

IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF WISCONSIN

APPLE, INC. and NeXT SOFTWARE, INC.,
f/k/a NeXT COMPUTER, INC.,

OPINION and ORDER

Plaintiffs,

10-cv-662-bbc

v.

MOTOROLA, INC. and
MOTOROLA MOBILITY, INC.,

Defendants.

In this patent infringement case, plaintiffs Apple, Inc. and NeXT Software, Inc. contend that the smart phone products and associated software sold by defendants Motorola, Inc. and Motorola Mobility, Inc. infringe 15 of plaintiffs' patents. Defendants have filed counterclaims, contending that plaintiff Apple, Inc. is infringing six of defendants' patents. The parties' request for claims construction is now before the court. A claim construction hearing was held July 22, 2011. I construe the terms as provided below. Also, I will grant plaintiff's motion for leave to file supplemental claim construction evidence, dkt. #113, because both sides had an opportunity to address this evidence at the hearing. (Throughout this opinion, I refer to Apple, Inc. and NeXT Software, Inc. collectively as "plaintiff." I refer to the Motorola entities as "defendant.")

OPINION

A. Claims to be Construed

There are 21 patents at issue in this case, with the following 10 patents and 12 claim terms at issue in the motions for claims construction:

- (1) “**long term energy value for [the/a] frame of information**” from defendant’s United States Patent No. 5,490,230, titled “Digital Speech Coder Having Optimized Signal Energy Parameters”;
- (2) “**extracting from [the recovered signal/the speech coded information] at least one parameter**” from the ‘230 patent;
- (3) “**transmit overflow sequence number**” from defendant’s United States Patent No. 5,319,712, titled “Method and Apparatus for Providing Cryptographic Protection of a Data Stream in a Communication System”;
- (4) “**transmitting . . . from the subscriber unit to the communication system**” from defendant’s United States Patent No. 5,572,193, titled “Method for Authentication and Protection of Subscribers in Telecommunications Systems”;
- (5) “**preamble sequence**” from defendant’s United States Patent No. 6,175,559, titled “Method for Generating Preamble Sequences in a Code Division Multiple Access System”;
- (6) “**outer code**” from the ‘559 patent;
- (7) “**software component architecture**” from plaintiff’s United States Patent No. 5,929,852, titled “Encapsulated Network Entity Reference of a Network Component System” & United States Reissued Patent No. RE39,486, titled “Extensible, Replaceable Network Component System”;
- (8) “**connection information**” from plaintiff’s United States Patent No. 6,424,354, titled “Object-Oriented Event Notification System with Listener Registration of Both Interests and Methods”;
- (9) “**during runtime**” from plaintiff’s United States Patent No. 6,275,983, titled “Object-Oriented Operating System”;
- (10) “**storing means for storing a specific set of events of which said at least one**

event consumer is to be informed” from plaintiff’s United States Patent No. 5,566,337, titled “Method and Apparatus for Distributing Events in an Operating System”;

- (11) “**dynamic binding**” from plaintiff’s United States Patent No. 5,481,721, titled “Method for Providing Automatic and Dynamic Translation of Object Oriented Programming Language-Based Message Passing Into Operation System Message Passing Using Proxy Objects”; and
- (12) “**programming modules**” from plaintiff’s United States Patent No. 6,493,002, titled “Method and Apparatus for Displaying and Accessing Control and Status Information in a Computer System.”

The parties proposed specific definitions for each of the claim terms at issue, and to some degree focus on the specific words they believe will best define the term. However, at this stage of the proceedings, the only disputes that must be resolved are ones relating to the presence of specific limitations in the claims, not the ability of a juror to understand the language. I have learned that attempting to sort out the exact words to use to define a term often leads to trouble.

As I explained in another case:

In my experience, attempting to resolve the parties’ disputes by providing specific definitions to a given claim term is nothing but an invitation to a new round of arguments at a later stage about the meaning of the court’s construction, or about the hidden implications of the language adopted. It is counterproductive to resolve claims construction disputes by replacing them with new ones for the parties to dispute about at summary judgment.

Sandisk Corp. v. Zotek Electronic Co., Ltd., 2010 WL 3743540, *2 (W.D. Wis. Sept. 22, 2010).

