United States District Court,
S.D. New York.

ISOGON CORPORATION,
Plaintiff.
v.
AMDAHL CORPORATION,
Defendant.

No. 97 Civ. 6219 SAS

Dec. 28, 1998.

Owner of patent for software program which identified and reported on software products used on computer systems brought infringement action. Construing claims, the District Court, Scheindlin, J., held that: (1) claim's reference to "apparatus", or "method" for determining program usage on computer did not limit operation of invention to, or its control by, single computer; (2) term "product name" was not limited to program's generically known name; (3) "knowledge base" included more than two product records, which in turn contained whatever information was necessary to identify software products; (4) storage of "module identifier" was not limited to surveying program or knowledge base locations of program; and (5) claims describing "event detector for detecting," "recorder for recording," and "report generator for outputting" were means-plus-function claims.

Claims construed.

5,499,340, 5,590,056. Construed.

Max Moskowitz, Lynne A. Borchers, Ostrolenk, Faber, Gerb & Soffen, LLP, New York City, for Plaintiff.

Robert F. Perry, Robert T. Tobin, Paul H. Heller, Alexos D. Skucas, Kenyon & Kenyon, New York City, David E. Lovejoy, Mark E. Miller, Fliesler, Dubb, Meyer & Lovejoy, LLP, San Francisco, CA, for Defendant.

OPINION AND ORDER

SCHEINDLIN**, District Judge.**

[1] [2] Plaintiff Isogon Corporation ("Isogon") filed an action against defendant Amdahl Corporation ("Amdahl") alleging infringement of U.S. Patent Nos. 5,499,340 (" '340") and 5,590,056 (" '056"). Determination of infringement in a patent case involves a two-step process. First, a court must construe the claims of the patent; and second, the allegedly infringing device is compared to the scope and meaning of the claims as determined by the court. *See* Genentech, Inc. v. Wellcome Foundation Ltd., 29 F.3d 1555,

1555 n. 6 (Fed.Cir.1994). Since the decision in Markman v. Westview Instruments, 52 F.3d 967 (Fed.Cir.1995), *aff'd,* 517 U.S. 370, 116 S.Ct. 1384, 134 L.Ed.2d 577 (1996), courts have exclusive jurisdiction to construe the claims of the patent while the question of infringement is subsequently determined by the trier of fact.

The purpose of phase one is to determine what is covered by the claims of a patent. Claim disputes, however, often boil down to the meaning of a phrase, a word, or a single functional or structural aspect of the patented device. Frequently the phrase or functional/structural descriptions at issue do not appear directly within the claims. The court must then determine whether the claims include such language, structure or function by inference based on the descriptive specification and drawings included in the patent, or from the prosecution history of the patent during which the inventor and the patent examiner may have revealed explanatory details about the patented invention and its intended coverage. Toward this end, courts often hold a "Markman Hearing" in order to gather extrinsic evidence that will assist in construction of the claims. Home Shopping Network, Inc. v. Coupco, Inc., 95 Civ. 5048, 1998 WL 85740, at (S.D.N.Y. Feb. 27, 1998).

A Markman Hearing was held on October 1, 1998. Isogon called Mr. Jim Keohane, a programming and software-writing consultant, *see* Transcript of Markman Hearing, dated October 1, 1998 ("Markman Tr."), pp. 75-76, and Mr. Robert Barritz, president of Isogon and the inventor of the Isogon patented software, *see id*. at p. 67. Amdahl called Dr. Martin Kaliski, chairman of the Electrical Engineering Department at the California Polytechnic State University at San Luis Obispo, who holds a doctorate in electrical engineering. *See id*. at p. 157. The claims construction discussed below is based on evidence adduced at the hearing, the parties' submissions, and a review of the disputed patents.

I. Background

The '340 and '056 patents describe Isogon's software invention which identifies and reports on software programs used on computer systems. Isogon's invention is intended for use in mainframe, "massive computer" environments to assist computer systems managers in knowing "how much a software product is used, by whom and when." Plaintiff Isogon Corporation's Memorandum of Law Concerning Construction of the Claims of U.S. Patents 5,499,340 and 5,590,056 ("Pl.'s Mem."), p. 2. The parties agree that the invention is comprised of four major components: the "knowledge base," a list or collection of names of available software products; an "inventorying" program that searches for and lists the names of programs stored on computers; a "monitoring" program that monitors which of those programs "are being called, by whom, for what periods of time ...;" and a "reporting" program that "analyzes and organizes the work product of the 'inventorying' and 'monitoring' components of the software" and develops reports on that information. Pl.'s Mem. at pp. 3-4; Defendant Amdahl Corporation's Memorandum of Law Concerning Construction of the Claims of U.S. Patent Nos. 5,499,340 and 5,590,056 ("Def.'s Mem."), p. 4.

