United States District Court,
N.D. California.

NETWORK APPLIANCE, INC,
Plaintiff.
v.
BLUEARC CORP,
Defendant.

No. C 03-5665 MHP

Nov. 30, 2004.

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Claim Construction Memorandum and Order for United States Patent Nos. 5,802,366, 5,931,918**, and** 6,065,037

MARILYN HALL PATEL**, District Judge.**

Plaintiff Network Appliance filed this action in the United States District Court for the District of Delaware, alleging infringement of three patents that relate to network file server architecture and operating system software. On defendant's motion, the District of Delaware ordered the case transferred to this court on December 16, 2003. Now before the court are the parties memoranda concerning construction of the disputed terms in United States Patent Nos. 5,802,366 ("'366 Patent"), 5,931,918 ("'918 Patent"), and 6,065,037 ("'037 Patent). Having fully considered the parties' arguments and submissions, and for the reasons set forth below, the court enters the following memorandum and order.

BACKGROUND

The patents that are the subject of this infringement action relate to computer architectures and storage systems that were developed by Auspex Systems, Inc. in the late 1980s. FN1 The ' 366 Patent, issued on September 1, 1998, and the ' 918 Patent, issued on August 3, 1999, disclose closely related multiprocessor file server designs ("architectures") that employ separate processors to perform file system control and non-file system control tasks. The ' 037 Patent, issued on May 16, 2000, describes a computer operating system

that allows for the implementation of the file server designs disclosed by the '366 and ' 918 Patents. Taken together, the patents are directed toward improving storage and data management of network file system computers. In particular, the inventions seek to allow file servers to more efficiently process file system requests from "client" computers on a network, the most common task performed by a typical Unix file server. *See, e.g.,* ' 366 Patent, 4:16-18. A brief description of the inventions follows.

FN1. Plaintiff acquired the patents in suit in June 2003, following Auspex's decision to seek bankruptcy protection and cease operations.

I. *The* '*366 and* '918 Patent s

The specifications of the '366 and '918 Patents describe multiprocessor network file server architectures, with the preferred embodiments of the inventions optimized for performing file operations in connection with a Unix file server. '366 Patent, 4:16-23; '918 Patent, 4:18:25. In their preferred embodiment, the inventions disclose network file server architectures comprising at least one network controller, at least one file controller, at least one storage processor, and a system memory. '366 Patent, 7:64-8:1; ' 918 Patent, 7:66:8-3. Each of these components is connected by a message-passing bus and operates in parallel with a local "host" processor. '366 Patent, 8:5-8:9; '918 Patent, 8:7-8:11. The components communicate with the network using a number of protocols, referred to in the art as "layers" because each protocol interacts only with those protocols that immediately precede or follow that layer in the "protocol stack." '366 Patent, 5:36-57; '918 Patent, 5:38-59.

The primary advantage of the file servers described in the '366 and '918 Patents is realized in the processing of file system requests made by client computers on a computer network. In the preferred embodiment of the invention, these requests are initiated by client computers, which transmit Ethernet data packets containing an individual request to the file server. *See* '366 Patent, 9:35-40; '918 Patent, 9:38-43. The request is initially directed to a network controller, which determines whether the incoming data packet is a Network File System ("NFS") request. *Id*. FN2 Non-NFS packets are passed directly to the host processor, while NFS requests are processed by the network controller. *Id*. The network controller then converts the NFS requests into the "Local Network File System" ("LNFS") format, which the file server uses for internal communications involving NFS requests and responses. *See* '366 Patent, 9:4-15; '918 Patent, 9:7-18. After an NFS request has been converted to the LFNS format, the network controller transmits the request to a file controller, which searches the system memory for the requested information. ' 366 Patent, 10:17-20; '918 Patent, 10:21-24. If the requested information is found in system memory, the file controller sends a reply to the network controller directing the network controller to a reference in the system memory location. '366 Patent, 10:21-28; '918 Patent, 10:25-32. Otherwise, the file controller directs the storage processor to read the requested data from the mass storage device and transmit the data to system memory. *Id*. The file controller then notifies the network controller of the location of the requested data. *Id*. Having received the system memory location, the network controller retrieves the data from system memory and creates an NFS reply, which is passed along to the client computer. *Id*.

FN2. NFS is a standard promulgated by Sun Microsystems that clients and servers use to exchange file data in a Unix environment. '366 Patent, 2:22-26. The standard is widely adopted in the Unix community. *Id*.

The '366 and '918 Patents claim that this arrangement improves upon the performance of prior art servers in

a number of ways. For example, the inventors claim that the use of multiple processors for each network controller, file controller, and storage processor "vastly improves file server performance" by processing these requests in parallel. '366 Patent, 8:29-31; '918 Patent, 8:31-33. This segregation of NFS and non-NFS requests allows the file server to eliminate "bottlenecks" that can occur when one computer (i.e., the host server) processes both types of requests. '366 Patent, 4:44-50, 7:38-61; '918 Patent, 4:46-52, 7:40-63. The inventors also assert that improvements in file server performance arise from the fact that the Unix operating system functionality resides only in the host processor and is not replicated in the other processors, leaving all of the processing capacity on the non-host processors available to respond to file system request. '366 Patent, 8:31-33; '918 Patent, 8:33-35.

II. ***The*** '037 Patent

The specification of the '037 Patent describes operating system software that runs on the multiprocessor file server architectures described in the '366 and '918 Patents. In the preferred embodiment of the invention, the operating system consists of multiple "peer-level" facilities, each of which is associated with one of the processing units described in the '366 and '918 Patents. '037 Patent, 3:33-38, 52-55. Each peer-level facility allocates and manages its own processes and is responsible for implementing one of the functional components of the operating system. Id at 3:38-43. For example, in the preferred embodiment of the invention, one facility, the "network control processor," implements all functions that are necessary to process operations performed by the network controller. *See id*. at 8:60-10:29. The processors are connected via a network bus and communicate with each other via "multi-tasking interface functions" that are implemented by each peer-level facility. *Id*. at 3:42-52. Each multi-tasking interface function sends and receives control messages to and from one of the peer-level facilities, thereby allowing one facility to direct another to execute the function that it is responsible for performing. *Id*.

Like the file system architectures disclosed in the '366 and '918 Patents, the operating system described in the preferred embodiment of the '037 Patent seeks to segregate the processing of NFS requests from the processing of non-NFS requests. According to the inventors, such a system has a number of advantages over prior art operating system architectures, which include reducing the amount of computational resources needed to maintain "operational coherency" among its component parts and minimizing overhead in processing network file system requests. *Id*. at 3:57-65. The inventors also note that the operating system architecture disclosed in the '037 Patent is "readily expandable to systems employing multiple instances of each peer-level facility" (e.g., two or more network control facilities). *Id*. at 3:66-4:2.

LEGAL STANDARD

I. ***Claim Construction***

Under Markman v. Westview Instruments, Inc., 517 U.S. 370, 116 S.Ct. 1384, 134 L.Ed.2d 577 (1996), the court construes the scope and meaning of disputed patent claims as a matter of law. Id. at 389-90. The first step of this analysis requires the court to consider the words of the claims. Teleflex, Inc. v. Ficosca N. Am., 299 F.3d 1313, 1324 (Fed.Cir.2002). According to the Federal Circuit, the court must "indulge a 'heavy presumption' that a claim term carries its ordinary and customary meaning." CCS Fitness, Inc. v. Brunswick Corp., 288 F.3d 1359, 1366 (Fed.Cir.2002). To determine the ordinary meaning of a disputed term, the court may review a variety of sources, including the claims themselves, other intrinsic evidence including the written description and prosecution history, and dictionaries and treatises. Teleflex, 299 F.3d at 1325, The court must conduct this inquiry not from the perspective of a lay observer, but rather "from the standpoint of a person of ordinary skill in the relevant art." *Id*. (citing Zelinski v. Brunswick Corp., 185 F.3d 1311,

1316 (Fed.Cir.1999)).

Among the sources of intrinsic evidence, the specification is "the single best guide to the meaning of a disputed term." Vitronics Corp. v. Conceptronic, Inc., 90 F.3d 1576, 1582 (Fed.Cir.1996). By expressly defining terms in the specification, an inventor may "choose[ ] to be his or her own lexicographer," thereby limiting the meaning of the disputed term to the definition provided in the specification. Johnson Worldwide Assocs., Inc. v. Zebco Corp., 175 F.3d 985, 990 (Fed.Cir.1999). In addition,"[e]ven when guidance is not provided in explicit definitional format, "the specification may define claim terms 'by implication" such that the meaning may be 'found in or ascertained by a reading of the patent documents.' " Irdeto Access, Inc. v. Echostar Satellite Corp., 383 F.3d 1295, 1300 (Fed.Cir.2004) (quoting Bell Atl. Network Servs., Inc. v. Covad Communications Group, Inc., 262 F.3d 1258, 1268 (Fed.Cir.2001)). "The specification may also assist in resolving ambiguity where the ordinary and accustomed meaning of the words used in the claims lack sufficient clarity to permit the scope of the claim to be ascertained from the words alone." Teleflex, 299 F.3d at 1325. At the same time, the Federal Circuit has cautioned that the written description "should never trump the clear meaning of the claim terms." Comark Communications, Inc. v. Harris Corp., 156 F.3d 1182, 1187 (Fed.Cir.1998) (citations omitted); *see also* Tate Access Floors, Inc. v. Maxess Techs., Inc., 222 F.3d 958, 966 (Fed.Cir.2000) ("Although claims must be read in light of the specification of which they are part, ... it is improper to read limitations from the written description into a claim ....").

Likewise, the prosecution history may demonstrate that the patentee intended to deviate from a term's ordinary and accustomed meaning. Teleflex, 299 F.3d at 1326. "Arguments and amendments made during the prosecution of a patent application and other aspects of the prosecution history, as well as the specification and other claims, must be examined to determine the meaning of terms in the claims." Southwall Techs., Inc. v. Cardinal IG Co., 54 F.3d 1570, 1576 (Fed.Cir.), *cert. denied,* 516 U.S. 987, 116 S.Ct. 515, 133 L.Ed.2d 424 (1995). "In particular, 'the prosecution history (or file wrapper) limits the interpretation of claims so as to exclude any interpretation that may have been disclaimed or disavowed during prosecution in order to obtain claim allowance.' " Teleflex, 299 F.3d at 1326 (quoting Standard Oil Co. v. American Cyanamid Co., 774 F.2d 448, 452 (Fed.Cir.1985)).

