IN THE UNITED STATES DISTRICT COURT

FOR THE DISTRICT OF DELAWARE

PI-NET INTERNATIONAL INC.,	)	
	)	
Plaintiff,	)	
	)	
v.	)	Civ. No. 12-282-SLR
	)	
JPMORGAN CHASE & CO.,	)	
	)	
Defendant.	)	

George Pazuniak, Esquire of O'Kelly Ernst & Bielli, LLC, Wilmington, Delaware. Counsel for Plaintiff.

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MEMORANDUM OPINION

Dated: May 14, 2014
Wilmington, Delaware

ROBINSON, District Judge

At Wilmington this day of May, 2014, having heard argument on, and having reviewed the papers submitted in connection with, the parties' proposed claim construction; the court issues its claim construction decision as to the disputed claim language of U.S. Patent Nos. 8,108,492 (the '"492 patent"), 5,987,500 (the '"500 patent"), and 8,037,158 (the "'158 patent"), consistent with the tenets of claim construction set forth by the United States Court of Appeals for the Federal Circuit in *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005).

1. Limitations Found in Multiple Patents

a. "[R]eal-time:"[1] "In a complete and non-deferred manner, without assembling, disassembling, formatting, or reformatting the transaction information."[2] The specification describes, for example, e-mail capabilities, which are not real-time transactions but, rather, exemplify "'deferred transactions' because the consumer's request is not processed until the e-mail is received, read, and the person or system reading the e-mail executes the transaction." (1:44-58)[3] The specification describes that

> typical user interactions on the [world wide web ("web")] today [include] . . . two-way services . . . via Common Gateway Interface (CGI) applications. CGI is a standard interface for running external programs on a Web server. It allows Web servers to create documents dynamically when the server receives a request from the Web browser. When the Web server receives a request for a document, the Web server

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[1]Claims 1 and 10 of the '492 patent; claims 1 and 10 of the '500 patent; and independent claim 1 (not asserted) and dependent claim 4 of the '158 patent.

[2]This construction of "real-time" applies to the use of the limitation in subsequent constructions for the patents-in-suit.

[3]All citations are to the '492 specification unless otherwise indicated.

> dynamically executes the appropriate CGI script and transmits the output of the execution back to the requesting Web browser. This interaction can thus be termed a "two-way" transaction. It is a severely limited transaction, however, because each CGI application is customized for a particular type of application or service.

(1:49-2:11) In comparison, "[a] true real-time, bi-directional transaction would allow a user to connect to a variety of services on the Web, and perform real-time transactions on those services, . . . with two-way interaction capabilities." (2:26-38) For example, a financial "transaction will be performed in real-time, in the same manner the transaction would have been performed by a live teller at the bank or an ATM machine." (7:16-19)

During prosecution, the applicant argued that her invention's "real-time" transactions were different from the prior art's deferred two-way transactions, as "[e]ven if [the prior art reference] taught of completing a transaction, it was through the use of CGI, which strips field-by-field from a Web form and sends it as standard I/O to the application that is local to the [b]ack-[e]nd, and that must assemble/disassemble the information again," therefore, "[t]he transaction is not completed in real-time." (D.I. 75, ex. E at 188)[4] The applicant also argued that a different prior art reference

> deals with processing documents using CGI scripts, which the [a]pplicant has clearly described in this present [a]pplication as well as in the parent patents that CGI involves standard I/O and formatting and reformatting at both ends so as to be compatible with HTML files is [a] 'deferred transaction,' . . . not with true two-way or N-way, real-time transactional capabilities . . . . [The prior art reference] discloses deferred transactional capabilities utilizing CGI, not real[-]time Web transactions from a World Wide Web application, as in [a]pplicant's specification . . . nor as in Figs 5C or 5D of the subject application.

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[4]Prosecution history of the '158 patent, hereinafter "ex. E."

(D.I. 75, ex. H at 19)[5] Therefore, the construction describes "real-time" (in a way helpful to a jury) by distinguishing the limitation from the prior art deferred transactions, as argued by the applicant during patent prosecution.

b. "[V]alue-added network switch." "Because claims delineate the patentee's right to exclude, the patent statute requires that the scope of the claims be sufficiently definite to inform the public of the bounds of the protected invention, i.e., what subject matter is covered by the exclusive rights of the patent. Otherwise, competitors cannot avoid infringement, defeating the public notice function of patent claims." *Halliburton Energy Svcs. v. M-ILLC*, 514 F.3d 1244, 1249 (Fed. Cir. 2008) (citation omitted). The definiteness requirement does not compel absolute clarity. Only claims "not amenable to construction" or "insolubly ambiguous" are indefinite. *Datamize, LLC v. Plumtree Software, Inc.*, 417 F.3d 1342, 1348 (Fed. Cir. 2005) (citations omitted).