The '340 and '056 patents contain a total of 130 claims. Isogon and Amdahl have reduced the number of disputed claims to 12. *See* Joint Stipulation Regarding the Asserted Claims of the Patents-in-Suit ("Joint Stipulation"), dated December 21, 1998, p. 1. The parties have further reduced the number of disputed terms contained within those claims to eight. *See* Pl.'s Mem. at pp. 8-11; Def.'s Mem. at pp. 1-2. The parties agree that " 'intercepting service requests' means 'gaining control of the computer when the program module is invoked including by an SVC interception or by LOAD, LINK, ATTACH, or XTCL commands' ..." Pl's Mem. at p. 9. *See also* Markman Tr. at pp. 6-7 (agreement to Isogon's interpretation of "service request" as set forth in Isogon's original Memorandum of Law regarding claims construction). The parties also agree that a "report generator" "takes raw data and distills it down to some usable bit of information," and that

such distillation comprises "some processing of raw data" during which the data is "somewhat formatted." Markman Tr. at pp. 105-07. Thus, the Court need only construe the following seven terms: apparatus/method; product name; the number of items which may be contained within a knowledge base; product record/information record; module identifier/text string; module name; and whether the claim method must be performed automatically. *See* id. at pp. 9-15, 29, 37, 39, 44, 50, 53, 55, 59, 63, 65.

As a separate issue, Amdahl asserts that certain terms appearing within claims 71-73 of the '056 patent are "means-plus-function" terms, which if so identified by the Court must then be interpreted in accordance with 35 U.S.C. s. 112, para. 6. Def.'s Mem. at pp. 24-25. The terms at issue include: "event detector for detecting," "collector for obtaining," "recorder for recording," and "correlator for correlating". *Id*. at pp. 24-25; Pl.'s Mem. at p. 11. Isogon contests this assertion. *See* Pl.'s Mem. at pp. 22-23.

II. Discussion

A. Claims Construction

[3] The purpose of claims construction is to determine the "meaning and scope of the patent claims asserted to be infringed." Markman, 52 F.3d 967, 976 (Fed.Cir.1995). The focus of claims construction is to determine "how those skilled in the art would interpret the claim." Moeller v. Ionetics, 794 F.2d 653, 657 (Fed.Cir.1986). An application for a patent must include "(1) a specification as prescribed by section 112 [of 35 U.S.C.] (2) a drawing as prescribed by section 113 [of 35 U.S.C.] and (3) an oath ..." 35 U.S.C. s. 111 (1984). Further:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains ... to make and use the same.... The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the inventor regards as [her] invention.

Id. at 112.

[4] In construing claims, a court relies, to the extent possible, on "intrinsic evidence". Markman, 52 F.3d at 979 ("It is well settled that, in interpreting an asserted claim, the court should look first to the intrinsic evidence of record...."). Such intrinsic evidence includes, "the patent itself, including the claims, the specification and, if in evidence, the prosecution history." Vitronics Corp. v. Conceptronic, Inc., 90 F.3d 1576, 1582 (Fed.Cir.1996). However, if intrinsic evidence proves insufficient for the construction of claims, a court may properly rely on "extrinsic evidence." Id. at 1584. Extrinsic evidence includes "all evidence external to the patent and prosecution history ...," Markman, 52 F.3d at 980, and may include such evidence as "expert testimony and inventor testimony, dictionaries, and technical treatises and articles." Vitronics, 90 F.3d at 1584. Because the '340 and '056 patents are nearly identical, their patent language is addressed interchangeably. *See generally* Pl.'s Mem.; Def.'s Mem.

1. Apparatus/Method

[5] The patent claims describe the invention as follows: "Apparatus for determining program usage on a computer ..." or, alternatively, as a "method". '340 Pat., col. 12, 11. 48-49, col. 13, 1. 37; '056 Pat., col. 13, 11. 12-13. Isogon and Amdahl disagree as to whether these interchangeable terms, "apparatus" and "method," refer to a single device. Isogon argues that the invention is not limited to the operation of a single

computer, but may operate on "one or several computers." Markman Tr. at p. 9. Amdahl asserts that the invention claims operation on, or control by, a single device or computer. *See* id. at pp. 31-32.

Isogon correctly argues that "nowhere in the patent or in the prosecution history is it required that the invention be limited to a 'single' computer or device." Pl.'s Mem. at p. 11. Rather, as Mr. Keohane noted, the claim language suggests deployment of the software invention on more than one computer system. Mr. Keohane testified that four of the claims in the '056 patent-claims 9, 31, 51, and 60-contain references to the invention's internal recording of a "computer system associated with event." Markman Tr. at p. 81. Mr. Keohane testified, as one skilled in the art, that this claim language suggests that the invention will be deployed on more than one system because, "[T]o me, why do you even keep track of the computer system that the event took place on if everything is on the same single computer system ... it kind of implies that whoever is looking at the information you are recording or reporting may be on a different system than where it was monitored or reported or recorded." Id.

[6] Isogon concedes, however, that the patent specification illustrates the invention by "reference to an illustrative embodiment that uses a single computer." Id. at p. 12. However, it is a well settled principle of patent claim construction that limitations within the specification, where not required, may not be read into the claims to narrow them. *See* Specialty Composites v. Cabot Corp., 845 F.2d 981, 987 (Fed.Cir.1988) ("[P]articular embodiments appearing in the specification will not generally be read into the claims ... What is patented is not restricted to the examples, but is defined by the words in the claims if those claims are supported by the specification ..."); Fromson v. Advance Offset Plate, Inc., 720 F.2d 1565, 1568 (Fed.Cir.1983) ("[N]o basis appears on this record for limiting the claimed inventions to preferred embodiments or specific examples in the specification.").