Dictionary definitions and other objective reference materials available at the time that the patent was issued may also provide evidence of the ordinary meaning of a claim. Texas Digital Sys., Inc. v. Telegenix, Inc., 308 F.3d 1193, 1202 (Fed.Cir.2002). Such reference materials "are objective resources that serve as reliable sources of information on the established meanings that would have been attributed to the terms of the claims by those of skill in the art." Id. at 1202-03. Thus, district courts "are free to consult such resources ay any time in order to better understand the underlying technology and may also rely on dictionary definitions when construing claim terms, so long as the dictionary definition does not contradict any definition found in or ascertained by a reading of the patent documents." Vitronics, 90 F.3d at 1584 n. 6.

Federal Circuit decisions take a less favorable view of other forms of extrinsic evidence, such as expert testimony and prior art not cited in the specification or the prosecution history, noting that "claims should preferably be interpreted without recourse to extrinsic evidence, other than perhaps dictionaries or reference books, and that expert testimony should be received only for the purpose of educating the judge." EMI Group N. Am., Inc. v. Intel Corp., 157 F.3d 887, 892 (Fed.Cir.1998), *cert. denied,* 526 U.S. 1112, 119 S.Ct. 1756, 143 L.Ed.2d 788 (1999). Although "extrinsic evidence in general, and expert testimony in particular, may be used ... to help the court come to a proper understanding of the claims[,] it may not be used to vary or contradict the claim language .... Indeed, where the patent documents are unambiguous, expert testimony regarding the meaning of a claim is entitled to no weight." Vitronics, 90 F.3d at 1584.

II. ***Means-Plus-Function Claims***

Section 112 para. 6 of the Patent Act, 35 U.S.C. s. 112 para. 6, provides that:

An element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof, and such claim shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof.

Id. By allowing for a patentee to recite "means-plus-function" claim elements, section 112 para. 6 permits the inventor to describe an element of his or her invention by the result accomplished or the function served rather than describing the item or element to be used. Warner-Jenkinson Co. v. Hilton Davis Chem. Co., 520 U.S. 17, 28, 117 S.Ct. 1040, 137 L.Ed.2d 146 (1996). Although the claim limitation need not recite the structure, material, or acts that comprise the means for carrying out the claimed function, the applicant must describe in the patent specification some structure which performs that function. 35 U.S.C. s. 112 para. 6; Odetics, Inc. v. Storage Tech. Corp., 185 F.3d 1259, 1266-67 (Fed.Cir.1999).

Where an element is expressed as a "means" to perform a particular function, a presumption arises that the claim element should be construed as a means-plus-function claim under section 112 para. 6. *Al-* Site Corp. v. VSI Int'l, Inc., 174 F.3d 1308, 1318 (Fed.Cir.1999). Conversely, a claim term that does not use the words "means" or "step for" is presumptively not governed by section 112 para. 6. CCS Fitness, 288 F.3d at 1369. This presumption "is a strong one that is not re adily overcome." Lighting World, Inc. v. Birchwood Lighting, Inc., 382 F.3d 1354, 1358 (Fed.Cir.2004). However, even in the absence of express means-plus-function language, a claim may be construed to include a means-plus-function element if the proponent of the means-plus-function construction demonstrates that "the claim term fails to 'recite sufficiently definite structure for performing that function.' " CCS Fitness, 288 F.3d at 1369 (quoting Watts v. XL Sys., Inc., 232 F.3d 877, 880 (Fed.Cir.2000)). In making this determination, the court must assess whether the "term, as a name for a structure, has a reasonably well understood meaning in the art." Greenberg v. Ethicon Endo-Surgery, Inc., 91 F.3d 1580, 1583 (Fed.Cir.1996).

DISCUSSION

I. ***The*** **'*366 and*** **'918 Patents**

The parties dispute a host of claim terms used in the '366 and '918 Patents, including many terms that appear in the claims of both patents. Where two patents share the same written description, a common construction of the claims of the patents is "appropriate." Arthur A. Collins, Inc. v. Northern Telecom, Inc. ., 216 F.3d 1042, 1044 (Fed.Cir.2000). The court therefore proceeds to construe the common terms of the '366 and '918 Patents as having the same meaning.

A. ***Construction of Non-Means-Plus-Function Claim Terms***

Apart from means-plus-function claims, the parties Joint Claim Construction Statement identifies six terms of the '366 and '918 Patents that require construction by the court: (1) "performing procedures"; (2) "decoding NFS requests"/"encoding NFS reply messages"; (3) "module"; (4) "file retrieval requests prepared"; (5) "preparing reply messages"; and (6) "bus." Each terms is addressed separately below.

1. "*performing procedures*"

The term "performing procedures" is found in claim 1 of the '366 Patent, which claims the following:

Apparatus for use with a data network and a mass storage device, comprising of the combination of first and second processing units, said first unit being coupled to said network and performing procedures for satisfying ... a pre-defined non-NFS class of requests,

....

and said second processing unit being coupled to said network and to said mass storage device and decoding NFS requests from said network, performing procedures for satisfying said NFS requests, and encoding NFS reply message for transmission on said network ...

'366 Patent, 51:35-47. In addition, claim 5 of the '366 Patent and claims 1 and 4 of the '918 Patent recite "a means for performing procedures for satisfying ... NFS requests," *id*. at 52:48-48, or "for satisfying file system requests," '918 Patent, 127:27-28. Plaintiff contends that the phrase "performing procedures" is unambiguous and therefore need not be construed by the court. *See, e.g.,* Liquid Dynamics Corp. v. Vaughn Co., 355 F.3d 1361, 1368-69 (Fed.Cir.2004). While also claiming that the disputed term has a well-established ordinary meaning, defendant argues that this meaning is "executing software instructions."

The crux of the parties' dispute is whether the procedures at issue include procedures performed by hardware, or whether the claim term is limited to procedures performed in response to software instructions. Defendant urges the court to rely on the definition of "procedures" found in the *Academic Press Dictionary of Science and Technology* (1992) (hereinafter "*AP Dictionary*"), which defines "procedure" in the field of computer technology as "a sequence of program components that collectively accomplish some task ... generally used in reference to higher-level languages." *Id*. at 1729. Admittedly, the cited definition limits the scope of the term "procedure" to "a sequence of program components"-i.e., software. However, other dictionary definitions-including technical references apposite to the art of file server architecture-define "procedure" far more broadly. For example, *The Authoritative Dictionary of IEEE Standards Terms* (2000) (hereinafter "*IEEE Dictionary*"), defines "procedure" as, *inter alia,* "[t]he course of action taken for solution of a problem" (computers), or alternatively, as "a course of action to be taken to perform a given task" (software). *Id*. at 870. Thus, contrary to defendant's assertion, there is no single, well-established meaning for the term "performing procedures."

Where a disputed claim term has more than one possible meaning, "[t]he objective and contemporaneous record provided by the intrinsic evidence is the most reliable guide to help the court determine which of the possible meanings was intended by the inventor." Texas Digital, 308 F.3d at 1203 (citing Renishaw PLC v. Marposs Societa' per Azioni, 158 F.3d 1243, 1250 (Fed.Cir.1998)). "The construction that stays true to the claim language and most naturally aligns with the patent's description of the invention will be, in the end, the correct construction." Id at 1203-04. In the instant case, taking claim 1 of the '366 Patent as an example, the procedures at issue are performed by the first and second processing unit and are undertaken for the purpose of satisfying NFS or non-NFS requests from a data network. '366 Patent, 51:35-48. The '918 Patent replaces "NFS requests" with the somewhat broader term "file system requests," '918 Patent, 127:7-8, but in substance the procedures performed by the two inventions are closely related.

The claim language of the patents in suit makes clear that the term "performing procedures" is intended to

be given an extraordinarily broad meaning. Taking claim 1 of '366 Patent as an example, the term "performing procedures" is used to describe any operation performed by the claimed processing units except for decoding NFS requests and encoding NFS reply messages. *See* '366 Patent, 51:35-48. While these procedures may include executing software instructions, the specification discloses that the processing units perform a broader range of tasks. For example, in order to perform the procedures necessary to satisfy an NFS request, the network controller may need to request a system memory location from the file server. The specification discloses that this request is carried out by the network controller, which accesses the file server via VME bus. *See, e.g., id.* at 19:25-27, 19:50-58. This procedure is best described as "accessing another processor" rather than "executing software instructions." Likewise, claim 5 of '366 Patent, which recites a "means for performing procedures for satisfying ... NFS requests," identifies one such procedure as "accessing [a] mass storage device"-a process involving both software and hardware. Id. at 52:48-49. The court therefore rejects defendant's attempt to limit the scope of the term "performing procedures" to "executing software instructions."

While a narrowing construction of a claim limitation may sometimes preserve the validity of a claim, "[n]othing in precedent permits judicial redrafting of claims." Becton Dickinson & Co. v. CR. Bard, Inc., 922 F.2d 792, 799 n. 6 (Fed.Cir.1990). Given the broad scope of the meaning of the performing procedures term in the context of the claims at issue, the court sees no principled basis for narrowing the meaning of the term based on a single, identifiable technical definition. Accordingly, the court finds the term unambiguous and declines to construe the term.

2. "*decoding NFS requests*"/"*encoding NFS reply messages*"

The terms "decoding NFS requests" and "encoding NFS reply messages" appear in claims 1, 5, and 8 of the '366 Patent, as well as in claims 1 and 4 of the '918 Patent. Claim 1 of the '366 Patent recites a second processing unit that performs the functions of "decoding NFS requests from [a data] network" and "encoding NFS reply messages for return transmission on said network." '366 Patent, 51:42-47. The remaining claims recite a "means for decoding NFS [or file server] requests" and a "means for encoding NFS [or file server] reply messages for return transmission" on a data network. *See, e.g., id.,* 52:47, 52:51-52. Again, plaintiff takes the position that no construction is required because the phrases "decoding NFS requests" and "encoding NFS reply messages" are unambiguous. In contrast, defendant contends that the terms should be construed to limit the scope of the claims to a processing unit or a means for "processing all protocol layers of NFS requests from the network to extract the NFS messages" and "processing all protocol layers for converting data into NFS messages for network transmission."

In support of its view that the disputed terms need not be construed, plaintiff cites general-purpose dictionary definitions of the words "encode" and "decode." *See* Joint Claim Construction Statement at A-2 (citing *Merriam Webster's Collegiate Dictionary* 299, 380 (10th ed.1997)). However, the Federal Circuit has repeatedly cautioned against indiscriminate reliance on non-technical dictionaries for defining technical words, observing that "dictionary definitions of ordinary words are rarely dispositive of their meanings in a technical context. A word describing patented technology takes its definition from the context in which it was used by the inventor." Anderson v. Int'l Eng'g & Mfg., Inc., 160 F.3d 1345, 1348-49 (Fed.Cir.1998). Plaintiff's proposed construction (or lack thereof) improperly attempts to purge the technological context of the invention from the meaning of the words "decoding" and "encoding."