Moreover, a word-by-word definition for a term is rarely if ever necessary to resolve the concrete dispute between the parties that serves as the basis for construing the term to begin with. There may be times when providing specific definitions is useful, especially if it could help the jury understand the terms better. However, it would be premature to address such concerns at this stage. Therefore, despite the parties’ best attempts to define the terms, I decline to sort out their

disagreements about which specific phrases to use to describe the terms. This means that for the majority of the disputed terms, it was necessary only to consider the parties' proposed constructions that would place specific limitations on the scope of the claims. For plaintiff's patents, I focused primarily on the limitations proposed by defendant and for defendant's patents, I focused primarily on the limitations proposed by plaintiff, considering the other parties' proposed construction when necessary.

B. Standard on Claim Construction

The construction of the claims at issue in a patent infringement case is a legal determination to be made by the court. Vitronics Corp. v. Conceptronic, Inc., 90 F.3d 1576, 1582 (Fed. Cir. 1996); Markman v. Westview Instruments, Inc., 52 F.3d 967, 979 (Fed. Cir. 1995) (en banc), aff'd, 517 U.S. 370 (1996). In interpreting an asserted claim, the court should look first to the claims themselves. Teleflex, Inc. v. Ficosa North America Corp., 299 F.3d 1313, 1324-25 (Fed. Cir. 2002). Generally, claim terms are given their "ordinary and customary" meaning, which is the meaning the term would have to a person of ordinary skill in the art as of the filing date of the patent application. Phillips v. AWH Corp., 415 F.3d 1303, 1312-13 (Fed. Cir. 2005). In addition to considering the ordinary meaning of a claim term, the court must consider the context of the surrounding words of the claim and the specification. Id. It is in the specification that the patentee provides a written description of the invention that allows a person of ordinary skill in the art to make and use the

invention, Markman, 52 F.3d at 979, and at times even “set[s] forth an explicit definition for a claim term that could differ in scope from that which would be afforded by its ordinary meaning.” Rexnord Corp. v. Laitram Corp., 274 F.3d 1336, 1342 (Fed. Cir. 2001); Vitronics, 90 F.3d at 1582.

DEFENDANT’S PATENTS

C. ‘230 Patent

The ‘230 patent relates to speech coding, which involves the process of converting analog speech signals into a compressed, digital version of human speech that can be transmitted from one location to another. ‘230 patent, dkt. #5-3, “Technical Field.” The patent describes a method for reducing the amount of transmitted data and thereby reducing the amount of bandwidth required to transmit speech. In particular, the encoder in the ‘230 patent divides speech into frames and subframes, and further divides each subframe into pitch and white noise components. (The white noise component is called the “codebook” component in the patent.) These components are transmitted separately and then recombined at the receiver. Id. at Fig. 1.

The parties’ disputes relate to the transmission and reception of the white noise component of speech. The speech coder in the ‘230 patent transmits the white noise component through a set of predetermined white noise signals found in a codebook. Id. at col. 3, lns. 23-30. The coder must also either send a “gain value” to the decoder along with the index values (this is the method in prior art), or information that would allow the decoder to determine the

appropriate gain value. Id. at col. 1, lns. 58-61. The gain value is necessary so that the decoder may scale the codebook sample to the original speech. Id. at col. 3, lns. 30-39. Rather than transmitting the gain information directly, the speech coder described in the ‘230 patent transmits, once per frame, a “long term energy value” for the frame and other values representing energy for each subframe. Id. at col. 6, lns. 5-9. The decoder uses these values to determine the proper gain, then combines the properly gain-scaled white noise component with the properly gain-scaled pitch component to create an approximation of the original speech. According to the ‘230 patent, sending a long term energy value once for each frame, rather than gain values for every subframe, produces higher quality reconstructed speech without using too much bandwidth. Id. at col. 2, lns. 36-44; col. 5, lns. 26-37.

The parties’ claim construction disputes concern the type of data that must be transmitted by a coder to a decoder and particularly, what type of information constitutes the “long term energy value.”