In *Specialty Composites,* the Court of Appeals declined to find that a patent required use of only "external" plasticizers rather than use of either "internal" or "external" plasticizers where "[n]owhere does the specification ... teach that external plasticizers must be used." Specialty Composites, 845 F.2d at 987. The court based its finding on an express reference within the specification to possible use of other types of plasticizers than just "external" ones. *Id*. As in *Specialty Composites,* nowhere does the Isogon specification teach that the invention must be deployed on a single computer. Further, both the '340 and '056 specifications refer expressly to the patents' possible deployment in a networked environment: "A possible major enhancement to the basic invention applies to networks of computers. For example a number of PC computers or microcomputers can be linked....This could be carried out with PC computers or microcomputers linked to a mainframe computer, or alternatively, in a peer computer network." '340 Pat. at col. 10, 1. 66-col. 11, 1. 11. *See also* '056 Pat. at col. 11, 11. 25-36.

Mr. Keohane also testified that an apparatus is "definitely" not limited to a single or central computer, but can refer to one or more computers. Markman Tr. at p. 80. In contrast, Dr. Kaliski testified that the patent invention is intended for operation on a single computer as it is described in the specification and prior art. *See id*. at p. 172. However, Dr. Kaliski admitted that the reference in the specification to a networked enhancement "raises some concerns" about this idea. *Id*. at p. 170. Dr. Kaliski did not suggest that the claims or specification require operation on a single computer. *See id*. at pp. 166-73. Thus, as in *Specialty Composites,* absent such a mandate, the claims should not be limited to a single computer by their illustrative embodiment.

[7] Amdahl next argues that "apparatus" is referred to in the claim language as " *an* apparatus," connoting a single device. Markman Tr. at p. 166 (quoting '340 Pat. at col. 3, 11. 10-12, emphasis added). Dr. Kaliski

testified that this language supports his conclusion that the "apparatus" is limited to a single computer. *Id*. However, "it is generally accepted in patent parlance that 'a'[or "an"] can mean one or more ...," depending upon context. North American Vaccine v. American Cyanamid Co., 7 F.3d 1571, 1575 (Fed.Cir.1993) (citing Robert C. Faber, *Landis on Mechanics of Patent Claim Drafting* 531 (3d ed.1990)). Thus, given the context in which the term "apparatus" is used, use of the article "an" does not in itself support the limitation to a single computer. Consequently, the terms "apparatus" or "method" are not limited to operation on, or control by, a single computer.

2. Product Name

[8] Generally the "product name" describes a designation of a commercial software program. The Isogon invention searches for and recognizes these product name designations on computer systems in order that it can report on their existence and use. Markman Tr. at p. 45. Amdahl argues that a "product name" designates only the "name by which the software is generally known to the public." Def.'s Mem. at p. 18. Isogon argues that the "product name" refers interchangeably to the name "generally" known to the public, an "alphanumerical designation," a "product code," a "vendor name and description," or any other designation by which the software programs may be recognized by the invention for purposes of reporting on their use. *See* Isogon Reply to Amdahl's Memorandum of Law Concerning Construction of the Claims of U.S. Patent Nos. 5,499,340 and 5,590,056 ("Pl.'s Reply Mem."), p. 5.

"Product name" is not defined in the claims. Rather the term is referenced as that which the invention associates with a "program module name". '340 Pat. at col. 12, 11. 53-65, col. 13, 1. 3, col. 14, 11. 8-28. The resulting association is stored by the invention for the purposes of monitoring, correlating, and reporting. *See* id. The specification likewise fails to define "product name." Further, nowhere in the claims or the specification is "product name" even referred to as a "generically known name" of a software program.

At one point in the specification "product name" is referred to within a list of items that may be contained in a "product record": "For each product, a product record contains the product ID, the product name, the vendor ID, and (optionally) the product code used by the vendor for the product." Id. at col. 5, 11. 32-35. While such specification language suggests that the terms listed are distinct, and thus that "product code" and "vendor ID" could not refer interchangeably to the same concept as "product name," the specification does not require that these terms be distinct, nor that a "product name" exclude the other listed terms. Because limitations not required by the specification may not be read into the claims, *see* Specialty Composites, 845 F.2d at 987, the inference that "product name" is distinct from, and thus exclusive of, other terms appearing along with it in a list within the specification, may not be read as a limitation on the claims. Thus, a "product name" could refer to a "product code" or a "vendor ID."

Although Dr. Kaliski testified that in his expert opinion the "product name" is the name "that we are going to want to use in the user readable reports for the unsophisticated user," Mr. Keohane noted that some software programs may have more than one commercially known name or more than one version under the same commercially known label, such as "Wordperfect". Markman Tr. at pp. 143-44, 188. Mr. Keohane implied that because there could be more than one "generically known name," that name may not identify a specific product adequately for the purposes of the invention or its users. Nothing in the patent, its specification, or the testimony of those skilled in the art suggests that the invention requires use of a "generically known name" as its product name. Indeed, as Mr. Keohane testified, use of such generic designation may not suffice for the purposes of the invention or its users.

For the reasons set forth above, the term "product name" is not limited to a "generically known name". It may include an "alphanumerical designation," a "product code," or a "vendor name and description," or any other designation by which the software programs may be recognized for the purpose of reporting on their use.