To provide context for the disputed claim terms, the court turns to the claims and specifications of the '366 and '918 Patents. Texas Digital, 308 F.3d at 1204. In the patented inventions,"encoding" and "decoding" are

necessary steps for responding to file requests from a data network. *See, e.g.,* '366 Patent, 51:42-48. To perform these steps, the preferred embodiments of the inventions employ a "network controller" that determines whether an incoming data packet is an NFS packet, and if so, identifies the nature of the request. *Id.* at 9:34-42; *see also id.* at 6:31-32 (identifying an "XDR/RPC layer" that "provides the decoding necessary to permit a client machine to execute a procedure on the server"). The network controller then determines what procedures must be performed to process the NFS request and dispatches procedure calls accordingly. *Id.* at 6:33-37. When processing of the request is complete, the network controller generates a "reply message" that is sent over the network to the client computer. *Id.* at 6:37-40.

Generalizing from the disclosures in the preferred embodiments, the "decoding" and "encoding" functions of the patented inventions are best described as a process of translation. The court finds further support for this view in the *AP Dictionary,* a technical reference cited and relied on by both parties. The *AP Dictionary* defines "encode" as "to convert data into code according to a specified coding scheme;" conversely, "decode" is defined as "to convert data by reversing the effect of some previous encoding." *Id.* at 596, 743. Like the specifications, the dictionary definitions of "encode" and "decode" imply a process of translating or converting data from one format to another. Applying these definitions in the context of the disputed language, the court construes "decoding NFS requests" to mean "converting NFS requests from the format received from the network to another, decoded data format." Similarly,"encoding NFS reply messages" should be construed to mean "converting NFS reply messages from a decoded data format to the format used for transmission on the network."

Although this choice of words is generally consistent with the spirit, if not the letter, of defendant's proposed construction, defendant urges the court to adopt the phrase "processing all protocol layers" as an additional limitation in the "decoding" and "encoding" terms. Defendant relies on a statement in the specifications explaining that the network controller performs "full protocol processing" on "NFS-destined packets." *See, e.g.,* '366 Patent, 9:36-38. However, in describing what full protocol processing entails, the specifications identify one of the protocols as "XDR decoding"-i.e., a process that "provides the decoding necessary to permit a client machine to execute a procedure on the server." *Id.* at 6:31-32, 9:41. Defendant's definition therefore implies that "decoding" refers to both processing a single protocol layer and to "full protocol processing." The court declines to adopt such a strained interpretation of the term. In any event, the limitation "all protocol layers" appears in neither the claim language nor in the specifications of the patents in suit. Accordingly, the court declines to read this limitation into the claim. Thus, for the reasons stated above, the court construes "decoding NFS requests" as **"converting NFS requests from the format received from the network to another, decoded format."** In addition, the court construes "encoding NFS reply messages" to mean **"converting NFS reply messages from a decoded data format to the format used for transmission on the network."**

3. "*file retrieval requests prepared*"/"*preparing file retrieval requests*"/" *preparing reply messages*"

The term "file retrieval requests prepared" appears in claims 10 and 14 of the '366 Patent and claims 7 and 12 of the '918 Patent. For example, claim 10 of the '366 Patent recites:

[a] network file server for use with a data network and message storage device, said network file server comprising ...

....

a communication path coupled directly between [a] network control module and [a] file system control module, said communication path carrying file retrieval requests prepared by said network control module in response to received NFS requests to retrieve specified retrieval data from the mass storage device ...

'366 Patent, 53:13-14, 53:20-25. The relevant portion of Claim 7 of the ' 918 Patent is identical, but for the substitution of the term "file system requests" for "NFS requests." '918 Patent, 127:48-53. In addition, the term "preparing file retrieval requests" appears in claim 14 of the '366 Patent and claim 12 of the '918 Patent, where it also refers to the network control module's response to NFS or file system requests. '366 Patent, 53:55-58; ' 918 Patent, 128:25-28. The same claims also recite a "network control module preparing reply messages containing said specified retrieval data from said file system control module for return transmission on said network." *See, e.g.,* '366 Patent, 54:1-4.

Once again, plaintiff asserts that no construction is required because the disputed terms have an unambiguous meaning to persons ordinarily skilled in the relevant art. Defendant largely rehashes its arguments advanced in favor of its construction of "decoding NFS requests" and "encoding NFS reply messages," arguing that "file retrieval requests prepared" should be construed to mean "requests created by the network control module by processing all layers of a request from the network and converting them into different format." Similarly, for the term "preparing reply messages," defendant proposes the construction "processing all protocol layers and converting data into reply messages ready for network transmission."

As an initial matter, the court notes that defendant's proposed construction of the terms at issue here is substantially identical to its favored construction of the terms "decoding NFS requests" and "encoding NFS reply messages." However, the scope of procedures encompassed by the verb "to prepare" is much broader than the encoding and decoding process discussed above. While decoding and encoding necessarily involve a process of translation or conversion, no such requirement is inherent in the process of preparation. Moreover, under the doctrine of claim differentiation, different claim terms "are presumed to reflect difference in the scope of the claims." Forrest Labs., Inc. v. Abbott Labs., Inc., 239 F.3d 1305, 1310 (Fed.Cir.2001). Thus, absent a strong showing that the same meaning is intended by the different claim terms, importing the limitations from claims containing the "decoding" and "encoding" terms into claims that contain the "file retrieval requests prepared" and "preparing reply messages" limitations is improper.

To rebut the presumption that "preparing" has a meaning distinct from that of "decoding" and "encoding," defendant relies heavily on the preferred embodiments disclosed in the specifications of the '366 and '918 Patents, which reveal a method for preparing file retrieval requests and reply messages that involves decoding NFS requests sent from clients on a networked Unix system and encoding NFS reply message to be sent to those clients. If the preferred embodiment defined the scope of the claimed invention, it is indeed possible that the term "preparing file retrieval requests" could have the same meaning as "decoding NFS requests." However, the Federal Circuit has repeatedly cautioned against limiting the scope of the claimed invention to the embodiments disclosed in the specification. *See, e.g.,* Liebel-Flarsheim Co. v. Medrad, Inc., 358 F.3d 898, 906 (Fed.Cir.2004) (collecting cases); *see also* CCS Fitness, 288 F.3d at 1366 (noting that "simply ... pointing to the preferred embodiment or other structures or steps disclosed in the specification" is not sufficient to narrow the meaning of an unambiguous claim term). Because defendant has done nothing more than suggest that "file retrieval requests prepared" and "preparing reply messages" should be construed according to the preferred embodiment, the court declines its invitation to read these limitations into the disputed claim terms.

Having rejected defendant's attempt to limit the claim to the preferred embodiment of the invention, the

court returns to-and here, agrees with-plaintiff's argument that the terms "file retrieval requests prepared" and "preparing reply messages" are unambiguous and need not be construed by the court. Unlike the terms "encoding" and "decoding," the word of the claim terms at issue here do not involve technical terms of art. Indeed, the technical definitions of "retrieval" and "request" differ little from the ordinary meaning of the terms as used in everyday English. *See IEEE Dictionary* at 553 (defining "information retrieval" as "[t]he techniques used to recover information from an organized body of knowledge"); *id*. at. 966 (defining "request" as, *inter alia,* "[a] command generated by a requester, to initiate an action on a responder"). Where there is no better way to define a disputed claim term than the claim language itself, there is no need for the court to construe the term. Johnson Worldwide Assocs. ., 175 F.3d at 989-90 ("[C]laim terms cannot be narrowed by reference to the written description or prosecution history unless the language of the claims invites reference to those sources.") Accordingly, the court holds that construction of the terms "file retrieval requests prepared" and "preparing reply messages" is unnecessary.

4. "*module*"

The next disputed terms that the parties identify is "module," which occurs throughout the '366 and '918 Patents. For example, claim 10 of the '366 Patent and claim 7 of the '918 Patent describe "a network control module, including a network interface coupled to receive NFS [or file system] requests from [a data] network," as well as "a file system control module, including a mass storage device interface coupled to [a] mass storage device." '366 Patent, 53:15-18; '918 Patent, 127:42-46. Adopting its now familiar posture, plaintiff argues that no construction of the term "module" is required. Defendant, on the other hand, proposes that the term be construed to mean "a distinct, plug-hardware unit."

The primary point of contention is whether "module" should be construed to encompass both software and hardware modules, or whether it should be limited to hardware modules alone. The parties cite numerous dictionary definitions for the term, some of which support the view that the module is a hardware unit and others that are consistent with a broader definition of that would include both hardware and software. *See, e.g., AP Dictionary* at 1399 (defining module as software in the context of "computer programming" and hardware in the context of "computer technology"). Indeed, the *IEEE Dictionary* provides no fewer that twenty definitions of the word, and refers to both hardware and software modules. Plaintiff argues that this welter of inconsistent definitions supports its view that no construction of the term "module" is needed. This is illogical, for where there are a myriad of definitions it is unlikely that all of them fit. Once again, we are reminded by the case law that where "words ... have multiple dictionary definitions, some having no relation to the claimed invention, the intrinsic record must always be consulted to identify which of the possible dictionary meanings of a claim terms in issue is most consistent with use of the words by the inventor." Texas Digital, 308 F.3d at 1203. Thus, the court must construe the term module in light of the claim language, the specification and the prosecution history of the '366 and '918 Patents.

As noted above, the claims of the '366 and '918 Patents identify two types of modules, network control modules and file system modules. The language used to describe these modules implies that they are hardware devices. For example, claim 7 of the '918 Patent claims a network control module "coupled to receive file system requests from [a data] network." '918 Patent, 127:42-45. Another element of claim 7, the file system module, "include[s] a mass storage device interface coupled to [a] mass storage device." *Id*. at 127:45-46. The fact that the inventors claimed modules that "couple" and "interface" with other hardware devices suggests that the modules are themselves physical devices-i.e., hardware. In contrast, a software module is typically defined as "[a] program unit that is discrete and identifiable with respect to compiling, combining with other units, or loading," or as "[a] logically separable part of a program." *IEEE Dictionary*

at 703-04. Simply put, it makes no sense to refer to a part of a software program as "coupled" to a hardware device such as a mass storage device. Thus, the ordinary meaning of the word module, as used in the claims of the patents in suit, refers to a hardware module.