1. “long term energy value for [the/a] frame of information” (clms. 6, 7 and 8)

Surrounding Claim Language	Plaintiff’s Proposed Construction	Defendant’s Proposed Construction
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<p>[cl. 6]: A method for recovering information that relates to gain information for excitation components of a speech sample, wherein the speech sample is digitized to provide a frame of information comprising at least one subframe, the method comprising the steps of: A) receiving at least one parameter comprising <i>a long term energy value for the frame of information</i>;</p> <p>[cl. 7]: extracting from the recovered signal at least one parameter comprising <i>a long term energy value for the frame of information</i>; [cl. 7]</p> <p>[cl. 8]: extracting from the speech coded information at least one parameter comprising <i>a long term energy value for information</i>, wherein a speech sample is digitized to provide the frame of information comprising at last one subframe;</p>	<p>“the total energy for the current frame of speech”</p>	<p>plain meaning of the terms; or “a value representative of the energy in a block of data”</p>
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For this term, the parties’ disputes are (1) whether the “long term energy value” must be for the *current frame* of speech, meaning the same frame as the later recited pre-component and recovered component, or whether it might be for some other frame; and (2) whether the “long term energy value” must be the *whole*, or total, energy value for a single frame of data or whether it could be merely the energy for certain subframes or components. Plaintiff seeks to limit the “long term energy value” to the total energy in the current frame of data, arguing that the claims,

specification and repeated clarifications made by the applicant over the course of prosecution confirm that the long term energy value is the “total energy for the current frame of speech.”

Initially, plaintiff argued that there was a third dispute, namely, whether the long term energy value must be “actual” energy, rather than merely a value representative of energy. Plaintiff contended that the long term energy value was “actual” energy, Plts.’ Br., dkt. #91, at 20-22, while defendant contended that the long term energy value was necessarily a number representative of energy. Dft.’s Br., dkt. #108, at 76. At the claim construction hearing, plaintiff abandoned its argument, stating that it was “not arguing that the actual energy itself has to be transmitted,” agreeing that “it’s a number that’s sent,” and stating that there was nothing “unclear” about this issue. Hrg. Trans., dkt. #118, at 24. Therefore, there is no real dispute whether the long term energy value is “actual” energy or “representative” of energy.

a. The “long term energy value” must be for the same frame of speech as the later recited “pre-component” and “recovered component”

The claims recite the process of recreating speech data for a single frame of speech. Plaintiff contends that the “long term energy value” is an energy value for that same frame of speech and that the long term energy value is used to calculate the gain values for the components in that frame. Plaintiff contends that although it might be possible to use an energy value from one frame to calculate the gain values for a different frame, the claims at issue relate to energy values from one frame only.

The claim language supports plaintiff’s proposed limitation. ACTV, Inc. v. Walt Disney

Co., 346 F.3d 1082, 1088 (Fed. Cir. 2003) (court must consider context of surrounding words of claim when construing term). The claims discuss only one frame of information and all references to “frame” in the claims are to the same frame. For example, claim 6 describes “a method for recovering information that relates to gain information for excitation components of a speech sample” that has been digitized to provide “a frame of digital information comprising at least one subframe.” ‘230 patent, dkt. #5-3, at col. 9 lns. 7-10 (emphasis added). The decoder receives “at least one parameter comprising a long term energy value for *the* frame of information,” id. at lns. 12-13 (emphasis added), as well as information for at least one component of speech. The use of “*the* frame of information” suggests that the frame of information is the same frame of digital information in which the “speech sample” was digitized. Similarly, the claims include descriptions of using a long term energy value and a “pre-component” to provide a “recovered component” (claims 7 and 8) or a “recovered excitation component” (claim 6). In all of the asserted claims, the recovered component is “of the speech sample,” meaning the components are from the same sample that was converted to the digital frame of information.

In addition, the claims recite a relationship between the long term energy value of a frame and the energy of a component of the same frame. The claims require that the “gain” used to provide the recovered component be “proportional to the long term energy value.” This makes sense. The greater the long term energy value for a frame of information, the greater the energy of the recovered component.

The specification also supports plaintiff’s proposed limitation, explaining how the long

term energy value for a frame is used to provide a recovered component for the same frame. In particular, the specification explains how the long term energy value of a frame, represented by $E_q(0)$, is divided into approximate values for each subframe within the frame. '230 patent, at col. 4, lns. 28-46. Nothing in the specification suggests that the long term energy value from a completely different frame could be used to produce a recovered component in the current frame or that any of the mathematical relationships described in the specification represent relationships between energies in multiple frames, let alone explains how this could be done.

Defendant spends several pages in its briefs arguing that neither the claim language nor specification requires that the decoder receive a long term energy value for the "current frame." At the same time however, defendant concedes in its response brief that "the long term energy value for a frame of information is used in the claim to calculate the gain for a pre-component in that frame of information." Dft.'s Resp. Br., dkt. #108, at 81. This is exactly what plaintiff is contending, and defendant has not pointed to any language in the claims, specification or prosecution history that would support any other interpretation of the claim language.