Figure 7 represents the value added network switch ("VAN switch") as having four components - "switching service 702," "management service 703," "boundary service 701," and "application service 704." (Fig 7) The "boundary service 701 provides the interface[] between VAN switch 520, the Internet and the Web, and multi-media end user devices such as PCs, televisions or telephones. Boundary service 701 also provides the interface to the on-line service provider." (8:41-48) "Switching service 702 is an OSI application layer switch, . . . represents the core of the VAN switch . . . [and] performs a number of tasks including the routing of user

[5]Arguments made during the prosecution of application no. 12/628,066.

connections to remote VAN switches, . . . multiplexing and prioritization of requests, and flow control, . . . [as well as] facilitat[ing] open systems' connectivity with both the [i]nternet (a public switched network) and private networks including back office networks, such as banking networks." (8:52-60) "Management service 703 contains tools . . .used by the end users to manage network resources, including VAN switches. Management service 703 also provides applications that perform . . . functions includ[ing] security management, fault management, configuration management, performance management and billing management." (8:64-9:6) "[A]pplication service 704 contains application programs that deliver customer services. Application service 704 includes [point-of-service] applications . . . ." (9:9-11)

The specification further provides that the "[e]xchange 501 also conceptually includes a switching component" (6:20-21) and the "exchange 501 and management agent 601 . . . together constitute a [VAN] switch" (7:52-54, 8:41-42). The specification describes "management agent" as one of the components interacting to provide service network functionality. (6:1-5) The "exchange and a management agent component . . . together perform the switching, object routing, application and service management functions according to one embodiment of the present invention." (6:35-38) The specification offers no explanation or examples as to what the management agent does nor how it works to perform the listed functions.

Claim 1 of the '492 patent recites that the VAN switch is "running on top of the facilities network." The specification discloses only one embodiment of the VAN switch: "VAN switch 520 provides multi-protocol object routing, depending upon the specific VAN services chosen . . . provided via a proprietary protocol, TransWeb™

Management Protocol (TMP)." (7:62-65) The inventor testified that "there never had been any proprietary protocol, and TMP was intended to refer to the protocols as described in the patents." (D.I. 150, ex. AB at 14) Bardash avers TMP "is merely a shorthand for the general protocol that is described in the patent." (D.I. 150, ex. AC at 9) JP Morgan's expert, Spielman, responds that

> a person of ordinary skill in the art would have had no guidance regarding what constitutes TMP or how to use that protocol within the context of the invention. TMP is defined strictly in terms of its function, without any description of how it can be used. Thus, a person of skill in the art would essentially had to have developed her own protocol to implement and operate the claimed VAN Switch, with no description from the patents-in-suit themselves to aid in that effort.

(D.I. 150, ex. AJ at ¶ 53) Spielman opined that the "patents-in-suit provide no algorithms, source code, or any other descriptive language offering any guidance as to how to configure a VAN Switch so as to perform 'real-time' transactions using TMP or any other protocol." (*Id.* at ¶ 48) Bardash agrees that figures 6A and 7 "explain more abstract concepts," but argues that these and other concepts would be "very understandable to one of ordinary skill in the art." (D.I. 141, ex. BE at ¶¶ 37-38)

Turning to the plain and ordinary meaning of the limitation, a 1997 computer dictionary defines "switch" as "[i]n communications, a computer or electromechanical device that controls routing and operation of a signal path;" "[i]n operating systems such as MS-DOS, an argument used to control the execution of a command or an application, typically starting with a slash character (/)."[6] A 2001 dictionary offers a similar definition of "switch:" "[a] mechanical or electronic device that directs the flow of

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[6]*Computer Dictionary* (Microsoft Press, 3d ed. 1997).

electrical or optical signals from one side to the other. Switches with multiple input and output ports such as a PBX are able to route traffic;" "[i]n programming, a bit or byte used to keep track of something. Sometimes refers to a branch in a program."[7] These definitions[8] are not helpful in the context of the patents-in-suit, which contemplate the VAN switch as a software type component.

The court concludes that the VAN switch is described in several different ways in the patent specification. The abstract drawings do not illustrate the VAN switch or its protocol, so as to allow it to be implemented. While the "invention relates to a method and apparatus for configurable value-added network switching and object routing," the specification does not describe this switch as to allow one of ordinary skill in the art to identify the scope of the invention. The specification offers overlapping and competing definitions for the VAN switch and its four components. Therefore, the limitation is indefinite.

c. "[S]witching."[9] The claims of the patents-in-suit describe "switching" as done by the VAN switch: "[T]he VAN switch enables the switching" (claim 3 of the '492 patent); "switching utilizing the VAN switch" (claim 10 of the '492 patent); and a method for configuring a VAN switch comprising "switching" (claim 10 of the '500 patent). As discussed above, the VAN switch is made up of four components, including

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[7] *The Computer Glossary, The Complete Illustrated Dictionary* (AMACOM, American Management Association, 9th ed. 2001).

[8] The dictionary does not define "network switch." A google search for "network switch" reveals that it is understood to be a computer networking device used to connect devices together on a computer network.

[9] Claims 3 (dependent) and 10 of the '492 patent and claim 10 of the '500 patent.

a "switching service," which is "the core of the VAN switch." (8:52-63) The court concluded that the limitation "VAN switch" is indefinite. The specification does not disclose how the VAN switch or the switching service (within the VAN switch) accomplishes "switching," therefore, the court concludes that this limitation is similarly indefinite.[10]

d. "[S]ervice network."[11] The specification describes an "embodiment includ[ing] a service network running on top of a facilities network, namely the Internet, the Web or e-mail networks . . . , [with] [f]ive components interact[ing] to provide this service network functionality, namely an exchange, an operator agent, a management agent, a management manager and a graphical user interface." (5:55-6:5) The "[e]xchange 501 creates and allows for the management (or distributed control) of a service network, operating within the boundaries of an IP-based facilities network." (6:30-33)

During prosecution, the applicant argued that the prior art did not disclose "a transactional Web application, offered as an online service atop the Web, with an "object" or transactional data structure, that connects to a transactional application across a service network atop the World Wide Web, as these terms would be understood by one skilled in the art after reading the subject application" or a "service network across the Web." (D.I. 75, ex. E at 186) "[T]he service network atop the web has access to OSI application layer services that are not available" in the prior art. (D.I.