3. Knowledge Base

a. Minimum Contents

[9] Isogon and Amdahl agree that the claim term "knowledge base" comprises "a collection of information located in a single file in a memory or in several files in one or several computers as long as the information in the files effectively relates module names with product names." *Id*. at p. 8. However, the parties dispute how many records must be contained in a knowledge base to bring it within the meaning of the claims. *See id*. at p. 12.

The language of the claims describes the knowledge base as including "a plurality of module names and a plurality of information records ..." '340 Pat. at col. 13, ll. 40-45, col. 14, l. 66-col. 15, l. 1; '056 Pat. at col. 14, ll. 57-59, col. 16, ll. 52-54. Amdahl contends that as few as two records defines "plurality" and can qualify as a knowledge base. *See* Markman Tr. at p. 59. Isogon contends that the working needs of the invention require a knowledge base containing a "substantial collection" of records or enough records "to do the job," that two records will not suffice and cannot qualify as a "plurality" within the meaning of these claims. *Id*. at pp. 12, 58.

In York Prods. v. Central Tractor Farm & Family Ctr., 99 F.3d 1568 (Fed.Cir.1996), the Court of Appeals reversed a district court's construction of the term "plurality" as requiring "more than three." Instead, the court interpreted "plurality" as " 'the state of being plural,' " thereby requiring only "at least two" of the claimed items. Id. at 1575. However, the Court of Appeals in *York* based its construction on the district court's failure to provide adequate reasoning for any construction of "plurality" other than its "ordinary meaning." *Id*. Under proper circumstances, the *York* court implied, it would support construction of the term "plurality" as requiring a minimum of some number of claimed items greater than two. There is good reason here to require such a construction.

[10] It is a well settled principle of claims construction that, whenever possible, the claims should be construed so as to sustain their validity. *See* North American Vaccine, Inc. v. American Cyanamid Co., 7 F.3d 1571, 1577 (Fed.Cir.1993) (quoting Carman Indus., Inc. v. Wahl, 724 F.2d 932, 937 n. 5 (Fed.Cir.1983)); Texas Instruments Inc. v. United States Int'l Trade Comm'n, 871 F.2d 1054, 1065 (Fed.Cir.1989). One of the basic requirements for patent validity is utility. *See* 35 U.S.C. s. 101 (1984) ("Whoever invents or discovers any new and useful process ... or any new and useful improvement ... may obtain a patent....") *See also* Gregory E. Upchurch, *Intellectual Property Litigation Guide: Patents & Trade Secrets,* s.s. 15.01-.02(2) (1995). If the term "knowledge base" is construed as composed of only two items, that would render this invention effectively useless, and therefore invalid.

The parties have agreed that the knowledge base must be able to "effectively" relate module and product names. *See* Markman Tr. at p. 8. Although, Mr. Keohane testified that with a knowledge base containing only two records, the invention technically could track just two software programs on a computer, he also testified that outfitting the knowledge base in this manner would render it unable to "determine anything of any use" in the mainframe environment for which the invention is intended. *Id*. at pp. 89, 98-100. Mr. Keohane further testified that in order for this patent to perform as intended, the knowledge base would

require a "substantial amount" of information. *Id*. In order to conform with the parties' agreed definition of the "knowledge base" as an "effective" tool for monitoring software programs, and therefore to sustain the validity of the patent, the claim term "knowledge base" must be construed to include a "plurality" of records-namely more than two records.

b. Product Record/Information Record

"Product records" and "information records," used synonymously in the claim language, are contained in the knowledge base for the purposes of identifying a software product. *Id*. at p. 14. Isogon and Amdahl disagree as to which elements a "product record" must contain. Amdahl contends that it must contain a "product ID," a "product name," and a "vendor ID." *Id*. at p. 65. Isogon contends that a "product record" may contain such information that is sufficient "to allow software users to recognize the software product that has been identified," but "it has to do this other than by file names or module names ..." *Id*. at p. 14. The claims do not define "product record" or "information record". Instead the '340 patent claims refer to "information records" as contained in the knowledge base and as associated with "at least one module name." '340 Pat. at col. 14, ll. 66-67-col. 15, ll. 1-13. The '056 patent claims refer to "product record" when describing an inventorying method which operates in part by "storing said module identifier as a product record in said first memory means...." '056 Pat. at col. 17, ll. 6-9.

The specification states: "Product Records: For each product, a product record contains the product ID, the product name, the vendor ID, and (optionally) the product code used by the vendor for that product." '056 Pat. at col. 5, ll. 47-50. Amdahl contends that this specification language defines the minimum of what a product record must contain. *See* Markman Tr. at p. 65. This language does suggest that the first three items listed are not optional elements of the product record because of the placement of "optionally" modifying only the fourth listed element, "product code." '056, at col. 5, ll. 47-50.

However, as noted above, the specification also states that a "module identifier" can be stored as a "product record". '056 Pat. at col. 17, ll. 6-9. A "module identifier" is a string of text characters which could consist of information available in a "copyright statement" embedded within a software program. '340 Pat. at col. 5, ll. 59-60 (explaining information scanned by "file reader 12B" in order to formulate module identifiers includes "copyrights statements ...") *See also* Markman Tr. at p. 102. Mr. Keohane explained that a copyright statement may contain:

the word copyright, there may be the copyright symbol and then the text after that might be, company name, might be a date, might be a product name ... something that helps identify the module. The module identifier in that case could be looking for the word 'copyright' and pulling out from the module the information following, preceding, whatever, to hopefully identify where the module came from.