In fact, the majority of defendant's arguments are related to how the decoder determines or calculates the long term energy value. Defendant contends that the long term energy value may be calculated by looking to data from surrounding frames in addition to or instead of the frame that contains the pre-component (the frame referred to in the claim), pointing out that "there is nothing in the claims that dictates how a system designer calculates the 'long term energy value' which is used to determine the gain of the pre-component" and that "the patent does not prohibit a designer from determining the 'long term energy value' by looking outside

the frame of the pre-component.” Dft.’s Br., dkt. #108, at 76.

Defendant’s arguments do not address the limitation proposed by plaintiff, which relates solely to whether the long term energy value must be a value for the same frame as the pre-component described in the claim. Plaintiff’s proposed limitation does not address how the long term energy value is calculated. In addition, defendant’s arguments are not relevant to its own proposed construction of “long term energy value,” which is simply “a value representative of the energy in a block of data.” Thus, because the claim language and specification support plaintiff’s proposed limitation and because defendant has conceded that the limitation is accurate, I conclude that the long term energy value in claims 6, 7 and 8 is a value for the same frame of information referred to throughout the claims.

b. The “long term energy value” must be the sum of energies for each component for each subframe of a frame

Plaintiff contends that the term “long term energy value” in claims 6, 7 and 8 is referring to the value of the “total” energy for a frame of speech. In other words, a value representing the energy of a single subframe or a single component would not qualify as a “long term energy value.” Defendant disagrees, contending that long term energy value can represent the energy of any “block of data.” Defendant’s proposed construction is vague, overly broad and fails to distinguish the long term energy value from any other energy values referred to in the claim. I need not consider it further.

Turning to plaintiff’s proposed limitation, I agree with plaintiff that “long term energy

value” is the value for an entire frame and not a subframe. The claims themselves state that the long term energy value is for a “frame of information,” not for a subframe. The specification states that the long term energy value “comprises an energy value that is generally representative of a single frame.” ‘230 patent, dkt. #5-3, at col. 4, lns. 34-46. Also, the specification uses $E_q(0)$ to represent the long term energy value and defines it as the “quantized long term signal energy for total frame.” *Id.* at col. 4, ln. 46. According to the specification, $E_q(0)$ “can be calculated for a complete frame of digitized speech samples,” is transmitted from “time to time” and “does not need to be transmitted with each subframe’s information.” *Id.* at col. 5, lns. 27-32; see also id. at col. 6, lns. 4-7 (explaining that Figure 5 shows “quantized signal energy value $E_q(0)$ (505), calculated for each complete frame of digitized speech samples, [which] is transmitted once per frame.”). Also, the specification describes how the “residual energy” pertaining to a specific subframe can be determined by dividing the long term energy value by the product of a “filter power gain” and the number of subframes in each frame. All of these references suggest that the long term energy value is a value for a frame and not a value for a single subframe.

Defendant’s only argument that the long term energy should not be limited to a single frame is that such a limitation would read out the possibility of a frame consisting of only one subframe, something clearly allowed by the claim language. However, limiting the long term energy value to energy contained in a single frame places no limitations on the number of subframes that must be present in a frame. Thus, both the claims and specification make it clear that the long term energy value is a value representing a *frame* of information.

The claims and specification also make it clear that the long term energy value cannot be

for a single speech component. In fact, although defendant contends in one part of its brief that the long term energy value may be the value of a single component across the frame, defendant later concedes that “the claim distinguishes between the ‘long term’ energy and the energy of a pre-component.” Dft.’s Resp. Br., dkt. #108, at 75. Specifically, when the claim is referring to an energy value for a subframe or a particular speech component, the claim language refers to a “pre-component” or a “component” with an energy value. See, e.g., ‘230 patent, at col. 9, lns. 18-19 (claim 6); col. 9, lns. 42-43 (claim 7); col. 10, lns. 24-25 (claim 8). In addition, the “Background” and “Summary of the Invention” sections of the ‘230 patent distinguish between the various energies in a frame, discussing the drawbacks of transmitting gain values for individual components and proposing the transmission of “long term energy for the speech signal” as a solution. *Id.* at col. 1, lns. 51-58 (describing drawbacks of transmitting gain information); col. 2, lns. 36-44 (“So configured, the more important information (the long term energy value) is transmitted less frequently, and hence may be transmitted in a relatively highly protected form without undue impact on the transmission medium capacity.”); see also *id.* at col. 5, lns. 29-37. These references establish that the long term energy value is something different from the energy value of a single component in a single subframe.