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[10]This analysis is informed by the discussion below of the limitation "means for switching" which is also indefinite. *See infra* part 3a.

[11]Claims 1 and 10 of the '492 patent and claim 1 of the '158 patent.

75, ex F at 68)[12] Moreover, the applicant emphasized that "[t]here is a significant difference between a physical network or 'a facilities network' on the one hand, and the 'service network' 'atop a facilities network' (such as the physical Internet, Web, 'email networks' or 'other IP-based facilities networks') . . . ." (*Id.* at 48)

The language of claim 1 of the '492 patent describes:

> A system comprising
> . . .
> a [VAN] switch running on top of a facilities network selected from a group consisting of the World Wide Web, the Internet and an e-mail network, the VAN switch for enabling the real-time Web transactions from the one or more Web applications;
> a service network running on top of the facilities network for connecting through the Web server to a back-end transactional application; . . . .

(9:49-67) This claim distinguishes the "service network" from a "facilities network," as well as the "VAN switch" from a "service network." As discussed above, the specification describes that the "exchange 501 and management agent 601 . . . together constitute a [VAN] switch." (7:52-54, 8:41-42) These two components also are two of five components involved in the service network functionality.

Pi-Net's proposed construction, "an online network," does not differentiate "facilities networks" which, according to the specification, are the internet, Web or e-mail networks (and, thus, "online"), from "service network." The court cannot discern the meaning of "service network," the components of which overlap those used to describe the VAN switch. As the specification provides no clarity to this limitation, the limitation is indefinite.

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[12]Prosecution history of the '492 patent, hereinafter "ex. F."

e. "[T]ransactional services:"[13] "Services from a merchant available on the web." This construction finds support in the specification which states "a true 'Web merchant' [is] a merchant capable of providing complete transactional services on the Web." (5-51-54)

f. "[W]eb transaction:"[14] "Any type of commercial or other type of interaction performed by a user over the world wide web." The parties agree that a "transaction" is "any type of commercial or other type of interaction that a user may want to perform." (D.I. 64 at 3) The specification defines "the World Wide Web ('the Web')." (1:33)

2. Application Limitations

a. "[P]oint-of-service application[s]"[15] **and "transactional application[s]:"**[16] "A software program that transmits a user's request for a service." The specification describes "point-of-service applications"[17] as "transactional applications, namely applications that are designed to incorporate and take advantage of the capabilities provided by the present invention." (6:22-25) The figures represent point-of-service applications as being those available from merchants (on the "front-end"), i.e. "Bank 510(1), Car Dealer 510(2) or Pizzeria 510(3)." (Fig 5C, 6:51-55) For

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[13]Claim 10 of the '492 patent and claims 1 and 10 of the '500 patent.

[14]Claims 1 and 10 of the '492 patent and claim 1 of the '158 patent.

[15]Claim 1 of the '492 patent and claims 1 and 4 of the '158 patent.

[16]Claim 1 of the '500 patent.

[17]The specification also uses "POSvc application."

example, "[i]f user 100 desires to perform a number of banking transactions, and selects the Bank application, a Bank POSvc application will be activated and presented to user 100 . . . ." (6:55-57)

In the prosecution history, the applicant described that "[e]ach transactional application is capable of providing the user with a complete set of transactional services offered by a certain network merchant . . . . For example, if the user selects a Bank transactional application, the Bank application is activated and the user is connected to a variety of Bank services." (D.I. 75, ex. D at 21)[18]

This construction is also consistent with the claim language. For example, claim 1 of the '492 patent describes the point-of-service application as listed on a web page, i.e., at the front-end, and "a computer system executing the [b]ack-end transactional application for processing the transaction request in real-time." (10:49-67; *see also* claim 1 of the '500 patent, 10:44-57)

b. "[W]eb application"[19] and "network application:"[20] "A software program running on a facilities network." The claim language, specification and prosecution history describe a "point-of-service application" or "transactional application" as a type of "web application." This supports a broader construction of the present limitations. The claim language recites "offering one or more Web applications as respective point-of-service applications." (Claim 1 of the '492 patent, 10:49-54) The

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[18]Prosecution history of the '500 patent, hereinafter "ex. D."

[19]Claims 1 and 10 of the '492 patent and claim 4 of the '158 patent.

[20]Claims 1, 10 and 35 of the '500 patent.

specification differentiates the present limitations from "point-of-service applications" or "transactional applications," namely "[t]he configurable value added network switch comprises means for switching to a transactional application in response to a user specification from a World Wide Web application . . . ." (2:54-59)

Moreover, applicant explained in the prosecution history that the "'point[-]of[-]service application' is a Web application running atop the Web" and that the prior art did not disclose "a Web application or a [p]oint-of-[s]ervice application provided on a Web page as an on-line service on a Web page." (D.I. 75, ex. F at 48, 51) The limitation "web application" was used by persons of ordinary skill in the art prior to the filing of the provisional patent application. For example, an article regarding the World Wide Web in 1994 describes a "prototype World-Wide Web application," which software program allowed users to click on links to certain research departments.[21]

c. "[S]aid user application:"[22] "A network application." There are two applications identified in the claim language ("transactional application" and "network application") and the claim refers to a "link between said user application and said transactional application." ('500 patent, 12:47-49) By default, this limitation must refer to the network application to make grammatical sense.

d. "[B]ack-end transactional application[s],"[23] **and "the selected**

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[21]Tim Berners-Lee, et al., *The World-Wide Web*, 37 Communications of the ACM No. 8, 76, 76 & 79 fig. 1 (1994).