Id. This testimony supports the conclusion that a "module identifier" does not require a "product ID," "product name," and "vendor ID," but could be composed of whatever elements are found within the copyright statement. The specification clearly states that the "module identifier," when stored, may be stored as a "product record," and is then stored in the "first memory means." '056 Pat. at col. 17, ll. 7-8. The '056 patent specification later explains that the "first memory" includes the "knowledge base" which contains "data representative" of "information records." Id. at col. 19, ll. 4-10. Thus the specification teaches that a "module identifier" can be stored as a "product record," and such a product record will be stored in the "knowledge base". Id. at col. 17, ll. 7-8. Further, that "product record" may include less than the "product ID," the "product name," and the "vendor ID" if the "product record" is made from a "module identifier"

that has been gleaned from a copyright statement, which contains less than all three of those elements. Id.; '340 Pat. at col. 5, ll. 59-60. *See also* Markman Tr. at p. 102. It follows that a "product record" in the "knowledge base" is not required to contain the "product ID," the "product name," and the "vendor ID".

[11] Dr. Kaliski testified that information not contained in the knowledge base which the invention uses to identify a monitored program would not constitute "a product record *a priori* in the knowledge base," but would instead be stored in "the system configuration file." Markman Tr. at p. 191. However, expert testimony "may not be used to vary or contradict the terms of the claims as understood from the intrinsic evidence." Intellectual Property Development, Inc. v. UA-Columbia Cablevision of Westchester, Inc., 94 Civ. 6296, 1998 WL 142346, at (S.D.N.Y. March 26, 1998) (citing Markman, 52 F.3d at 981, 983). The intrinsic evidence reveals that a "product record" may include less than all three elements when it is comprised of a "module identifier," and, under such conditions, will be stored in the knowledge base, or "first memory means". '056 Pat. at col. 17, 11. 7-8; '340 Pat. at col. 5, 11. 59-60. Dr. Kaliski's limiting interpretation, which contradicts the teaching of the intrinsic evidence is rejected. The "product record" is not limited to the "product ID," the "product name" and the "vendor ID," and is not required to contain a "product name," but may contain whatever information is necessary to identify the software product.

4. Module Identifier/Text String

[12] Isogon and Amdahl do not dispute that "module identifier" and "text string" are synonymous claim terms that describe a recognizable "string of characters" embedded in the software programs. Markman Tr. at pp. 12, 101-02. This string of characters is used by the invention to identify those software programs for which the invention lacks pre-stored identifying information in the knowledge base. *See id*. at pp. 101-02. The only dispute concerns in what part of the invention the "module identifier" must be stored. Amdahl contends that the module identifier must be stored in either the knowledge base or the surveying program; Isogon contends that it may be stored "anywhere in the apparatus." Markman Tr. at p. 13.

The '340 claims describe the invention as having a means "for storing said module identifier in said secondary memory means" and a means for relating the module identifier with a module name which is also stored in the "secondary memory." '340 Pat. at col. 13, 1. 65-col. 14, 1. 3. The "secondary memory" referred to in the '340 patent is defined in the claims as part of the "plurality of storage devices" comprising part of the invention apparatus. ' 340 Pat. at col. 12, 11. 48-53. While the '340 "secondary memory" is described in the claims as storing "module names" that are retrieved by the "surveying means," id. at col. 12, 11. 55-60, the claims do not require that the secondary memory be part of the "surveying means" or the knowledge base.

In addition, "Figure 4" of the drawings, which describes the operation of the surveying program, states that the module identifier is stored in the "system configuration log." '340 Pat. at Figure 4, Sheet 4. This system configuration log is then identified in the specification as component "66" of the drawings. Id. at col. 11, 11. 47-49. Amdahl admits that the module identifiers for which the invention searches are "dumped" into file "number 66." Markman Tr. at p. 27. In "Figure 1" of the '340 patent drawings, the component numbered "66," the "system configuration log," is shown in relation to the surveying program. Component "66", however, is clearly embodied outside of the boundary lines indicating the surveying program labeled as component "12" in "Figure 1". '340 Pat. at Figure 1, Sheet 1. Because certain components are represented within the boundaries of the surveying program, namely the "directory," labeled "12A," and the "module reader," labeled "12B," the drawing indicates a demarcation between components contained within the surveying program and those that are not. FN1 Therefore, the preferred embodiment of the '340 patent

teaches that module identifiers may be stored in a peripheral device used by the surveying program, but need not be part of that surveying program.

FN1. In fact, components within the boundaries are part of the computer system, and those outside the boundaries are "peripheral devices." '340 Pat. at col. 4, ll. 2-6.

Further, the specification refers to the knowledge base as component "20" in the drawings. '340 Pat., at col. 5, 1. 20. The system configuration log, component "66," is clearly indicated in Figure 1 as a separate entity from the knowledge base, component "20," and likewise as separate from, and outside of, the surveying program, component "12." Id. It follows that if, as described by the specification and shown in "Figure 4," a module identifier can be stored in the system configuration log, which is embodied here as an entirely separate entity from both the surveying program and the knowledge base, then the '340 patent teaches that the invention does not require storage of a module identifier in either the surveying program or the knowledge base.