Having concluded that the long term energy value does not represent the energy of a subframe or a single speech component, I turn to the final question, which is whether the long term energy value must be the sum of all energies for each component for each subframe within the frame. Defendant contends that the long term energy value could be the value of “residual energy” in a frame, which would fall under neither the restriction against energy for one subframe

nor the energy of a single component. (The parties disagree about the meaning of “residual energy,” though they both agree that it is some combination of energy including both a pitch and noise component. Hrg. Trans., dkt. #118, at 8-10, 20-21.) However, neither the specification nor the prosecution history supports defendant’s position.

The specification defines the long term energy value as “an energy that is generally representative of a single frame.” ‘230 patent, dkt. #5-3, at col. 4, lns. 35-36. The applicant clarified the meaning of long term energy value during the prosecution of the patent. The application was rejected twice because the claims, and specifically the claims at issue in this case, were vague and indefinite as to the meaning and relationship of the various “energy” terms they recited. The examiner stated that the “relationship between ‘total energy’, ‘long term energy value’, ‘a first parameter’, ‘a second parameter’, ‘overall energy’, ‘a speech sample’ and a ‘portion of the digitized speech sample’” was unclear. Dkt. #92-5, June 12, 1995 Rejection, at 1.

In response, the applicant amended claim 1 to include a step of “determining total energy of the frame of information to provide a long term energy value.” Dkt. #92-5, Aug. 16, 1995 Resp., at 2. Also, the applicant amended what are the present claims 6, 7 and 8 to clarify the relationships between the long term energy value, the gain value and the energy value of a pre-component, requiring that the gain value be “proportional to the long term energy value and inversely proportional to the energy value” of the pre-component.” Id. at 4-5. Finally, in perhaps the most significant amendment to the claims related to the present dispute, the applicant struck the language reciting “a long term energy value for at least one excitation component of the signal,” and changed it to “a long term energy value for a frame of

information.” Id.

The applicant explained its amendments to the examiner, stating that, “[r]egarding the terms ‘total energy’ and ‘long term energy value’, the applicants note that these terms, as used in claim 1, represent the same thing. That is, claim 1 calls for the ‘total energy’ to be determined ‘to provide [the] long term energy value’. These terms represent $Eq(0)$” Id. at at 5. The applicant went on to explain the relationship between the long term energy value and other energies, including pitch and noise components and residual energy, by referring to the equations set forth in the specification. Id. at 6-7. The applicant explained that the long term energy value was used to determine the “residual energy” of a subframe. Later in the response, the applicant stated that the relationships described with respect to claim 1 were the same relationships recited in claims 7 and 8. Id. at 8 (“Perhaps most significantly, both claims 7 and 8 are amended to include ‘details or relationships to physical elements or measurements.’ These relationships, as claimed, are discussed in section 3 above [in the context of discussing claim 1].” In other words, the long term energy value represents the “total energy” for a frame in each of the claims, as the applicant had already explained. The applicant went on to emphasize that the “overall energy value” of a pre-component is “determined for a subframe,” and the long term energy value is “determined for a . . . frame.” Id.

At the claim construction hearing, defendant conceded that the long term energy value described in the specification and represented by $Eq(0)$ in the various equations in the specification is the “total energy” for a frame. Hrg. Trans., dkt. #118, at 13-14. However, defendant contends “that there are many different ways and many different sets of these

variables that you can send in order to be able to calculate the necessary information on the receiver side to reproduce the speech sample.” Id. at 12. This may be true, but the court cannot ignore limitations that the “patentee itself regarded as comprising its inventions and represented to the PTO.” Microsoft Corp. v. Multi-Tech Systems, Inc., 357 F.3d 1340, 1349 (Fed. Cir. 2004). During prosecution of the ‘230 patent, the examiner rejected the claims at issue specifically because “no specific manipulation or method [was] claimed, ensuring that any and all mathematical relationships are included” Dkt. #92-5, Aug. 16, 1995 Resp. at 7. The applicant responded by amending the claims and contending that the additional “limitations[s]” and details regarding the various energies would insure that not “all mathematical relationships” are covered by the claims. Id. at 8. In addition, the applicant relied on the specific equations found in the specification to explain the meaning of the terms used in the claims, including the long term energy value and its relationship to the residual energy.