[22]Claim 35 of the '500 patent.

[23]Claims 1 and 10 of the '492 patent.

back-end transactional application:"[24] "A software program that executes a user's request for a service." The claims distinguish between point-of-service applications, which are front-end applications as described above, and back-end transactional applications. For example, claim 1 of the '492 patent recites "a computer system executing the [b]ack-end transactional application for processing the transaction request in real-time." (9:65-67) Claim 10 of the '492 patent describes "switching . . . to the back-end transactional application in response to receiving the request from the Web server." (10:65-67) Figure 4B represents an embodiment of the invention and depicts a "back office" with an operating system and applications.

3. Means Plus Function Limitations

Generally, "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.'" *Aristocrat Techs. Australia Pty Ltd. v. Int'l Game Tech.*, 521 F.3d 1328, 1333 (Fed. Cir. 2008) (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).

The description of the algorithm must do more than describe the function to be

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[24]Claim 10 of the '492 patent.

performed, it must describe how the function is to be performed. *Blackboard, Inc. v. Desire2Learn, Inc.*, 574 F.3d 1371, 1382-83 (Fed. Cir. 2009) (finding "[t]he specification contains no description of the structure or the process that the access control manager uses to perform the "assigning" function."). It is insufficient to aver that a disclosure has enough structure for a person of ordinary skill to devise some method or write some software to perform the desired function. *Function Media, L.L.C. v. Google, Inc.*, 708 F.3d 1310, 1319 (Fed. Cir. 2013) (citing *Blackboard*, 574 F.3d at 1385).

In *Ergo Licensing, LLC v. CareFusion 303, Inc.*, 673 F.3d 1361 (Fed. Cir. 2012), the Federal Circuit explained that a narrow exception to the requirement for an algorithm exists.

> [A] general-purpose computer is sufficient structure if the function of a term such as 'means for processing' requires no more than merely 'processing,' which any general-purpose computer may do without any special programming. If special programming is required for a general-purpose computer to perform the corresponding claimed function, then the default rule requiring disclosure of an algorithm applies. It is only in the rare circumstances where any general-purpose computer without any special programming can perform the function that an algorithm need not be disclosed.

Id. at 1364 (citing *In re Katz*, 639 F.3d 1303, 1316 (Fed. Cir. 2011)).

a. "[M]eans for switching to a transactional application in response to a user specification from a network application."[25] According to Pi-Net, the function recited by the claim is to "switch to a transactional application in response to a user specification from a network application" and the structure is a "switching service."

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[25]Claims 1 and 35 of the '500 patent.

The patent specification describes a "switching service" as "an OSI application layer switch." (8:52) The switching service

> performs a number of tasks including the routing of user connections to remote VAN switches, . . . , multiplexing and prioritization of requests, and flow control. Switching service 702 also facilitates open systems' connectivity with both the [i]nternet (a public switched network) and private networks including back office networks, such as banking networks. Interconnected application layer switches form the application network backbone. These switches are one significant aspect of the present invention.

(8:52-63) Moreover, "users are described as utilizing PC's to access the Web via Web server 'switching' sites." (5:61-63)

Relying on the specification, Bardash opined that, "a person skilled in the art reading the patent would understand the term and could apply it." (D.I. 150, ex. AA at 42) Bardash also opined[26] that figure 8, specifically "the algorithm shown in block 806 through block 818" and the supporting description, showed the transaction flow. (D.I. 66 at ¶ 37) Spielman opined that, "at the time of the alleged invention, an algorithm would be required for a computer processor to carry out the functions of [the means plus function limitations]."[27] (D.I. 150, ex. AJ at ¶¶ 75-79) In her opinion, "the specification of the patents-in-suit discloses no algorithm at all. There are no step-by-step instructions for how to carry out any of the claimed processing steps—and

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[26]This opinion was directed to the limitation "keeping the transaction flow captive," but also referenced the specification's description of "switching means."

[27]This opinion is directed to each of the means plus function claims discussed below. Moreover, "an algorithm would be required for the computer system required in claim 1 of the '492 patent to process the claimed transaction request." (D.I. 150, ex. AJ at ¶ 75)

no instructions for how to carry out any steps in 'real time.'" (*Id.* at ¶ 76) Nor do the figures disclose algorithms. Spielman explained that figure 8 is a flow diagram, which "provides a list of functions, but omits any discussion or depiction of the underlying steps that would be needed in order to achieve the functional results." (*Id.* at ¶ 78)

The court concludes that the specification does not provide an algorithm or other structure which discloses how the "switching service" performs the claimed function of "switching to a transactional application," which may involve one of a "number of tasks," including "routing user connections," "multiplexing and prioritizing requests," "flow control," and "facilitating connectivity." *Function Media, L.L.C. v. Google, Inc.*, 708 F.3d 1310, 1319 (Fed. Cir. 2013) (citing *Blackboard*, 574 F.3d at 1385) (It is insufficient to aver that a disclosure has enough structure for a person of ordinary skill to devise some method or write some software to perform the desired function.). Without algorithms to show how a switch would accomplish the claimed function (and is able to perform one or all of the tasks), the limitation is indefinite.

i. Dependent claim 2

Claim 2 of the '500 patent is a dependent claim which recites:

> The configurable value-added network switch as claimed in claim 1 wherein **said means for switching to a transactional application further comprises**:
> means for receiving said user specification;
> means for enabling a switch to said transactional application; and
> means for activating said transactional application.

