ 42(iii).)

III. RECOMMENDATION

The court submits that as to the means for importing and means for organizing claim limitations, there is clear and convincing evidence that the patent specification discloses insufficient structure to perform the recited functions. The court further submits that because at least one of these two means-plus-function limitations is found in each of the four independent claims (and by incorporation all of the dependent claims), all of the claims-at-issue in the patents-in-suit are invalid for indefiniteness.[5] For these reasons, the court recommends that Cass's Motion for Partial Summary Judgment be granted.

[5]Based on the conclusion that the specifications do not disclose an adequate structure, the court does not reach Cass's alternative argument that, to the extent the specifications disclose a structure, that structure is not clearly linked to the claimed function.

Respectfully submitted,

s/ Tu M. Pham
_____
HON. TU M. PHAM
UNITED STATES MAGISTRATE JUDGE

February 17, 2012
_____
DATE

NOTICE

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