This construction is also supported by the prosecution history of U.S. Patent No. 5,163,131 (Nov. 10, 1992) ('131 Patent), a parent application of the '366 and '918 Patents. In the course of prosecuting the parent application, the examiner rejected four claims as anticipated by a prior art multiprocessor data processing system. Grewal Decl., Exh. I at 339. Like the ' 131 Patent and the patents in suit, the prior art processor disclosed a file server architecture in which a file manager, a storage processor, and a "requesting unit capable of issuing calls" (i.e., a network controller) were controlled by separate and independent elements the file server. Id. at 339-40. Auspex sought to distinguish the prior art server, arguing that the various "levels" of that server (e.g., a file controller represented by a "file management level") "are merely software processes." Id. at 340 (emphasis added). Auspex contrasted these software processes with the claimed invention, noting that "one of the primary features of the Applicants' invention is that these processes [i.e., the network control, file control, and storage processing] do run on different hardware." Id. Auspex continued: "[I]t is the separation of these processes onto different hardware which yields the performance advantages of the Applicants' invention, not the separation of these tasks into different software processes." Id. at 341.

Plaintiff contends that the referenced passage of prosecution history is irrelevant to the patents in suit. Admittedly, the term "module" does not appear as a limitation in the '131 Patent's claims. As the Federal Circuit observed in Advanced Cardiovascular Systems. Inc. v. Medtronic, 265 F.3d 1294 (Fed.Cir.2001), the prosecution history of a parent application is most apposite to the construction of claims in a successor patent "if ... it addresses a limitation in common with the patent in suit." Id. at 1305. In that case, the court declined to read a claim limitation culled from the prosecution history of two parent applications into a subsequently issued patent, citing the absence of the disputed claim term in the parent application's prosecution history. Id. at 1305-06. However, unlike *Medtronic,* the record in the instant case does not indicate that Auspex applied for the patents in suit with the intent of securing broader claims than the parent application. *See id*. at 1306. Moreover, despite the absence of the term "module" in the claims of the '131 Patent, Auspex emphasized the separation of network and file control processes onto different hardware as one of the "primary features" that "yields the performance advantages of Applicants' invention" when compared to the prior art file server. Grewal Decl., Exh. I at 340-41. Although these statements do not expressly limit the claim term "module"-the term did not appear in the rejected claims of the ' 131 Patent-they are nonetheless relevant to determining the meaning of the term as it is used in the patents in suit. *Accord* Microsoft Corp. v. Multi-Tech Sys., Inc. 357 F.3d 1340, 1350 (Fed.Cir.2004) (observing that "[a]ny statement of the patentee in the prosecution of a related application as to the scope of the invention would be relevant to claim construction"), *cert. denied,* 543 U.S. 821, 125 S.Ct. 61, 160 L.Ed.2d 31) (2004). Furthermore, the term "unit" is used in the '131 Patent similarly to the use of the term "module" in the '366. Thus, considering the prosecution history of the '131 Patent together with the context in which the disputed term appears in the claims of the '366 and '918 Patents, the court concludes that the term "module" must refer to a hardware device.

Defendant also argues that the modules disclosed in the '366 and '918 Patents must be "distinct ... plug-in unit[s]." In support of this construction, defendant cites the *AP Dictionary,* which defines module as "a distinct unit or component," or alternatively, as "an interchangeable plug-in item containing electronic components that complete, enhance, or expand processing capability or memory capacity." *AP Dictionary* at 1399 (defining "module" in the art of computer technology). The court agrees that the essence of modularity

requires that a modular component be discrete, distinct, and separable from the whole. On the other hand, it is unclear what purpose would be served by adopting the "plug-in" limitation that defendant proposes. Defendant appears to extract the term from a single dictionary definition of the term "module." *See AP Dictionary* at 1399. However, "[i]f more than one dictionary definition is consistent with the use of the words in the intrinsic record, the claims may be construe to encompass all such ordinary meanings." Texas Digital, 308 F.3d at 1203. Of the twenty definitions of module that appear in the *IEEE Dictionary* (the majority of them pertaining to hardware), only two contain the "plug-in" limitation. *Id*. at 703-04. While the intrinsic record in this case requires that the court limit the meaning of the disputed term to exclude software modules, defendant fails to convince the court that it should include the phrase "plug-in" as a limitation in the claims at issue. Accordingly, for the reasons stated above, the court construes the term module to mean **"a distinct hardware unit ."**

5. "*bus*"

"Bus" is the next term disputed by the parties. The term "parallel bus" occurs in claim 19 of the '366 Patent. '366 Patent, 54:41. In addition, the term "communications bus" occurs in claims 1, 7, and 11 of the '037 Patent. '037 Patent, 55:53, 56:32, 57:24. The parties agree that the term "bus" is used consistently in the two patents, although they differ as to what this meaning should be. Plaintiff argues that "bus" should be construed to mean "a channel or path for transferring a signal, data, or power from one or more sources to one or more destinations." Defendant proposes the construction "a path for transferring information from any of several sources to any of several destinations." The dispute between the parties boils down to two issues: namely, (1) whether a bus may connect as few as two endpoints, rather than requiring that it have the capability of connecting at least three devices; and (2) whether a bus transfers only information or data, or whether it may transfer a signal or power as well as information.

The parties again cite numerous technical dictionaries and treatises in support of their positions. For example, both parties point to the *AP Dictionary,* which defines bus as, *inter alia,* "a channel or path for transferring data or power from one of many sources to one or more of many destinations." *Id*. at 329. Plaintiff also cites two of the nine definitions of bus that appear in the *IEEE Dictionary:* (1) "a signal line or set of lines used by an interface to connect a number of devices and to transfer data"; and (2) "one or more conductors used for transmitting signals or power from one or more sources to one or more destinations." *Id*. at 128. As noted above, the Federal Circuit's decision in *Texas Digital* announced a general rule for determining if one or more of several possible dictionary definitions should be adopted as the legal meaning of a disputed term: namely, that a claim term may be construed to encompass all such definitions that are consistent with the intrinsic record. 308 F.3d at 1203. At the same time, the court noted that the "intrinsic record must always be consulted to identify which of the different possible dictionary meanings of the claim term in issue is most consistent with the use of the words by the inventor." *Id*.

In the instant case, the court looks to the specification to provide the "best guide" for selecting among the competing definitions of "bus" found in the cited technical references. *Accord* Vitronics, 90 F.3d at 1582. Taking the ' 037 Patent as an example, the specification discloses multiple network controllers, mass storage processors, memory cards, and a host processor coupled to a "backplane bus." '037 Patent, 5:50-54. Similarly, the specification of '366 Patent describes the various elements of the file server as being connected over a "VME bus"-i .e., an IEEE Standard 1014-1987 backplane bus. '366 Patent, 8:6-10; *IEEE Dictionary* at 1259. A "backplane bus" is in turn defined as "[a] set of signal lines to which a number of devices are connected and over which information is transferred between them ." *Id*. at 129 (defining "simple 32-bit backplane bus"). In other words, the embodiment of the invention disclosed in the

specification includes a bus that (1) connects "a number" (i.e., at least two, but usually more) devices and (2) transfers information between those devices.

Although mindful of its obligation to avoid reading limitations from the specification into the claim, the court believes that this definition of "bus" bests fits the language of the claims themselves as well as the description of the preferred embodiment. *Accord* Irdeto, 383 F.3d at 1300 (reaffirming doctrine that specification may define claim terms by implication). As to the number of devices, it is noteworthy that claim 7 of the '037 Patent reveals only that a "plurality"of processors-i.e., more than one processor-are connected to the communications bus. '037 Patent, 56:26-47. In contrast, other claims recite at least three devices connected-for example, the plurality of processors and data memory coupled to the communications bus in claim 11 of the '037 Patent. *Id*. at 57:24-27. Furthermore, the function of the "bus" described in the claim language is to provide for the transfer of "message[s]" *id*. at 56:46, or "NFS requests," ' 366 Patent, 54:45. Both of these functions are best characterized as transferring data or information between the devices connected to the bus. FN3 Accordingly, the court construes the term "bus" as used in the patents in suit to mean a **"a set of signal lines to which two or more devices may be connected and over which information is transferred between those devices."**

FN3. Although plaintiff cites several definitions of "bus" that encompass a "line over which power is transferred," those definitions are inapposite to the art of computer file server architecture. For example, plaintiff cites one *IEEE Dictionary* definition, which defines "bus" as "an electrical conduit through which a current may flow." *Id*. at 128. This definition pertains to the art of electrical engineering rather than computing. Plaintiff's reliance on this court's decision in *IXYS Corp. v. Advanced Power Tech., Inc,* 301 F.Supp.2d 1039 (N.D.Cal.2004) (Patel, J.), is similarly misplaced. That case involved a patent claiming a lithographic machine for use in semiconductor manufacturing rather than a patent for a network file server architecture, and is thus at best only marginally relevant to construing the claims at issue here.

B. *Means-Plus-Function Claims*

The parties also propose differing constructions of a number of means-plus-function claim terms in the '366 and '918 Patents. At the September 30, 2004 claim construction hearing, the court notified the parties that it would defer construing means-plus-function claims to allow for supplemental briefing on the subject. However, before construing the remaining means-plus-function terms, the court must consider the threshold issue of whether the terms "first processing unit" and "second processing unit" are means-plus-function elements subject to 35 U.S .C. s. 112 para. 6. The terms are found in claim 1 of the ' 366 Patent, which recites:

1. Apparatus for use with a data network and a mass storage device, comprising the combination of first and second processing units,

said first processing unit being coupled to said network and performing procedures for satisfying requests from said network which are within a predefined non-NFS class of requests,

and said second processing unit being coupled to said network and to said mass storage device and decoding NFS requests from said network, performing procedures for satisfying said NFS requests, and encoding NFS reply messages for return transmission on said network, said second processing unit not satisfying any requests from said network which are within said predefined non-NFS class of requests.

'366 Patent, 51:35-49.

As the quoted passage of the '366 Patent makes clear, claim 1 does not contain the words "means" or "step for." Where these statutory terms are absent from a claim element, there is a presumption that section 112 para. 6 does not apply. CCS Fitness, 288 F.3d at 1369. Although this presumption can be rebutted, the proponent of construing the term as a means-plus-function element has the burden of overcoming the presumption by demonstrating that the claim fails to recite "sufficiently definite structure" to one of ordinary skill in the art. Linear Tech. Corp. v. Impala Linear Corp., 379 F.3d 1311, 1319-20 (Fed.Cir.2004).

To determine whether a claim term recites sufficient structure, the court must examine whether the disputed term has an understood meaning in the art. Greenberg, 91 F.3d at 1583. The court begins this analysis with the definition of "processing unit" found in the *IEEE Dictionary*. *Accord* Linear Tech., 379 F.3d at 1320 (noting that technical dictionaries provide evidence of the understanding of persons of skill in the art). The *IEEE Dictionary* defines "processing unit" as "[a] functional unit that consists of one or more processors and their storage." *Id*. at 871. Defendant argues that the definition of "processing unit" connotes a function-i.e, processing-rather than structure. However, persons skilled in the art of computer architecture recognize that the terms "processors" and "storage" describe structural elements of a processing unit. *See id*. at 872, 1112 (defining "processor" and "storage").