('500 patent, 9:58-65 (emphasis added)) The parties have submitted the component

limitations "means for receiving said user specification,"[28] "means for enabling a switch to said transactional application,"[29] and "means for activating said transactional application"[30] for construction. Dependent claim 2 adds these components to the "means for switching" limitation, which is indefinite. The added components do not clarify the structure of the "means for switching" limitation, i.e., how the "means for switching" would accomplish the claimed function of "switching to a transactional application," or any of the tasks ("routing user connections," "multiplexing and prioritizing requests," "flow control," and "facilitating connectivity") recited in the specification. Therefore, the "means for switching" limitation is indefinite in claim 2.

Moreover, each of the component limitations recites a "means" by which a certain function is accomplished. Pi-Net asserts that the corresponding structures are: "web server" for the "means for receiving;"[31] the "boundary service" in the VAN switch for the "means for enabling;"[32] and the "selected point-of-service application" for the

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[28]Claims 2 and 4 of the '500 patent.

[29]Claim 2 of the '500 patent.

[30]Claims 2 and 3 of the '500 patent.

[31] As illustrated in FIG. 5A, user 100 accesses Web server 104. Having accessed Web server 104, user 100 can decide that he desires to perform real-time transactions. When Web server 104 receives user 100's indication that he desires to perform real-time transactions, the request is handed over to an exchange component.

(6:6-10; *see also* 9:26-28)

[32]See discussion of the VAN switch limitation. *Supra* part 1(b) (citing 8:43-48).

"means for activating."[33] Each of the claimed functions (respectively, "receiving said user specification," "enabling a switch to the transactional application," and "activating the transactional application") is more complex than the type of function that can be performed by a general purpose computer with no special programming. As previously discussed, the patent specification does not provide any algorithms or other structure for any of the "means" limitations. The cited passages of the specifications describe the functions, but not how the alleged structures perform those functions. *Blackboard, Inc. v. Desire2Learn, Inc.*, 574 F.3d 1371, 1382-83 (Fed. Cir. 2009) (The specification must contain a description of how the function is to be performed by the structure.). As such, each of these component limitations is indefinite.

ii. Dependent claim 3

Claim 3 is dependent of claim 2 and recites:

> The configurable value-added network switch as claimed in claim 2 wherein **said means for activating said transactional application further includes** means for creating a transaction link between said network application and said transactional application.

(9:67-10:3 (emphasis added)) The "means for activating said transactional application" limitation is indefinite as discussed above. The inclusion of a "means for creating a transaction link"[34] further defines the function of the "means for activating" limitation, but does not further describe the structure. Therefore, this limitation remains indefinite in claim 3.

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[33]See discussion of the point-of-service application limitation. *Supra* part 1(a) (citing 6:55-58); (*see also* figs. 5C, 5D & 8, 6:22-25, 6:39-7:38, 9:24-37)

[34]Claim 3 of the '500 patent.

Pi-Net avers that the structure for the "means for creating a transition link" limitation is the "the object data structure (with information entries and attributes) displayed (e.g. checking account object in POSvc application 510 in Fig. 5D) in the selected [p]oint-of-[s]ervice application as displayed by Web server on web page." The specification describes that "[o]nce Bank POSvc application 510 has been activated," the user may connect to the bank services and use the application to perform transactions, "thus accessing data from a host or data repository" in the bank's back office. (6:65-7:2) The specification does not define or use the term "object data structure," or "transaction link."[35] Nor does the specification provide an algorithm or explain how this alleged structure could perform the claimed function (creating a transaction link between said network application and said transactional application). Therefore, the "means for creating" limitation is indefinite.

iii. Dependent claim 4

Claim 4 is dependent of claim 2 and further defines the components of the "means for receiving said user specification" limitation, which limitation is indefinite. The parties have submitted the component limitations "means for presenting said user with a list of transactional applications"[36] and "means for submitting said user specification according to a user's selection of said transactional application from said list of transactional applications"[37] for construction. Claim 4 recites:

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[35]This limitation is discussed *infra* at part 5(d).

[36]Claim 4 of the '500 patent.

[37]Claim 4 of the '500 patent.

> The configurable value-added network switch as claimed in claim 2 wherein **said means for receiving said user specification further comprises**:
> means for presenting said user with a list of transactional applications, each of said transactional application[s] being associated with a particular value-added network service provider; and
> means for submitting said user specification according to a user's selection of said transactional application from said list of transactional applications.

('500 patent, 10:4-13) The court concluded above that the limitation "means for receiving said user specification" is indefinite. While the component limitations further define the function performed by the "means for receiving said user specification" limitation, they do not elucidate its structure. Therefore, this limitation remains indefinite in dependent claim 4.

Pi-Net avers that the structure of the "means for presenting" is "the webpage that includes POSvc Applications, as depicted in Figures 5C and 5D,"[38] and the structure of the "means for submitting" is "the interactive data structure displayed on a Web page that includes information entries and attributes in a Web application displayed via the graphical user interface component."[39] As above, the functions of these means limitations (presenting said user with a list of transactional applications and submitting said user specification according to certain criteria) go beyond the type of function that

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[38]Figures 5C and 5D are box illustrations and do not illuminate the relationship of the parts shown or the structure of the limitation.

[39] The exchange activates a graphical user interface to present user with a list of POSvc application options in step 808. In step 810, the user makes a selection from the POSvc application list.