Limitations of the scope of a claim using the patent’s prosecution history require a clear statement in the history showing “reasonable clarity and deliberateness” in creating the limitation. University of Pittsburgh of Commonwealth System of Higher Education v. Hedrick, 573 F.3d 1290, 1296 (Fed. Cir. 2009). When taken in conjunction with the amendments to the claims and references to the equations in the specification, the statements by the applicant are clear, deliberate statements that reflect the patentee’s understanding that the long term energy value in a frame is the total energy in a frame. Thus, the long term energy value cannot be the residual energy in a frame. (Indeed, defendant does not even attempt to explain how, in light of the applicant’s explanations and the equations in the specification, the residual energy can

both be calculated using the long term energy value and *be* the long term energy value.)

Accordingly, I conclude that the long term energy value must be the total energy for a frame of information.

2. “extracting from [the recovered signal/the speech coded information] at least one parameter”

(clms. 7 and 8)

Surrounding Claim Language	Plaintiff’s Proposed Construction	Defendant’s Proposed Construction
<p>[cl. 7]: A method for recovering information that relates to gain information for excitation components of a speech sample, wherein the speech sample is digitized to provide a frame of information comprising at least one subframe, the method comprising the steps of . . .</p> <p>C) <i>extracting from the recovered signal at least one parameter</i> comprising a long term energy value for the frame of information;</p> <p>[cl. 8]: <i>extracting from the speech coded information at least one parameter</i> comprising a long term energy value for information</p>	<p>“taking a transmitted value out of the [speech signal/speech coded information]”</p>	<p>“ p r o c e s s i n g performed on [the recovered signal/the speech coded information] to obtain a parameter”</p>

The parties’ dispute regarding the term “extracting . . . at least one parameter” is related to their disputes regarding the nature of the long term energy value. Although it is not readily apparent from their proposed constructions, the parties’ dispute regarding this term boils down to one issue: whether the long term energy value must be transmitted to the receiver in one

parameter or whether the receiver can determine the long term energy value by processing information from multiple parameters. Plaintiff contends that the “parameter comprising the long term energy value” must be recovered as part of the transmitted signal or speech coded information, while defendant contends that the receiver may need to process the recovered signal to obtain the long term energy value from multiple parameters.

The claim language supports plaintiff’s proposed interpretation. The claims state that the receiver “extract[s] . . . at least one parameter comprising a long term energy value” Although defendant argues that this phrase means that there is one long term energy value that may be “comprised of” or “made up of” more than one parameter, Dft.’s Resp. Br., dkt. #108, at 84-85, defendant’s interpretation of the phrase relies on an improper use of the word “comprising.” As the Court of Appeals for the Federal Circuit has held repeatedly, the term “comprising” is well understood in patent law to mean “including but not limited to.” Exergen Corp. v. Wal-Mart Stores, Inc., 575 F.3d 1312, 1319 (Fed. Cir. 2009); In re Skvorecz, 580 F.3d 1262, 1267 (Fed. Cir. 2009); Predicate Logic, Inc. v. Distributive Software, Inc., 544 F.3d 1298, 1304 (Fed. Cir. 2008). Thus, the claims do not describe a “long term energy value comprising one or more parameters,” as defendant suggests. Rather, the claims should be read as reciting “at least one parameter including, but not limited to, a long term energy value.” This reading supports plaintiff’s position that although the receiver may extract multiple types of parameters, it must extract at least one parameter that *is* the long term energy value.

Plaintiff’s interpretation is also supported by the abstract, specification and prosecution history. The abstract states that the invention is

A speech coder and decoder methodology wherein pitch excitation and codebook excitation source energies are represented by parameters that are *readily transmissible* with minimal transmission capacity requirements. *The parameters are the long term energy value*, a short term correction factor which is applied to the long term energy value, and proportionality factor(s) that specify the relative energy contribution of the excitation sources to the short term energy value.

'230 patent, dkt. #5-3, Abstract (emphasis added). Thus, according to the abstract, the long term energy value is one of the parameters that is transmitted to the receiver. Nothing in this language suggests that the long term energy value is a value that will be calculated by applying several parameters to a mathematical equation, as defendant suggests.

Additionally, the specification states repeatedly that the long term energy value parameter is “transmitted.” For example, the specification states that

[A] quantized signal energy value $E_q(0)$ can be calculated for a complete frame of digitized speech samples. This value is transmitted from the coder to the decoder from time to time as appropriate to provide the decoder with this information.