Although it implicitly acknowledges that processing units refer to a class of structure in the relevant art (for example, a "central processing unit"), defendant nonetheless maintains that the term fails to identify a specifically definite structure to avoid a means-plus-function construction. However, "[t]he fact that more than one structure may be described by [a claim] term, or even that the term may encompass a multitude of structures does not make the term ... any less a name for structure." Lighting World, 382 F.3d at 1361. Rather, "[w]hat is important is whether the term is one that is understood to describe structure, as opposed to a term that is simply a nonce word or a verbal construct that is ... simply a substitute for the term 'means for.' " *Id*. at *17. Here, a person skilled in the art of computer system architecture would recognize the processing unit term as describing one or more processors and their storage.

In any event, a term disclosing a structure need not be read in isolation, as defendant's proposed construction would require. Indeed, other claim elements that describe a disputed term's operation can disclose sufficient structural meaning to avoid the application of section 112 para. 6. Linear Tech., 379 F.3d at 1320. In the instant case, claim 1 of the '366 Patent describes the processing units as "performing procedures for satisfying [NFS and non-NFS] requests," "decoding NFS requests," and "encoding NFS reply messages." '366 Patent, 51:38-47. The structural meaning associated with these functions, taken together with the well-understood meaning of the term in the art of computer system architecture, convinces the court that "processing unit" recites sufficiently definite structure to avoid construction as a means-plus-function claim element. Accordingly, the court holds that 35 U.S.C. s. 112 para. 6 does not apply to the terms "first processing unit" and "second processing unit."

II. ***The*** '037 Patent

The parties also identify eighteen disputed claim terms in the '037 Patent. Having construed the term "bus" in the preceding section, the court discusses the remaining claim terms below.

A. ***Construction of Disputed Claim Terms***

1. "*operating system peer-level facility*"/"*component facility*"

The term "operating system peer-level facility" appears in independent claims 1 and 7 of the '037 Patent, 55:21-22, 56:37-38. Claim 11 of the ' 037 Patent includes the related term, "component facility," which both parties agree is synonymous with "operating system peer-level facility." *Id*. at 57:11-12. The court therefore construes the term "operating system peer-level facility" in lieu of addressing the two terms separately.

Plaintiff argues that "operating system peer-level facility" is simply "an independent software entity." In contrast, defendant proposes a lengthy definition, arguing that the court should construe the term to mean "a major functional subsystem of the operating system separate from a conventional Unix kernel, constituted as an independent, separately executed software entity including a unique, multi-tasking interface function (or multi-tasking interface subcomponent)." Defendant's proposed construction goes on to recite several examples of peer-level facilities: the network communications facility, the filesystem facility, and the storage facility.

To resolve the parties' dispute, the court first looks to the language of the claims. *See* Teleflex, 299 F.3d at 1324. Claim 1 states in relevant part:

A computer system employing a multiple facility operating system architecture, said computer system comprising ...

a plurality of processor units provided to co-operatively execute a predetermined set of operating system peer-level facilities, wherein each of said processor units is associated with a respective different one of said operating system peer-level facilities and not another of said operating system peer-level facilities, and wherein each of said operating system peer-level facilities constitutes a respective separately executed software entity which includes a respective distinct set of peer-level facility related functions ...

'037 Patent, 55:18-29. Claims 7 and 10 also respectively claim, *inter alia,* a "plurality" of "[operating system] peer-level facilit[ies] constituting [ ] respective software entit[ies] executed separately from [a] kernel," *id*. at 56:41-43, and "additional component facilities," each of which includes "a facility sub-component" that "defines the execution operation of [ ] one of said component facilities, coupled to a multi-tasking sub-component," *id*. at 57:10-15.

As previously noted, plaintiff argues that a peer-level facility is nothing more than "an independent software entity." Arguably, this definition could include any self-contained computer program. However, as the quoted claim language makes clear, the *raison d'etre* of the peer-level facilities is the segregation of the various operating system functions onto different processor units. For example, claim 1 states that each peer-level facility "includes a respective distinct set of peer-level facility related functions." *Id*. at 55:28-29. The specification similarly emphasizes this separation of function among the various peer-level facilities, noting that advantages of the invention include "provid[ing] for the implementation of multiple facilities, each instance on a respective processor, all within a single cohesive system while incurring little additional control overhead in order to maintain operational coherency." *Id*. at 3:57-60. In addition, each of the operating system peer-level facilities is described as "distinct" and "separately executed." *Id*. at 55:28-29. A second important feature of the peer-level-facilities is operational independence. As the ordinary meaning of the word "peer" implies, each of the facilities are co-equal, no one facility being dominant or subordinate to the other. *Accord Webster's Third New International Dictionary* 1665 (1976) (defining peer as "one that is the same or equal standing ... with another"). In short, there is little doubt that independence and

segregation of operation system functions are important aspects of the claimed peer-level facilities.

Although these limitations are apparent from the plain meaning of the claim language, defendant seeks to introduce myriad other elements into the disputed term, citing the specification and the prosecution history. It is well-established that the prosecution history may limit the scope of claims "so as to exclude any interpretation that may have been disclaimed or disavowed during prosecution in order to obtain claim allowance.' " Teleflex, 299 F.3d at 1326. Moreover, "when two patents using the same claim term both stem from the same parent application, the prosecution histories of both are relevant to an understanding of the terms in both patents." Laitram Corp. v. Morehouse Indus., Inc., 143 F.3d 1456, 1460 n. 2 (Fed.Cir.1998) (citing Jonsson v. Stanley Words, 903 F.2d 812, 818 (Fed.Cir.1990)).

In the instant case, defendant relies on the prosecution history of a predecessor application from which the '037 Patent claims priority, Application No. 404,885 (Sept. 8, 1989) ("'885 Application").FN4 Claim 1 of the '885 Application initially recited a computer system "employing a multiple facility operating system architecture, said computer system comprising [*inter alia*] ... a plurality of processor units for implementing a pre-determined set of peer-level facilities wherein each of said peer-level facility [sic] includes a plurality of related functions." Grewal Decl., Exh. K at 433. The examiner rejected this claim for indefiniteness, pointing out that "the computer system of claim one is only vaguely defined by the claim language .... Applicants should particularly point out the functions performed by the processor units in response to executing [the instructions necessary to store programs and data and to pass messages]." Id. at 422.

FN4. Auspex filed the '885 Application in September 1989. Although this application was ultimately abandoned, Auspex filed Application No. 875,585 ("'585 Application") as a continuation of the abandoned '885 Application. Prior to abandoning the '585 Application in April 1994, Auspex filed another continuation application, Application No. 225,356 ("'356 Application"). The '037 Patent ultimately issued on May 16, 2000 pursuant to a divisional application based on the '356 Application. Thus, the '885 Application is parent application of the patent in suit.

In response to the examiner's rejection, Auspex amended the phrase "a plurality of related functions" to read "a respective plurality of peer-level facility related functions" and replaced the gerund "implementing" with "executing." Id. at 433. Auspex's response also took issue with the examiner's characterization of claim 1 as inadequately defining the invention, arguing that "[r]eliance on the specification to provide definitions of terms utilized in a claim, where such terms do not otherwise have a conventional definition, is not improper .... Specifically, the specification [of the '885 Application] substantially defines the primary peer-level facilities as, in the context of the UNIX operating system, the major functional subsystems of the operating system constituted as [ ] separately executed software entities separate from a conventional UNIX kernel." Id. at 439.

As the quoted passage of the '885 Application's prosecution history makes clear, Auspex sought to overcome the examiner's rejection of claim 1 by expressly defining the term "primary peer-level facility" in the context of the Unix operating system. As the Federal Circuit has repeatedly emphasized, "[t]he prosecution history limits the interpretation of claim terms to exclude any interpretation that was disclaimed during prosecution .... Claims may not be construed one way in order to obtain their allowance and in a different way against accused infringers." Southwall Techs., 54 F.3d at 1579 (citations omitted). The broad construction that plaintiff now proposes is simply inconsistent with the Auspex's representations to the

examiner during the prosecution of the '885 Application.

Plaintiff raises two objections to this line of reasoning. First, it notes that the quoted passage of the '885 Application's prosecution history defines the term "primary peer-level facility" rather than "operating system peer-level facility." However, there is little doubt that the primary peer-level facilities of the '885 Application are substantially identical to the operating system peer-level facilities of the '037 Patent. Although claim 1 of the patent in suit includes additional claim elements not present in the parent application-presumably to avoid rejection on indefiniteness or anticipation grounds-the disclosed structures and functions of the peer-level facilities are closely related to those in claim 1 of the '885 Application. *Compare* Grewal Decl., Exh. K at 433 *with* '037 Patent, 55:18-58. Moreover, the adjective "primary," like the modifier "operating system," both limit the scope of the term "peer-level facility" to the major, functionally independent components that are described in the cited passage of the prosecution history. Accordingly, the court concludes that the definition of "primary peer-level facility" in the '885 Application should limit the scope of each claimed "operating system peer-level facility" in the '037 Patent.

Plaintiff's second objection is aimed at the "conventional Unix kernel" limitation in defendant's proposed construction of the operating system peer-level facility term. Plaintiff observes that the definition of primary peer-level facility in the '885 Application includes the caveat "in the context of the UNIX operating system"-i.e., the operating system disclosed as part of the preferred embodiment of the present invention. *See* Grewal Decl., Exh. K at 439. By its own terms, this definition contemplates that peer-level facilities could function in contexts other than a conventional Unix operating system. Moreover, the specification of the '037 Patent expressly states that the Unix operating system is merely a preferred embodiment of the invention, noting that the invention is "applicable to a wide variety of primary, or full-function operating systems such as MVS and VMS." '037 Patent, 6:54-57. Accordingly, the court declines to adopt defendant's proposed "conventional Unix kernel" limitation as part of its construction of the operating system peer-level facility term.