(9:28-33; *see also* 6:41-50)

can be performed by a general purpose computer with no special programming. The patent specification offers no algorithm or explanation for how either of the proposed structures would perform the claimed functions. Therefore, each of the component limitations is indefinite.

b. "Means for transmitting a transaction request from said transactional application."[40] Pi-Net proposes that the structure for this limitation is the exchange, which the specification describes for a preferred embodiment "as a software module . . . executed on a computer system." (4:49-52) The exchange may reside either on a web server or "on a separate computer system that resides on the [i]nternet." (6:14-16) The specification describes the exchange in functional language. The exchange "creates and allows for the management (or distributed control) of a service network" and, together with the management agent component, "perform[s] the switching, object routing, application and service management functions." (6:30-38) It works with other components to provide "service network functionality." (6:1-5) It also "processes the consumer's request and displays an exchange Web page . . . ." (6:39-40) However, the specification is devoid of any disclosure regarding **how** the exchange performs these various functions.

The specification identifies commercially available computers and brands of processors for use with the invention. (3:60-67, 4:20-25) The specification then refers to "instructions for the processor," "processing instructions," and "execut[ing] an instruction stream," but does not explain or illustrate these instructions or provide an

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[40]Claims 1 and 35 of the '500 patent.

algorithm for the processor to "process" or "execute." (4:7, 4:37-48)

Nor does the specification describe "transmitting a transactional request." Pi-Net's expert, Bardash, explains the "request" term of this limitation:

> [A]s shown [in figures 5C and 5D], a list of available POSvc Applications are presented to the user on the web page. When the user selects a particular POSvc application, a web server request activates the selected POSvc application (Web application) and that POSv Application in turn connects to Bank or other Web merchant services, and user 100 will be able to access data from a host or data repository 575 in the Bank Back-Office and thus perform Web banking transactions using the Web application. This connection between user 100 and Bank services is managed by Exchange 501. The critical point is that, as shown in Figure 5D, the POSvc Application displays the "object" data structure with its attributes and it provides a mechanism to retrieve (or send) information entries from (or to) the service provider's system corresponding to the Web transaction request. Thus, with the webpage and POSvc Application (collectively the Exchange 501), the user can transmit a transaction request from the transactional application.

(D.I. 66 at ¶ 15)

Based on Bardash's explanation, the transmission of the request "activates an application" and "connects to merchant services," to allow a user to access data and perform web transactions. While Pi-Net argues that "exchange 501" performs the "transmitting" function (or alternatively that a "web server 104," a "well known structure," performs the function), the specification does not provide an algorithm for performing this function, which is more than a simple "transmission." Therefore, this limitation is indefinite.

c. "[M]eans for processing said transaction request."[41] Bardash avers that the structures for this limitation include "the 'computer system 200' connecting to the 'host or data repository 575 in the Bank 'Back Office,'" and the "Web server 104." Bardash opines that a person of ordinary skill could also consult figure 4B, which includes the "components that would be viewed as parts of the 'computer system 200'" and, therefore, "a person skilled in the art would be able to implement the function of 'processing said transaction request' based on the disclosure of the [p]atent, and utilizing the structures depicted . . . ." (D.I. 66 at ¶¶ 21-22) As discussed above, Spielman opined that each of the means limitations would necessitate an algorithm.

The specification provides examples of transaction requests including "banking transactions," which may access "data from a host or data repository 575 in the Bank Back Office.' The Bank Back Office comprises legacy databases and other data repositories that are utilized by the Bank to store its data. This connection between user 100 and [b]ank services is managed by exchange 501." (6:67-7:5)

Bardash opines that the "claims are directed to the 'front-end'" and that "[t]he [p]atent recognizes that merchants will have a variety of 'back office' systems, but these systems are not in any way part of the invention. The invention requires only an [e]xchange which can make calls to or otherwise obtain information from the back office . . . ." (D.I. 66 at ¶ 18; D.I. 150, ex. AA at 23)

The court concludes that these transactions would necessitate processing using an algorithm and no such algorithm is disclosed. Indeed, figure 4B shows the back

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[41]Claims 1 and 35 of the '500 patent.

office computer system as including a number of "applications," but provides no explanations on processing. Therefore, this limitation is indefinite.

i. Dependent claim 5

Dependent claim 5 recites:

> The configurable value-added network switch as claimed in claim 1 wherein **said means for processing said transaction request** further comprises means for coupling **said means for transmitting** to a host means.

('500 patent, 10:14-18) The court concluded that the "means for processing" and "means for transmitting" limitations in claim 1 are indefinite. The additional means language in claim 5 does not provide further detail on the structure of these limitations and they are thus indefinite in this claim as well.

Pi-Net proposes that the structure for the "means for coupling"[42] limitation is the "POSvc application 510 on a web page." This proposed structure does not find support in the specification. Indeed, the specification does not use the term "coupling" outside of the claim at issue. This limitation is also indefinite.

d. "[M]eans for activating an agent to create a transaction link between said user application and said transactional application."[43] Pi-Net proposes that the structure for this limitation is "information entries in an object in a [p]oint-of-[s]ervice (POSvc) application on a Web page." Pi-Net explains that "[t]he transaction link is the object. The transactional application creates the objects, which includes attributes such as "Name" and "Password" shown in figure 5D. The users input

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[42]Claim 5 of the '500 patent.