Nowhere in the claims or the specification does the patent require storage of a module identifier in a given location. Markman Tr. at p. 102. The specification language describing module identifier storage, using the terms "may" and "can", permits optional locations for storage, describing how "[t]he knowledge base can also be used to store information, such as the strings ...," '056 Pat. at col. 5, 11. 63-66, and that module identifiers "may be stored in the knowledge base or hard coded into the file reader 12B." Id. at col. 6, 11. 18-20. While Dr. Kaliski testified that this language permitted only these two possible storage locations, he also acknowledged that this specification language should not be taken out of context. *See* Markman Tr. at p. 181. The patents as described in the drawings and specification reveal that these two locations are not the only locations where module identifiers may be stored, because module identifiers can also be stored in the system configuration log, which is not part of the knowledge base or the surveying program's "module reader 12B." '340 Pat. at Figure 1, Sheet 1. The storage of module identifiers is not limited to the surveying program or knowledge base locations.

5. Module Name

[13] A "module name" refers generally to a file name. *See* Markman Tr. at p. 27. Module names may designate files contained either in the knowledge base of the invention or in the "storage devices" of computer systems being monitored by the invention. Letter of Robert F. Perry, Attorney for Amdahl, dated October 8, 1998 ("Perry Ltr."), p. 1. *See also* Letter of Max Moskowitz, Attorney for Isogon, dated October 8, 1998 ("Moskowitz Ltr."), p. 1. The parties disagree as to the meaning of "module name" only when it designates a file contained in the knowledge base of the invention. *See* Perry Ltr. at p. 1. Isogon contends that "module name" refers to "any designation used by the apparatus" to "identify or refer to the file names stored on the computer being monitored." Moskowitz Ltr. at p. 1. Amdahl contends that a "module name" in the knowledge base may be represented as "a wild card representation" but must exclude any designation by a "reference number." Perry Ltr. at p. 1. The claims fail to define module names, instead referring to them as included in the knowledge base as "data representative of a plurality of module names." '340 Pat. at col. 14, 1. 67. The claim language referring to "data representative" of module names suggests that the claims provide for generic representation of module names within the knowledge base. There is no mention in the claims regarding either inclusion or exclusion of any "reference number" in such generic representation.

Both the '340 and '056 specifications make explicit reference to module names included in the knowledge

base in generic fashion. The '340 patent states, "[I]n the knowledge base, modules can be represented through the use of a wild card, i.e. in generic fashion." '340 Pat. at col. 5, 11. 50-53. The '056 patent provides an example of the contents of the knowledge base in a "preferred embodiment" to include: module records, product records, vendor records and vendor product code records. In discussing module records, the example states that such records include module names and notes that "as indicated earlier module names can be indicated in a generic fashion...." '056 Pat. at col. 5, 11. 40-46. The phrase "as indicated earlier" refers to an earlier reference where the specification explains that module names located in the monitored storage devices may vary in their designations. Id.; *see also* '056 Pat. at col. 5, 11. 5-30. Thus the specification not only underscores the generic designation of module names, it makes explicit, unambiguous reference to generically designated module names included in the knowledge base, and it analogizes the generic nature of module names in the knowledge base to that of module names located in monitored storage devices. Amdahl does not contest generic representation of module names in the monitored storage devices. *See* Perry Ltr. at p. 1.

However, Amdahl contends that the patent makes a distinction between a module "name" and a "number," excluding the latter from generic module name representations. Perry Ltr. at pp. 1-2. Amdahl defines such a "reference number" as a generic designation of a module name made up of numbers. *See* Def.'s Mem. at pp. 19-20, and n. 20. Amdahl further contends that during the prosecution of the patent Isogon distinguished its '056 patent from another patent which identified monitored software applications by "unique numbers" in order to persuade the patent examiner to allow its claims. Id. at p. 19. Thus, Amdahl asserts, module names in the '056 patent cannot be defined "using strings comprised of reference numbers" because a "patentee may not construe its patent to recover subject matter relinquished during prosecution of the patent." Id. (citing Southwall Technologies, Inc. v. Cardinal IG Co., 54 F.3d 1570 (Fed.Cir.1995)).

[14] Prosecution history is considered part of the intrinsic evidence, and thus significant to claim interpretation. As the Court of Appeals held in *Southwall,* claim terms should be interpreted consistently, and interpretation during patent prosecution is relevant to later claim interpretation "absent a clear indication to the contrary." *Id*. at 1579. The *Southwall* court explained, "[c]laims may not be construed one way in order to obtain their allowance and in a different way against accused infringers." *Id*. at 1575 (citing Unique Concepts Inc. v. Brown, 939 F.2d 1558, 1562 (Fed.Cir.1991)).