Of course, this leaves open the question as to whether the "kernel" limitation should be included in the construction at all. Plaintiff argues that it should not, citing the preferred embodiment of the '037 Patent, which includes the Unix kernel itself as one of the operating system peer-level facilities. *Id*. at 8:46-48. Thus, plaintiff argues that limiting the functional subsystems covered by the definition of peer-level facility to those that are executed separately from the kernel would be illogical, noting that such a definition would require the kernel (itself a peer-level facility) to be executed separately from itself. The court agrees. While recognizing that the prosecution history of the '885 Application at least implicitly excludes the operating system kernel from its definition of "primary peer-level facility," the court must also heed the Federal Circuit's warning that it is rarely, if ever, correct to construe a term to exclude a preferred embodiment. Vitronics, 90 F.3d at 1583-84. Reading the "executed separately" limitation into the claim language would require the court to choose between one construction that is inconsistent with the preferred embodiment disclosed in the specification (i.e., one that excludes a Unix kernel from the scope of the claim language) and another that is simply irrational, given that the kernel cannot be executed separately from itself. Thus, the court holds that the limitation "separately from the kernel" should not be read into the term "operating system peer-level facility." FN5

FN5. Similarly, the court notes that claim 11 of the '037 Patent recites an "operating system [that] includes a kernel and a plurality of additional component facilities executed separately from said kernel." ' 037 Patent, 57:9-11. The need to qualify the term "component facilities" with the adjective "additional" suggest that absent such a qualification, the term component facility would include the kernel.

Having thus far defined "operating system peer-level facility" as "a major functional subsystem of the operating system constituted as a separately executed software entity," the court turns to several additional limitations that defendant seeks to introduce to the disputed term. First, defendant argues that the terms should be construed to include a "multi-tasking interface function." However, this construction is inconsistent with the plain meaning of the claim language. For example, claim 7 states that each operating system peer-level facility "implements" a multi-tasking interface. '037 Patent, 55:43-44. Defendant's construction would require that the facility implement a part of itself, rendering the claim language redundant and circular. In any event, the multi-tasking interface is a separate element of the claimed invention, which the court declines to read into the peer-level facility term. FN6 Defendant also requests that numerous examples of peer-level facilities be included in the claim language. However, even defendant's proposed construction does not suggest that this list is exhaustive. As a result, including these examples in the claim language does nothing to define the scope of the patent's terms, and ultimately, plaintiff's right to exclude. "The Federal Circuit has repeatedly cautioned courts from positing constructions that 'would contribute nothing but meaningless verbiage to the definition.' " *Nikon,* 308 F. Supp 2d at 1072 (quoting Harris Corp. v. Ixys Corp., 114 F.3d 1149, 1152 (Fed.Cir.1997)). Accordingly, the court declines to construe the claim to include the proposed terms.

FN6. Because the court declines to a read a multi-tasking interface limitation into the disputed terms, it need not address defendant's argument that this multi-tasking interface is "unique."

Thus, for the reasons stated above, the court construes "operating system peer-level facility" as **"a major functional subsystem of the operating system constituted as a separately executed software entity."**

2. "*network facility*"/"*network communications facility*"

The court next addresses the terms "network facility" and "network communications facility," which appear in '037 Patent in claims 2 and 8, respectively. '037 Patent 55:61, 56:49. The parties agree that the two terms are used interchangeably in the '037 Patent to refer to a type of peer-level facility. However, plaintiff argues that the court should construe both terms as "a facility for performance of network communications," while defendant contends that "network facility" and "network communications facility" refer to "the peer-level facility that consists of the NFS stack and its associated multi-tasking interface function."

For the reasons stated in its discussion of the term "operating system peer-level facility," the court declines to adopt the "multi-tasking interface function" limitation as part of the construction of the network facility term. Thus, what remains of the parties' dispute centers on the whether a network facility must consist of an NFS stack. Here too, the court's preceding discussion resolves the parties dispute. In the preferred embodiment of the invention, an NFS stack is defined as a series of communication protocol layers that provides a link between the "virtual file system" ("VFS") of the Unix kernel and representation (i.e., XDR) protocol layer. *Id*. at 7:42-46. As the court noted above, the claims of the '037 Patent are not limited to this preferred embodiment.

Nonetheless, defendant argues that the prosecution history of the '885 Application and the prior art file server depicted in the '037 Patent require the court to read the limitation "NFS stack" into the claims. With respect to the former, defendant does little more than repeat the previously quoted passage of prosecution

history, noting that Auspex defined the term "primary peer-level facility" in response to the examiner's rejection of claim 1 of the '885 Application for indefiniteness. However, the cited passage does not mention the term "network communications facility." Indeed, the definition of peer-level facility on which defendant relies makes it clear that any component of a Unix operating system would merely relate to the preferred embodiment of the invention rather than to the scope of the claims. The court cannot arbitrarily select one such component, the NFS stack, to limit the scope of the network facility term.

As to prior art, defendant argues that Figure 1 of the '366 Patent depicts a prior art operating system that would anticipate the invention unless the network communications facility shown in the figure includes an NFS stack. It is true that "claims should be read in a way that avoids ensnaring prior art if it is possible to do so." Harris, 114 F.3d at 1153. Nonetheless, the Federal Circuit has recognized that "claim limitations may, and often do, read on the prior art." Intel Corp. v. United States Int'l Trade Comm'n, 946 F.2d 821, 842 (Fed.Cir.1991). Simply put, there is nothing in the claims of the '037 Patent to indicate that a network communications facility must include an NFS stack. Because the court lacks the power to rewrite the claim to insert such a limitation, *see* Becton Dickinson & Co., 922 F.2d at 799 n. 6, defendant's argument must be rejected.

Having rejected defendant's arguments for the reasons stated above, the court concludes that the ordinary meaning of the term "network communications" adequately describes the function performed by a network communications peer-level facility. Accordingly, the court construes "network communications facility" (or "network facility") as **"a peer-level facility for the performance of network communications."**

3. "***filessystem facility*"/"*filesystem utility***"**

The term "filesystem facility" (or "filesystem utility") appears in claims 2, 3, 5, 8, 9, 10, and 13 of the '037 Patent. Following the pattern set out in its proposed construction of the term "network communications facility," plaintiff urges the court to define "filesystem facility" as "a facility that provides for the performance of a pre-determined filesystem function." For its part, defendant seeks to limit the disputed term to "the peer-level facility that consists of the file system and its associated multi-tasking interface function."

Because the court has determined that a multi-tasking interface function is a separate element of the claimed invention and not a component of any of the peer-level facilities, the sole remaining issue in construing the filesystem facility term is whether the filesystem facility's function must be "pre-determined," as plaintiff's proposed construction requires. The source of this limitation appears to be claim 5 of the '037 Patent, a dependent claim that recites a "filesystem facility [that] provides for the performance of [a] predetermined filesystem function." '037 Pat, 56:15-17. However, no such limitation appears in connection with use of the term in claim 2, a claim on which claim 5 depends. Generally, it is improper to read a limitation from a dependent claim into the independent claim on which it depends. *See, e.g.,* Rodine PLC v. Seagate Tech., Inc., 174 F.3d 1294, 1304 (Fed.Cir.1999), *cert. denied,* 528 U.S. 1115, 120 S.Ct. 933, 145 L.Ed.2d 812 (2000) (noting that if the patentee "intended or desired" to include a claim limitation present in a dependent claim in a broader, independent claim, "it could have done so explicitly"). The court sees no reason why it should do so in the instant case, and thus declines to read the "predetermined" limitation that appears in claim 5 of the '037 Patent into the filesystem facility term.

Reading the claim in light of the specification, the court concludes that the function performed by the filesystem facility is best described as "file system control." *See* '037 Patent, 3:53-3:56. The court therefore

construes "filesystem facility" as **"a peer-level facility for performing file system control functions."**

4. "***storage facility***"

The next term disputed by the parties is "storage facility," which appears in claims 5 and 6 of the '037 Patent. The parties proposed claim language parallels the definitions advanced in support of their construction of the term "network communications facility" and "filesystem facility." Thus, adopting the reasoning set forth above, the court construes "storage facility" to mean **"a peer-level facility for performing storage control functions."** *See* ' 037 Patent, 3:53-3:56.

5. "***multi-tasking interface function***"/"***multi-tasking interface***"/"***multi-tasking interface sub-component***"

The related terms "multi-tasking interface," "multi-tasking interface function," and "multi-tasking interface subcomponent" appear in independent claims 1, 7, and 11 of the '037 Patent, respectively. Claim 1 recites a "multi-tasking interface function" implemented by one of the peer-level facilities and

responsive to control messages for selecting for execution [the] peer-level facility related functions of [ ] one of said predetermined operating system peer-level facilities and responsive to said one of said predetermined operating system peer-level facilities for providing control messages to request or in response to the performance of said predetermined peer-level facility related functions of another operating system peer-level facility ...."

'037 Patent, 55:41-58. Claim 7 recites a "multi-tasking interface," also implemented by one of the peer-level facilities, and "coupleable between said communications bus and a respective and unique peer-level control function set to permit message transfer between each of said plurality of facilities." *Id*. at 56:42-47. Similarly, claim 11 recites a "facility sub-component" of a component facility "coupled to a multi-tasking interface sub-component." *Id*. at 57:13-15. Consistent with parties treatment of these terms, the court construes "multi-tasking interface function" and "multi-tasking interface sub-component" as synonyms with "multi-tasking interface."

The parties broadly agree that the multi-tasking interface performs the function of facilitating communication between the various operating system peer-level facilities of the claimed invention. That is the extent of their agreement, however. While plaintiff argues that "multi-tasking interface function" need not be construed, defendant proposes the following definition: "in each peer-level facility, software tailored to that peer-level facility for managing multiple concurrent processes and supporting direct communication with other peer-level facilities so as to allow multiple, independent instances of the peer-level facilities."

In support of its "ordinary meaning" construction of the multi-tasking interface term, plaintiff contends that the claim language itself provides sufficient context to define multi-tasking interface, and that therefore no further elaboration by the court is required. Specifically, plaintiff argues that the language of claims 1 and 7 defines the disputed term. However, while the language of the claims is sufficient to describe what the multi-tasking interface *does* in the context of a particular claim-for example, providing control messages-the claim language standing alone is insufficient to define what a multi-tasking interface *is*. Recognizing that multi-tasking interface is a noun, the court must attempt to define it as such. Moreover, the claimed function of the multi-tasking interface differs among the various claims in which the term appears. Consequently, even assuming that court could replace the noun "multi-tasking interface" with a verb, plaintiff's argument would imply that the term should be defined differently in each claim. To do so would violate the canon of construction stating that a claim term should be construed consistently throughout a patent. *See, e.g.*,

Rexnord Corp. v. Laitram Corp., 274 F.3d 1336, 1342 (Fed.Cir.2001). The court therefore rejects plaintiff's argument that the claim language alone is sufficient to define the term "multi-tasking interface."