[43]Claim 35 of the '500 patent.

their information, and the objects are routed to the back-end transactional applications for processing. Therefore, the structured data of the objects creates the link, because that structured data is passed between the front-end and the back-end."[44] (D.I. 74 at 128)

The claim limitation at issue also includes the term "agent." The specification uses "operator agent" and "management agent." (Figs. 5B, 5D, 6:3) The exchange "may also include operator agent 503 that interacts with a management manager." (6:28-30; 7:59-60) The specification describes "management agent" as one of the components interacting to provide service network functionality. (6:1-5) The "exchange and a management agent component . . . together perform the switching, object routing, application and service management functions according to one embodiment of the present invention." (6:35-38) Pi-Net argues that this limitation should be accorded its ordinary meaning, as there are "recognized protocols or programs through which online services can be managed, data can be retrieved, and data can be manipulated and delivered." (D.I. 74 at 104) However, the management agent with the exchange (a term coined by the inventor) together constitute a VAN switch. (7:52-53, 8:41-42) The specification offers no explanation or examples as to what the management agent does nor how it works to perform the listed functions.

The limitation "activates an agent" does not indicate to what "agent" the claim refers. Moreover, the claimed function (activating an agent to create a transition link) would involve more than "merely processing" as the agent would be required to create

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[44]Pi-Net also avers that the analysis of the "means for creating a transition link" discussed *supra* at part 3(a)(ii), informs the current analysis. (6:65-7:2)

said transition link between two specific applications. As discussed above, both agents are described as able to perform multiple functions, with no indication of how the agents perform the functions. Therefore, the court concludes that this limitation requires disclosure of an algorithm, which the specification does not disclose. The specification offers no definition or explanation for "activating an agent" or linking applications. Therefore, this limitation is indefinite.

e. "[C]omputer system executing the back-end transactional application for processing the transaction request in real-time."[45]

i. Applicability of § 112, ¶ 6

A claim limitation that "contains the word 'means' and recites a function is presumed to be drafted in means-plus-function format under 35 U.S.C. § 112, ¶ 6." *Net MoneyIN, Inc. v. VeriSign, Inc.*, 545 F.3d 1359, 1366 (Fed. Cir. 2008). To avoid the application of § 112, ¶ 6 when a claim recites the term "means," it must "specif[y] the exact structure that performs the functions in question." *TriMed, Inc. v. Stryker Corp.*, 514 F.3d 1256, 1259-60 (Fed. Cir. 2008).

Where the claim language does not recite the term "means," there is a presumption that the limitation does not invoke § 112, ¶ 6. *Personalized Media Commc'ns, LLC v. ITC*, 161 F.3d 696, 702 (Fed. Cir. 1998). This presumption can be overcome if the challenger demonstrates that "the claim term fails to 'recite sufficiently definite structure' or else recites 'function without reciting sufficient structure for performing that function.'" *CCS Fitness v. Brunswick Corp.*, 288 F.3d 1359, 1369 (Fed.

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[45]Claims 1 and 8 of the '492 patent.

Cir. 2002) (internal citations omitted). To determine whether a claim term that lacks the word "means" is subject to § 112, ¶ 6, the court must consider the words of the claims themselves, the written description, the prosecution history, and any relevant intrinsic evidence. *Inventio AG v. ThyssenKrupp Elevator Americas Corp.*, 649 F.3d 1350, 1356 (Fed. Cir. 2011) (citing *Personalized Media*, 161 F.3d at 704 (The presumption that a claim lacking the term "means" recites sufficiently definite structure can be rebutted "if the evidence intrinsic to the patent and any relevant extrinsic evidence so warrant[s].")).

In *Inventio*, the Federal Circuit considered the terms "modernizing device" and "computing unit." 649 F.3d at 1357-60. The Court held that § 112, ¶ 6 was not applicable because the claimed "modernizing device" connoted sufficiently definite structure. *Id.* at 1359. "[T]he claims recite[d] a 'modernizing device,' delineate[d] the components that the modernizing device is connected to, describe[d] how the modernizing device interacts with those components, and describe[d] the processing that the modernizing device performs. The written descriptions additionally show[ed] that the modernizing device convey[ed] structure to skilled artisans." *Id.* With respect to the "computing unit," the Court again found that the limitation connoted sufficiently definite structure based upon a reading of the claims[46] and the written description."[47] *Id.*

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[46] The claims recite that the computing unit is connected to the modernizing device and generates a destination signal for transmission to the modernizing device. . . . The claims elaborate that the computing unit is connected to the floor terminals of the elevator system, and evaluates incoming call reports, destination floors, and identification codes to generate the destination signal for processing by the modernizing device.

Inventio AG v. ThyssenKrupp Elevator Americas Corp., 649 F.3d 1350, 1359 (Fed. Cir.

at 1359-60.

The claims in dispute require a "computer system executing the back-end transactional application for processing the transaction request in real-time." However, the specification provides no details on the type of application being executed, nor how the transaction request is processed in real time. As discussed above regarding the "means for processing said transaction request,"[48] the specification offers no details about the back office computer system or its "applications." Moreover, the specification does not discuss how the applications would process the transaction requests. In contrast to the disputed terms in *Inventio*, where the Federal Circuit found that the claims and specification recited the connections made by the "computing unit" and detailed how the "computing unit" performed its required function, *see Inventio* at 1359-60, the present claims and written description fail to provide any detail regarding the

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2011).

[47] As the claim term implies, the written descriptions refer to the computing unit as a computer, where one of its functions is to store and execute a computer program product. . . . stating that the "computing unit" is a commercially available personal computer or workstation" and that the "computing unit" includes "at least one processor and at least one data memory"; . . . "it is entirely possible to perform the computer program product on any computer, for example on the computing unit of the system or on a remote server." The written descriptions also explain the steps that the computer program product performs, . . . , as well as the interaction between the computing unit and modernizing device, . . . , and the computing unit and the floor terminals.

Id. at 1359-60.

[48] *Supra* at part 3(c).