Isogon argued during the prosecution of its '056 patent for an interpretation of module names describing "monitored applications" excluding "number[s]." Prosecution History of the '056 Patent, Remarks, dated June 26, 1996, Markman Hearing, Plaintiff's Exhibit F ("Pl.'s Exh. F"), p. 15. Isogon argued that the patent from which it sought to distinguish its invention "describes that each monitored application is given a unique virtual counter*number* ... rather than a *name*" and therefore does not suggest "storing a plurality of the module names ..." Id. By this argument Isogon agreed to exclude any string made up only of numbers for the purposes of a module name designation.

While the specification and claims suggest that module names can be generically designated, they do not clearly contradict Isogon's prosecution position that its use of a module "name" be distinguished from a "number". Thus, in order to conform with Isogon's own interpretation of "module name" when arguing to obtain its patent, "module names" may be designated in a generic fashion that may include numbers and text but may not be made up exclusively of numbers.

6. Automatic Performance

[15] Isogon and Amdahl disagree as to whether the invention requires fully automated operation, as Amdahl contends, or only "substantially" automated operation, as Isogon contends. Markman Tr. at p. 9. The claims do not make any reference to automation. In order to distinguish the invention from prior art, the specification describes some aspects of the invention as "automatically" performed, e.g., automatically "relating software inventory information to module usage" and automatically determining "what products are being used without cooperation of the products being monitored." '056 Pat. at col. 2, 11. 35-46. But nothing in these descriptions precludes the invention from operating with manual intervention. These descriptions only provide for an automated enablement that the prior art lacks.

The abstract of each patent describes automated operation only once, "A method and apparatus for monitoring events relating to executable program modules ... and automatically recording each monitored event." '340 Pat. at Abstract; ' 056 Pat. at Abstract. The placement of "automatically" as modifying only the "recording" function indicates that not all functions of the invention are necessarily automatic. Dr. Kaliski testified that the invention operates most efficiently for "unsophisticated" users if all of its components, except for launch and termination of the program, perform automatically, and he describes how the flow charts embody such optimum automated operation. Markman Tr. at pp. 175-82.

Neither Dr. Kaliski nor Mr. Keohane testified that the invention mandates such preferred automated performance. The sporadic use of terms indicating automation in the specification and the abstract, but not in the claims, and use of such terms to describe some invention features but not others, underscores that automation is not a requirement for all aspects of the invention at all times, but rather an optional feature that distinguishes the invention from prior art. Because limits appearing in the specification that are not required may not be read into the claims, *see* Specialty Composites, 845 F.2d at 987, operation of the Isogon invention does not require complete automation.

B. Means-Plus-Function Claims

Amdahl asserts that certain terms appearing within claims 71-73 of the '056 patent are "means-plus-function" terms, which if identified as such by the Court, must then be interpreted in accordance with 35 U.S.C. s. 112, para. 6. Def.'s Mem. at pp. 24-25. The terms at issue include: "event detector for detecting," "collector for obtaining," "recorder for recording," and "correlator for correlating". *Id*. Isogon contests this assertion. *See* Pl.'s Mem. at p. 11. Because claims 71-73 describe predominantly function rather than structure, they are means-plus-function claims subject to the limitation of s. 112, para. 6.

[16] [17] The means-plus-function option allows an inventor to claim aspects of her invention by function rather than by structure without invalidating the claims for lack of definiteness. *See* B. Braun Med., Inc. v. Abbott Labs., 124 F.3d 1419, 1423-24 (Fed.Cir.1997). *See also* Home Shopping Network, 1998 WL 85740, at *2 (citing Valmont Indus. v. Reinke Mfg. Co., 983 F.2d 1039, 1042 (Fed.Cir.1993)). However, to prevent such claims from being overly broad, 35 U.S.C. s. 112 strictly limits their coverage to "the corresponding structure, material, or acts described in the specification and the equivalents thereof." 35 U.S.C. s. 112, para. 6 (1984). The effect of such a limitation is that when elements of the alleged infringing device are compared to means-plus-function claims, the elements will not infringe unless they perform the "identical" function recited in the patent according to "the structure disclosed in the specification or an equivalent structure." Carroll Touch, Inc. v. Electro Mechanical Systems, Inc., 15 F.3d 1573, 1578 (Fed.Cir.1993).

[18] The first test for identifying such a claim is to search for the "classic" means-plus-function formulation, using the term "means" or "means for". Greenberg v. Ethicon Endo-Surgery, Inc., 91 F.3d 1580, 1584

(Fed.Cir.1996). ("[I]t is fair to say that the use of the term 'means' (particularly as used in the phrase 'means for') generally invokes section 112(6) and that the use of a different formulation does not."). Claims 71-73 of the '056 patent do not use this terminology. However, failure to formulate a claim with "means" terminology is not dispositive. *See* Cole v. Kimberly-Clark Corp., 102 F.3d 524, 530 (Fed.Cir.1996) ("Merely because a named element of a patent claim is followed by the word 'means,' ... does not automatically make that element a 'means-plus-function' element....The converse is also true; merely because an element does not include the word 'means' does not automatically prevent that element from being construed as a means-plus-function element.").

[19] The better test of whether a claim is means-plus-function is whether the claim includes a description of a "definite structure in support of its function." Braun, 124 F.3d at 1424 (citing Cole v. Kimberly-Clark Corp., 102 F.3d at 531). The presence of a definite structure will remove a claim from the limitation imposed by $112, para. 6 despite the use of the classic "means" formulation, but only if it contains such a "detailed recitation" of structure that it is no longer seen as largely a function claim.