Arguing in the alternative, plaintiff also relies on dictionary definitions, citing definitions of "multi-tasking" and "interface" from both technical and general-purpose dictionaries. *See IEEE Dictionary* at 574, 718; *Webster's Collegiate Dictionary* at 610, 765. The court focuses on the definitions in the *IEEE Dictionary*. *Accord* Transclean Corp. v. Bridgewood Servs., Inc., 290 F.3d 1364, 1375 (Fed.Cir.2002) (observing that when comparing technical and non-technical dictionary definitions of a claim term used in a technical context, a technical dictionary is "a better source to inform the meaning of the term to a skilled artisan"). In the *IEEE Dictionary,* "multitasking" is defined as "[a] mode of operation in which two or more tasks are executed in an interleaved [i.e, alternating] manner ... [or] that provides for concurrent performance or interleaved execution of two or more tasks." *Id*. at 718. The *IEEE Dictionary* also recites four definitions of interface apposite to the art of computer software. *Id*. at 574-75. Like the multi-tasking interface claimed in the '037 Patent, several of these definitions refer to facilities that allow for communication between different components of a computer system. *See, e.g.,* id. at 574 (Definition 9(B)). However, these definitions also suggest that the term "interface" may be used to describe either hardware, software, or a conceptual relationship among hardware or software components that is neither hardware nor software. *Compare* id. at 574 (defining "interface" as "[a] hardware or software component that connects two or more components for the purpose of passing information from one to the other") *with* id. at 575 (defining "interface: in the field of "software development" as a relationship between two or more entities [e.g., hardware and/or software components] ... in which the entities share, provide, or exchange data"). Thus, because the ordinary meaning of the term "interface" includes hardware, software, and conceptual interfaces, the court must look to the intrinsic record to determine which of these possible meanings was intended by the inventor. Texas Digital, 308 F.3d at 1203

The court begins with the language of the claims. At a minimum, the plain meaning of the claims is sufficient to support defendant's view that the multi-tasking interface must refer to a software interface. Taking claim 1 as an example, the multi-tasking interface function recited in claim 1 "executes ... peer-level facility related functions" and "provid[es] control messages" for the purpose of communicating with other peer-level facilities. ' 037 Patent, 55:44-52. Consistent with defendant's proposed construction, these are tasks that one would expect software to perform. Defendant also relies on the specification's description of the preferred embodiment of the invention, which discloses, as a component of each peer-level facility, "an interface that supports direct communication with [the other peer-level facilities]." *Id* . at 8:24-26. This interface is further defined as "a messaging kernel layer" that "includes a message passing multi-tasking kernel ... tailored to each type of peer-level facility in order to support the specific facility's function." *Id*. at 8:28-30. Defendant argues that this definition of "interface" should limit the "multi-tasking interface" term at issue here.

Ordinarily, it is improper to read limitations from the preferred embodiment into the scope of the claims. *See, e.g,* Liebel-Flarsheim, 358 F.3d at 906. However, in the instant case, the prosecution history of the '885 Application lends additional support to the view that the claimed multi-tasking interface must include the aforementioned limitations. As noted above, the examiner initially rejected claim 1 of the '885 Application for indefiniteness,, observing that "[s]tripped of the characterization of the stored instruction as a 'predetermined peer-level facility' and 'a multi-tasking interface function,' the claim is seen simply to recite a multiprocessor system." Grewal Decl., Exh. K at 422. Auspex responded to this rejection by expressly defining these terms. Specifically, it defined the multi-tasking interface function as "a messaging kernel layer tailored to each type of peer-level facility as appropriate for the specific facility function provided." *Id*.

at 439.

"It is well established that the prosecution history limits the interpretation of claim terms so as to exclude any interpretation that was disclaimed during prosecution." Springs Window Fashions LP v. Novo Indus., L.P., 323 F.3d 989, 994 (Fed.Cir.2003) (internal quotation marks omitted) (collecting cases). In this case, the Auspex expressly defined "multi-tasking interface function" to overcome the examiner's objections to the patentability of the invention claimed in claim 1 of the '885 Application. Thus, at a minimum, the court must construe the term "multi-tasking interface" to include the limitations that Auspex expressly included in its response to the examiner's rejection.

Although the '885 Application describes the multi-tasking interface as a "messaging kernel layer," it does not define the messaging kernel layer term itself. However, "messaging kernel" is defined in the specification of the ' 037 Patent as "an interface that supports direct communication between one [operating system peer-level facility and] another." '037 Patent, 8:24-8:27 .FN7 The court adopts this definition. *Accord* Vitronics, 90 F.3d at 1582 ("The specification acts as a dictionary when it expressly defines terms used in the claims or defines terms by implication."). Accordingly, the court agrees with defendant that the term "multi-tasking interface" should include the limitations "software tailored to each operating system peer-level facility that supports direct communication with other peer-level facilities."

FN7. The term "messaging kernel" is not to be confused with the construction of the word "kernel," which appears in the claims of the ' 037 Patent and is discussed below. *Accord* '037 Patent, 16:20-28 (distinguishing between "[t]he messaging kernel layers" and a "conventional Unix kernel").

In addition, defendant contends that the specification gives rise to two other claim limitations. First, defendant argues that the court should restrict the meaning of multi-tasking interface to an interface that "manage[s] multiples concurrent processes." In essence, this argument urges the court to limit the definition of "multitasking" to "managing concurrent processes." In doing so, however, defendant fails to account for the fact that the *IEEE Dictionary* defines "multitasking" to include both "concurrent" and "interleaved" processes. *Id*. at 718. Thus, the ordinary meaning of "multitasking" includes both of these types of processes.

To rebut the presumption that this ordinary meaning should apply, defendant relies on the specification's description of the preferred embodiment of the multi-tasking interface, which states that "[t]he provision for multi-tasking operation allows the peer-level facilities to manage multiple, concurrent processes." '037 Patent, 8:30-32. However, the specification merely states that the multi-tasking interface "allows" for such a concurrent processing to take place; it does not suggest that the multi-tasking interface is charged with managing these processes. Indeed, the quoted passage appears to assign the "management" task to the peer-level facilities rather than the multi-tasking interface. In short, the reference to "multiple, concurrent processes" in the specification falls short of the clear disclaimer of ordinary meaning required to construe the multi-tasking interface according to a "special meaning" disclosed in the specification. Accord Teleflex, 299 F.3d at 1325 (requiring that intent to deviate from the ordinary meaning of a claim term must be demonstrated by the patentee's "clear disavowal of claim scope"). Thus, the court adopts the ordinary meaning of the word multi-tasking, which in this context is defined as "capable of managing two or more concurrent or interleaved (i.e., alternating) tasks."

Defendant's contention that the multi-tasking interface term should include the limitation "allowing multiple,

independent instances of the peer-level facilities" is similarly flawed. It is true that the specification discloses this function as one of the "primary benefits" of the invention. '037 Patent, 16:1-4. However, the specification again states only that the operating system "allows" for multiple instances of each peer-level facility. *Id*. There is no requirement that the claimed invention must contain this limitation. Indeed, some of the claims read on an operating system that comprises only a "plurality"-i.e, at least two-processors, each corresponding to a single instantiation of one type of peer-level facility. *See, e.g., id*. at 55:59-62. In view of the plain meaning of the claim language, the court refuses to read defendant's proposed limitation into the claims.

Accordingly, for the reasons stated above, the court construes the term "multi-tasking interface" to mean **"software that is tailored to each operating system peer-level facility that supports direct communication with other peer-level facilities and capable of managing at least two concurrent or interleaved tasks."**

6. "*kernel*"

The term "kernel" appears in claims 7 and 11 of the '037 Patent. Claim 7 recites "a multiple facility operating system having a kernel and providing for the message based co-operative operation of [a] plurality of processors." '037 Patent, 56:33-34. Similarly, claim 11 claims an "operating system [that] includes a kernel and a plurality of additional component facilities executed separately from said kernel." *Id*. at 57:9-11. Plaintiff, citing various technical and general-purpose dictionaries, proposes that the court construe "kernel" to mean "a portion of a computer program that generally resides in memory while the program is running." Defendant, on the other hand, argues for a narrower construction, contending that kernel means "a complete conventional operating system, such as UNIX OS."

The court again first looks to the ordinary and customary meaning of the disputed claim term. Texas Digital, 308 F.3d at 1201-02. In the art of computer science, the term "kernel" is generally defined as "[t]hat portion of an operating system that is kept in main memory at all times," or alternatively, "[a] software module that encapsulates an elementary function or functions of a system." *IEEE Dictionary* at 599. Ordinarily, the term would not be used to refer to a complete operating system, as defendant's proposed construction would require. Thus, defendant bears the burden of rebutting the presumption that the ordinary meaning of "kernel" should apply.

Defendant attempts to rebut the presumption in favor of ordinary and customary meaning by recourse to the intrinsic record. *See* Texas Digital, 308 F.3d at 1204. However, neither the patent language nor the prosecution history of the ' 037 Patent suggests that a kernel must be a complete operating system. Although defendant notes that other peer-level facilities must be "executed separately from the kernel," '037 Patent, 56:41-42, such a limitation is entirely consistent with the ordinary meaning of the disputed term. Similarly, defendant's citations to the prosecution history of the '037 Patent only prove that the non-kernel peer-level facilities do not have a full Unix operating system. See Grewal Decl., Exh. J at 429-31, 460-61. Defendant fails to explain how this would require that the kernel term refer to such an operating system.

Defendant also makes much of the fact that, as discussed above, each of the claimed multi-tasking interfaces includes a "messaging kernel," arguing that because each of these facilities must be "executed separately from the kernel," '037 Patent, 56:41-42, 57:10-11, the term kernel must refer to something other than a messaging kernel, lest the facility be separately executed from itself. The court agrees with this conclusion. As noted above, the messaging kernel is expressly defined in the specification as "an interface that supports

direct communication between one [operating system peer-level facility and] another." *Id*. at 8:24-27. This is not the same manner in which "kernel" is used in claims 7 and 11. However, it does not follow from this conclusion that kernel, as it is used in the claims, must refer to an entire operating system rather than one of its subcomponents.

Nonetheless, defendant's argument points out an important limitation in the definition of "kernel" as it is used in claims 7 and 11 of the '037 Patent. For the non-kernel peer-level facilities to be executed separately from the kernel, the term must refer to the kernel of the host facility. *See, e.g., id*. at 57:9-11 (claim 11) (claiming a "kernel and a plurality of *additional* component facilities executed separately from said kernel" (emphasis added)). The specification lends further support to this view, describing a preferred embodiment in which the operating system facility (a Sun OS operating system) includes "an operating system kernel portion of the facility." *Id*. at 14:35-41. Although the patented invention is not limited to this preferred embodiment, the "executed separately from the kernel" limitation in claim 11, read in light of the specification, requires the court to interpret the term "kernel" as it is used in the '037 Patent to refer to the kernel of the host operating system facility. Thus, for the reasons stated above, the court construes "kernel" to mean **"a portion of the host operating system facility that resides in memory at all times."**

7. "*respective separately executed*"/ "*executed separately from said kernel*"

The term "respective separately executed" appears in claim 1 of the '037 Patent. '037 Patent, 55:27. The related term, "executed separately from said kernel," is found in claims 7 and 11. *Id*. at 56:41-42, 57:10-11. Plaintiff argues that no construction of these terms is necessary, while defendant requests that the court construe "respective separately executed" to mean "executed by a processor that does not execute the kernel or any other facility." Defendant also argues that "executed separately from the kernel" should be construed as "executed by a processor that does not execute the kernel."