"computer system" limitation, including its interaction with any other components of the claimed system. This limitation, therefore, is subject to analysis under § 112, ¶ 6.

ii. Indefiniteness

Using the same analysis as presented above, the specification does not provide any structure for the computer system under § 112, ¶ 6. The function "executing . . . a back-end application" is more complex than merely processing and, therefore, requires an algorithm. *Ergo Licensing,* 673 F.3d at 1364. The specification does not provide an algorithm for the "computing system," identify the "back-end applications," or describe how requests are processed," therefore, the limitation is indefinite.

4. The '158 patent

a. "[O]bject routing:"[49] "System for transmitting data on a network using the TransWeb Management Protocol in which a unique IP address is hierarchically assigned to each object, e.g., each bank account." The specification states that the "VAN switch 520 provides multi-protocol object routing, depending upon the specific VAN services chosen. This multi-protocol object routing is provided via a proprietary protocol, TransWeb™ Management Protocol (TMP)." (7:62-65) All of the disclosed embodiments use TMP. (8:3-7, fig. 8, 9:24-37) The specification further provides that "[a]ll networked object[s] associated with Web server 104 will therefore be assigned an Internet address based on the Web server 104's IP address." (8:18-20; *see also* 2:63-67 ("assigning a unique network address to each of the object identities")) Figure 6B shows each object with an assigned IP address. The patent prosecution history also

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[49]Claim 4 of the '158 patent.

explains that the "object" is what is being routed. (D.I. 75, ex. E at 93-94; *see also* ex. D at 23-24 (objects are assigned unique IP addresses))

b. "[A] routed transactional data structure that is both complete and non-deferred, in addition to being specific to the point-of-service application:"[50] "Back-end real-time response to a user's request for a service." The limitation "routed transactional data structure" does not appear in the patent specification. The limitation was added to overcome rejection. The applicant argued that the "object" is the "transactional data structure," and "the routing of the transactional data structure and subsequent providing of requested multimedia online services atop the Web from the point-of-service application occur in a service network atop the World Wide Web, and as part of a complete, non-deferred, and realtime Web transaction from a Web application." (D.I. 75, ex. E at 93, 116) The limitation appears in claim 1, which describes the back-end operations, "transferring funds from the checking account to the savings account in real-time utilizing a routed transactional data structure that is both complete and non-deferred, in addition to being specific to the point-of-service application, the routing occurring in response to the subsequent signals." ('158 patent, 10:10-15)

5. The '500 Patent

a. "[K]eeping a transaction flow captive:"[51] "Maintaining continuous control over a real-time transaction." This limitation does not appear in the

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[50]Claim 1 of the '158 patent.

[51]Claims 1, 10, and 35 of the '500 patent.

specification. In distinguishing CGI in a prior art reference, the applicant argued during prosecution that:

> The CGI application does not allow a user to connect to a variety of services on the Web and to perform real-time transactions on those services nor does it allow the value-added network service provider to keep the transaction flow captive at the network entry point. Instead, the CGI application can only allow a user to interact with a single service. As described in the . . . present application . . ., a CGI application is not a viable solution for merchants with a large number of services because such an application does not provide true real-time, bi-directional capabilities on the Web.

(D.I. 75, ex. D at 21) From this prosecution history, Bardash defines the limitation as "maintain continuous control (over a real-time Web transaction)" and explains that "the term was introduced by the inventor as a readily understandable shorthand for maintaining continuous control of a transaction at the network entry point, to distinguish the prior art's CGI." (D.I. 66 at ¶¶ 35-37)

b. "[V]alue-added network service provider:"[52] "Provider of a point-of-service application." This construction finds support in the specification, which is directed to "a configurable value-added network switching and object routing method and apparatus" (9:48-49), and discloses the following providers: "merchants or other service providers who have agreed to cooperate to provide services to users" and "on-line service provider[s]." (7:34-35, 8:48) The applicant argued during prosecution that "[e]ach transactional application is capable of providing the user with a complete set of transactional services offered by a certain network merchant (i.e., a certain network service provider)." (D.I. 75, ex. D at 21)

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[52]Claims 1, 10, and 35 of the '500 patent.

c. "[V]alue-added network system:"[53] The limitation does not appear in the specification, apart from the patent title "Value-Added Network System for Enabling Real-Time, By-Directional Transactions on a Network." Claim 35 recites "[a] configurable value-added network system for enabling real-time transactions on a network, said configurable value-added network system comprising . . . ." ('500 patent, 12:35-37) Each of the means limitations which comprise the system are indefinite as discussed above. The court concludes that this limitation is indefinite as a person of ordinary skill would not be able to determine the bounds of the invention.

d. "[T]ransaction link:"[54] "A link between two applications." This limitation is not found in the specification, but is only used in the claim language, which describes creating a link between two applications.

An appropriate order shall issue.

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[53]Claim 35 of the '500 patent.

[54]Claims 3, 12, and 35 of the '500 patent.

IN THE UNITED STATES DISTRICT COURT

FOR THE DISTRICT OF DELAWARE

PI-NET INTERNATIONAL INC.,	)	
	)	
Plaintiff,	)	
	)	
v.	)	Civ. No. 12-282-SLR
	)	
JPMORGAN CHASE & CO.,	)	
	)	
Defendant.	)	

ORDER

At Wilmington this 14th day of May, 2014,

IT IS ORDERED that the disputed claim language of U.S. Patent Nos. 8,108,492 (the '"492 patent"), 5,987,500 (the '"500 patent"), and 8,037,158 (the "'158 patent") shall be construed consistent with the memorandum opinion issued this same date.

United States District Judge