Id. at col. 5, lns. 26-37. See also id. at col. 6, lns. 4-7 (“The quantized signal energy value $E_q(0)$ (505), calculated for each complete frame of digitized speech samples, is transmitted once per frame.”). This language confirms that the long term energy value is transmitted as a determined value, not as several pieces that would require processing by the decoder to calculate the value.

In addition, the applicant stated at several points during the prosecution that the parameter containing the long term energy value is transmitted; nothing about the applicant’s description supports a conclusion that it is transmitted in multiple pieces. In particular, the examiner rejected the application in part because “[n]othing is shown to explain how the information sent is coded for transmission.” Dkt. #92-5, Dec. 18, 1990 Rejection at 1. The applicant responded that

The Examiner argues that no information is provided regarding ‘transmission’ of the gain parameters. The application, however, is replete with numerous references to transmission activity in general, and of the gain information in particular. Consider the following excerpts: . . . This value [the quantized signal energy value $E_q(0)$] is transmitted from the coder to the decoder from time to time as appropriate to provide the decoder with this information.

Dkt. #92-5, June 18, 1991 Resp. at 4-5.

Defendant contends that despite these references in the specification and prosecution history, the patent supports additional processing at the decoder to determine the long term energy value. In particular, defendant points to the language in the specification describing Figure 2, which describes one embodiment of the invention in a radio. Figure 2 discloses a radio with an antenna for receiving a speech coded signal and an “RF unit (203) [that] processes the received signal to recover speech coded information.” ‘230 patent, dkt. #5-3, at col. 7, lns. 56-60. “This [speech coded] information is provided to *a parameter decoder (204) that develops control parameters for various subsequent processes.*” *Id.* (emphasis added). Defendant contends that this description of Figure 2 establishes that in some embodiments, there is a “parameter decoder” that performs some type of processing on the speech coded information in order to develop “control parameters,” including the parameters containing a long term energy value.

Defendant’s interpretation of Figure 2 is not persuasive. The text of the patent mentions the “parameter decoder” only one time, in the context of describing Figure 2. As defendant itself explains, “the digital bit stream reproduced in the receiver may itself contain values that are useful to the receiver. In other words, specific bits of the reproduced digital bit stream may represent a particular value that can be used by the receiver.” Dft.’s Br., dkt. #96, at 95. The most obvious function of the parameter decoder is to separate this stream into its constituent

transmitted parameters and provide them to those “subsequent processes.” Even if it is true that the parameter decoder performs types of “processing” in addition to this separation of the digital bit stream into usable parameters, nothing in the patent or prosecution history suggests that this processing includes calculation of a long term energy value or that the processing occurs at the “extracting” steps in claims 7 and 8. The only processing described with any detail in the claims or specification is the processing that occurs after the parameters have been transmitted and extracted, when the parameters are processed to produce a pre-component and the appropriate gain. This processing occurs in steps (E), (F) and (G) of claim 7 and steps (B)(3)-(5) of claim 8, and the specification describes the processing that occurs at these steps. In contrast, all of the descriptions in the specification concerning the transmission of the long term energy value support plaintiff’s argument that the coder determines and transmits the value and that the decoder receives the value without further processing.

In sum, the main purported point of novelty in the ‘230 patent is the selection of particular data values, identified as “parameters,” including a long term energy value, for transmission. The patent emphasizes the transmission of the long term energy value in a high quality and protected form and does so repeatedly. There is no support for concluding that the long term energy value is determined by the decoder using multiple, unidentified pieces of data sent at unidentified and unlimited times. Accordingly, I conclude that the “extracting . . . at least one parameter” does not encompass processing multiple parameters to obtain a long term energy value.

B. '712 Patent: "transmit overflow sequence number" (cl. 17)

Surrounding Claim Language	Plaintiff's Proposed Construction	Defendant's Proposed Construction
<p>a method for providing cryptographic protection of a data stream, comprising . . . updating a <i>transmit overflow sequence number</i> as a function of the packet sequence number; and encrypting, prior to communicating the packet and the packet sequence number on the physical layer, the packet as a function of the packet sequence number and <i>the transmit overflow sequence number</i>.</p>	<p>"a number that is updated within the transmitter when the packet sequence number rolls over, but it is not communicated to the receiver"</p>	<p>"a multi-bit incrementing number that updates within the transmitter when the packet sequence number rolls over"</p>