Once again, the court looks first to the language of the claims. Plaintiff contends that "respective separately executed" is unambiguous. However, from the plain meaning of the term alone, it is unclear that a person of ordinary skill in the art would be able to discern what is being separately executed from what. Fortunately, the court need go no further than the language of claim 1 to answer this question. In that claim, the phrase "respective separately executed" describes a "software entity"-i.e., one the operating system peer-level facilities. *See id*. 55:26-27. The claim language also recites a processor unit that is associated with each of the peer-level facilities and executes the "respective separately executed software entity." *Id*. at 55:21-25. Synthesizing these elements, the court construes the term "respective separately executed software entity" as **"an operating system peer-level facility executed separately from other operating-system peer-level facilities."**FN8

FN8. As discussed above, the specification of the '037 Patent defines the kernel as a peer-level facility. Thus, by implication, the court agrees with defendant's assertion that the definition of "executed separately" must mean executed separately from the kernel.

Similarly, Claims 7 and 11 recite "operating system peer-level facilities" or "additional component facilities executed separately from said kernel." Id. at 56:37-42, 57:10-11. Taking claim 11 as an example, the claim also recites "a plurality of processors executing [the] operating system, each of said processors including local memory for the storage and execution of a respective component facility." Id. at 57:16-20. In other words, each of the component facilities-including the kernel as well as the "additional component

facilities"-are executed by a separate processor. Accordingly, the court, adopting defendant's proposed construction, construes "executed separately from the said kernel" to mean **"executed by a processor that does not execute the kernel."**

8. "*control program*"

The term "control program" appears in independent claims 1 and 7 of the '037 Patent. Claim 1 recites a "processor unit" associated with each operating system peer-level facility "capable of executing a control program." '037 Patent, 55:22-30. Similarly, claim 7 claims, in relevant part, "a plurality of processors, each being coupled to a respective control program store ." *Id*. at 56:29-30. As in claim 1, each of the control programs is associated with a separate processor and peer-level facility. Plaintiff again argues that the term "control program" need not be construed, while defendant requests that the court construe the term as "an explicit specification of definitions and sequences of instructions written in a particular programming language to control other system resources."

Here too, plaintiff contends that the words of the claims adequately define the disputed term. For example, plaintiff observes that claim 1 recites "a first control program portion that includes one of said distinct sets of operating system peer-level facility related functions" and "a second control program portion that provides for the implementation of the multi-tasking interface function." *Id*. at 55:36-43. However, this argument fails here for the same reason that the court rejected it in construing the term "multi-tasking interface": namely, that the quoted claim language describes what the control program does, and not what it is. Regardless, the control program itself is an additional claim limitation that is separate from the other claim limitations that describe its function. Accordingly, the court proceeds to construe the disputed term.

The parties cite dictionary definitions of "control," "program," and "control program" in support of their proposed constructions, or lack thereof. Plaintiff, relying on *Texas Digital,* argues that the scope of the disputed term should encompass all of these definitions. However, claim construction is not merely an exercise in compiling dictionary definitions for common words like "control" and "program"; rather, "[d]etermining the limits of a patent claim requires understanding its terms in the context in which they were used by the inventor, considered by the examiner, and understood in the field of invention ." Toro Co. v. White Consol. Indus., Inc., 199 F.3d 1295, 1299 (Fed.Cir.1999). In the context of the patent in suit, each control program claimed in the '037 Patent performs tasks such as implementing one of the peer-level facilities and its associated multi-tasking interface function. ' 037 Patent, 55:36-43. Consistent with these functions, the *AP Dictionary* defines "control program" as "any of a class of programs within the operating system of a computer that controls the execution of other system resources." *Id*. at 514. The court concludes that this definition best represents the scope of the "control program" term as it is used in the claims of the '037 Patent. Accordingly, the court construes "control program" to mean **"a program within the operating system that controls the execution of other system resources."**

9. "*obtain access*"

In addition to the control program limitation, claim 1 of the '037 Patent recites "[a] processor ... coupled to [a] memory store to obtain access to said control program." '037 Patent, 55:33-35. As with the term "control program," plaintiff maintains that "obtain access" need not be construed by the court. Defendant proposes the construction "locate a unit of code or memory and use it in a process."

Defendant's proposed construction relies on the first definition of "access" in the AP *Dictionary*. *See id*. at 14. However, this definition, like each of the other four in the *AP Dictionary,* suffers from the flaw that it

refers to the verb "to access" rather than the noun "access." In contrast, "access," when used as a noun, means "permission, liberty, or ability to enter, approach, communicate, or pass to and from." *Webster's Third International Dictionary* at 11. In fact, the ability to "enter, approach, [or] communicate" aptly describes the "access" to the control program that is being obtained by the processor in claim 1 of the '037 Patent. In other words, the '037 Patent's of the term "obtain access" is consistent with its ordinary meaning, as evidenced by the non-technical dictionary definition cited above.

Defendant nonetheless argues that Auspex disclaimed the ordinary meaning of "obtain access" in the course of prosecution of the '885 Application, a parent application of the patent in suit. The prosecution history reveals that Auspex initially claimed a "storing means to permit the transfer of instructions and data." Grewal Decl., Exh. K at 433. The examiner rejected this language as indefinite under 35 U.S.C. s. 112 para. 2, noting, among other things, that "it is not entirely clear what is encompassed by the limitation 'permitting the transfer of programs and data.' " *Id*. at 421. In response, Auspex amended the limitation "to permit the transfer of instructions and data" to claim "to obtain access to said control program." *Id*. at 433.

Defendant argues that this amendment compels the court to impose a narrower construction on the term "obtain access." However, the examiner's rejection of the initial claim was based on the indefiniteness, of the term "permit the transfer of instructions and data" rather than the phrase "to obtain access to said control program," which is found in both the amended claims of the '885 Application and claim 1 of the patent in suit. As the Federal Circuit noted in Inverness Medical Switzerland GmbH v. Warner Lambert Co., 309 F.3d 1373 (Fed.Cir.2002), "[i]t is inappropriate to limit a broad definition of a claim term based on prosecution history that is itself ambiguous." Id. at 1382. Although the cited claim amendment would certainly preclude plaintiff from asserting that "obtain access to said control program" should be construed as "permit the transfer of data and instructions," the court need not address that issue to conclude that "obtain access" should be construed according to its ordinary meaning. Because the ordinary meaning of the disputed term as it is used in the claims is the term itself-i.e., "obtain access"-the court declines to construe the term.

10. "***common data store***"/"***data memory accessible by each of said processors***"

The term "common data store" appears in claim 10 of the '037 Patent. '037 Patent, 56:65. The term "data memory accessible by each of said processors" appears in claim 11. *Id*. at 57:21. In both claims, the claimed processors access the "data memory" or "common data store" to allow for the "storage and retrieval" or for the "transfer"of data between system components. *Id*. at 56:65-57:5, 57:21-23. Once again, plaintiff argues that no construction of these terms is needed. Defendant argues that both terms should be construed as "shared computer memory (as distinct from the mass storage device(s)) in which each of the facility processors can locate a unit of data to use in the process." FN9

FN9. Although defendant initially contended that "every process" should have the capability of locating a unit of data in the common data store, defendant's responsive brief concedes that "each of the facility processors" better reflects with the language of the claims. *See* Def.'s Responsive Br. at 21-22.

The court again begins its analysis with the ordinary meaning of the claim language. Although neither the phrase "common data store" nor "data store" are defined in the *IEEE Dictionary,* the noun "storage" has a well-established meaning in the art of "electronic computation," which the *IEEE Dictionary* defines as "[a]ny device in which information can be stored, sometimes called a memory device," or "a section [of a computer] used primarily for storing information ... sometimes called a memory or a store." *Id*. at 1112. The

description of a "store" as memory is also consistent with the specification, which refers to the claimed data store as a "memory resource" in the preferred embodiment of the invention. '037 Patent, 13:40-41, 14:23. Indeed, the parties do not distinguish between the "common data store" recited in claim 10 and the "data memory" term in claim 11. Based on the ordinary meaning of the words "data store" and the disclosures in the specification, the court sees no reason to do so either. As the claim language makes clear, this memory resource is also "shared" or "common" to each to the filesystem facility processors in the claimed invention. *See id*. at 56:65-57:1, 57:21-23: *see also id*. at fig. 6 (depicting shared "memory" (18)). Based on this language, the court agrees that the adjective "shared" aptly describes the memory resource claimed in the '037 Patent.

Defendant urges the court to go one step further to require that claimed common data store (or data memory) allows "each of the facility processors can locate a unit of data to use in the process." However, to the extent that such a limitation is necessary, the surrounding claim language makes clear which processors can access the shared memory. For example, claim 11 expressly provides that "each of the said processors" can access the data memory "for the storage and retrieval of data blocks exchangeable between said processors." *Id*. at 57:21-23. Claim 10 similarly claims a network facility and a filesystem facility, each facility "providing for the transfer of data between said data store and said [facility]." *Id*. at 56:65-57:1. Thus, because these limitations are clear from the ordinary meaning of the other claim terms, the court declines to read these limitations into the "common data store" or "data memory" term.

Finally, defendant requests that the court construe the terms "common data store" and "data memory" to be "distinct from the mass storage device(s)." Defendant notes that in the specification, the preferred embodiment discloses a "memory resource"-i.e, a "data store"-that transfers data to and from a mass storage device (the"disk array resource"), thereby implying that the memory resource and mass storage device are separate and distinct. from each other. *Id*. at 13:34-50. While this may be true of the preferred embodiment of the invention, no such limitation appears in the language of the claims. The court cannot rewrite the claims to introduce one. Accordingly, the court construes "common data store" in claim as **"shared data memory."** On the other hand, because it is clear from the term "data memory accessible by each of said processors" that the data memory is in fact shared by the processors that have access to it, the court declines to construe that term as it is used in claim of the '037 Patent.

CONCLUSION

For the foregoing reasons, the court construes the disputed claims in the manner described above.

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Network Appliance, Inc. v. Bluearc Corp.