[20] In *Cole,* the court determined that a claim, " 'perforation means ... for tearing,' " was not means-plus-function because the claim described "not only the structure that supports the tearing function, but also its location (extending from the leg band to the waist band) and extent (extending through the outer impermeable layer.)" Claims 71-73 in the Isogon patent are formulated in a manner that is similar to that in *Cole,* namely, "event detector for detecting," "recorder for recording," "report generator for outputting". '056 Pat. at col. 18, 11. 7-19. However, unlike the claim construed in *Cole,* these claims contain no recitation of structure, and certainly no details such as location or extent. The structures are simply not defined in these claims. FN2 These claims are dominated by functional description. Accordingly, these are means-plus-function claims and are subject to the limitation of s. 112, para. 6.

FN2. Amdahl's counsel argued that to one skilled in the art, the software patent elements in claim 71, such as "event detector for detecting," would express definite structure if accompanied by "flow charts," "code," or "pseudocode," an example of code. Transcript of Hearing, dated December 1, 1998, pp. 19-20. Isogon's counsel, on the other hand, argued that software structure is definite without the need for either flow charts or code. *See* Letter from Max Moskowitz, counsel to Isogon, dated December 3, 1998 (citing Fonar Corp. v. General Electric Co., 107 F.3d 1543 (Fed.Cir.1997)). Isogon's reliance on *Fonar* is misplaced. In that case, the court was reviewing a jury's finding that a patent satisfied a "best mode" requirement. This requirement is found in the patent statute which requires that a patent specification "shall set forth the best mode contemplated by the inventor of carrying out [her] invention." 35 U.S.C. s. 112. In *Fonar,* the jury found that the patent contained a sufficient description of the software's *functions*. The issue here is entirely different-namely whether these claims should be construed as means-plus-function claims. Because there is only a description of function, but no identification of *structure,* these claims fall into that category. However, there is no need to discuss at this time whether the functions as described in these claims are adequate to meet the "best mode" requirement. That question will be addressed at a later date. At that time the teaching of the *Fonar* case may become very relevant indeed.

[21] Isogon argues that this issue was raised during prosecution of the patent and that the patent examiner determined that one claim (now claim "53") which uses the same formulation as claims 71-73, was not means-plus-function. FN3 *See* Pl.'s Mem. at p. 22. Isogon asserts that during the patent prosecution process it successfully defended claim 53 by arguing that it was not a means-plus-function claim to distinguish it from another claim which was means-plus-function. *See id*. at pp. 22-23. The patent examiner then allowed

claim 53 without requiring correction, implying acceptance of Isogon's argument that claim 53 is not means-plus-function. *See* Prosecution History of the '056 Patent, Interview Summary, dated July 16, 1996, attached as Exhibit 2 to Pl.'s Mem. at p. 1.

FN3. Claim 53, from which claims 54-69 depend, are the only claims which were determined, by implication, not to be means-plus-function claims during the patent prosecution. *See* Pl.'s Mem. at pp. 22-23. When this argument was originally raised by Isogon, Claim 53 was still at issue but has since been dismissed. *See* Joint Stipulation at p. 1. While the patent examiner's determination as to claim 53 is no longer directly at issue, the formulations of claim 53 and 71 are so similar that fairness dictates applying Isogon's original argument to claim 71 by way of analogy.

While prosecution history is relevant to means-plus-function claims construction, *see In re Hayes,* 982 F.2d at 1543, determinations made by the patent examiner are "never binding on a court." *Fromson v. Advance Offset Plate, Inc.,* 755 F.2d at 1555; *see also* Western Electric Co., Inc. v. Piezo Technology, Inc., 860 F.2d 428, 433 (Fed.Cir.1988) (patent examiner's decisions are presumptively correct). As discussed above, claims 71-73 have all the indicia of means-plus-function claims. Accordingly the patent examiner's conclusion is rejected.

Because the language of claims 71-73 expresses invention elements by function without any recitation of definite structure, claims 71-73 are means-plus-function claims. Consequently these claims are subject to the limitation of s. 112, para. 6.

III. CONCLUSION

1. Apparatus and method are not limited to operation on a single computer or device.

2. A product name is not limited to a generically known name. It may include an alphanumeric designation, a product code, or a vendor name and description, or any other designation by which software programs may be recognized for the purpose of reporting on their use.

3a. A knowledge base includes a plurality of records-namely more than two records.

3b. A product record is not limited to the product ID, the product name and the vendor ID, and is not required to contain a product name, but may contain whatever information is necessary to identify the software product.

4. Storage of module identifiers is not limited to the surveying program or knowledge base.

5. Module names may be designated in a generic fashion that may include numbers and text but may not be made up exclusively of numbers.

6. Operation of the invention does not require full automation.

7. "Intercepting service requests" means "gaining control of the computer when the program module is invoked including by an SVC interception *or* by LOAD, LINK, ATTACH,or XTCL commands." *See* pp. 439-40, *supra*.

8. The "report generator" "takes raw data and distills it down to some usable bit of information." Such distillation comprises "some processing of raw data" during which the data is "somewhat formatted." *Id*.

9. Claims 71-73 are means-plus-function claims subject to the limitation of s. 112, para. 6.

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