The '712 patent discloses a particular method for encrypting data packets transmitted and received in a communication system. '712 patent, dkt. #5-2, Abstract. Under the method described in Figure 1 of the specification, a transmitter divides data streams into 21 byte packets. Id. at col. 3, lns. 63-65. Each packet is assigned a 7-bit sequence number that serves as an identifier of the packet, identified as the "data sequence number" in asserted claim 17. Id. Because 7 bits can represent only 128 packets, the transmitter "rolls over" the sequence number after every 128 packets, and an "overflow sequence number" keeps track of the number of times the sequence number has been rolled over. Id. at col. 3, lns. 65-66. Next, a "pseudorandom" bit generator generates a "key" for encrypting the packets. A combination of this key, the sequence number and the overflow sequence number is used to generate an encryption mask, which is used to encrypt the packets. Id. at col. 4, lns. 19-23. The encrypted packets are transmitted from the transmitting unit to the receiving unit.

The parties' dispute concerns the "transmit overflow sequence number." Actually, the parties agree as to what the "transmit overflow sequence number" is. However, they dispute whether the overflow sequence number may be transmitted to the receiver along with the encrypted packets. Plaintiff contends that the overflow sequence number may never be transmitted to the receiving side. Defendant objects to plaintiff's proposed negative limitation, contending that it is not required by the claim language or specification.

The claim language and specification suggest that there is no reason to transmit the overflow sequence number to the receiver. The claim recites, "encrypting, prior to communicating the packet and the packet sequence number on the physical layer," indicating that although the "packet and packet sequence number" are communicated to the receiver, the overflow sequence number is not. Similarly, the specification says repeatedly that the "encrypted plurality of packets and the packet sequence number associated with each packet are transmitted," but is silent regarding the overflow sequence number being transmitted. Id. at col. 5, lns. 28-32. Also, other claims in the '712 patent refer to a "receive overflow sequence number" generated independently by the receiving device, suggesting that the transmitter need not send an overflow sequence number to the receiver. '712 patent, cls. 1, 2, 5, 11, 12, 18. The specification explains that the receiver receives and "extracts" the packet sequence number and derives the overflow sequence number from the packets. Id. at col. 4, lns. 15-17, col. 5, lns. 33-35. If the transmit overflow sequence number was transmitted, there would be no need for the receiver to derive a receive overflow sequence number.

That being said, neither the claim language nor the specification *prohibits* transmission of

the overflow sequence number or gives any clear indication of what happens to the number. There is simply silence on the issue. The asserted claim 17 focuses only on the encryption process, and says only that the “transmit overflow sequence number” is used to encrypt a packet “prior to communicating the packet and the packet sequence number on the physical layer.” The claim says nothing about what *must* happen to the transmit overflow sequence number after it is used for encryption. The language regarding the communication of “the packet and packet sequence number” relates to the timing of the encryption, not necessarily whether the overflow sequence number is transmitted. Also, although other claims include language regarding the independent generation of an overflow sequence number by a receiver that would make transmission of the transmit overflow sequence number unnecessary, defendant is not asserting these claims against plaintiff and they do not impose any limitations on claim 17. Thus, the question whether the overflow sequence number may be transmitted is not answered in the claim language or specification.

However, the question was answered during prosecution of a related Japanese patent. During prosecution of the Japanese counterpart to the ‘712 patent, the patent examiner rejected defendant’s application on the basis of obviousness. Certified Translation of Japanese Counterpart File History, exh. #92-10 at 98, 113-15; Certified Translation of Japanese Counterpart Prosecution Appeal, exh. #92-11, at 18-21. The Japanese patent office stated that the packet sequence number and transmit overflow sequence number described in defendant’s application were analogous to the “synchronization counter” and “initial value” described in the prior art. Dkt. #92-11 at 20. In response, defendant made statements confirming that it

designed the claimed method of the '712 patent to exclude transmission of the transmit overflow sequence number in order to increase the efficiency and security of transmission. Additionally, defendant argued that the application, which contained a claim identical to 17, should be allowed over prior art because the overflow sequence number is “never transmitted” to the receiver:

Additionally, the overflow sequence number is never transmitted to the terminals in the communication path. They are neither embodied in the data packet nor derived from the data embodied in the data packet. The overflow sequence number is determined by the transmitted communication unit and the receiving communication unit. Unlike the key or the packet sequence number, there is no chance to intercept the overflow sequence number; thus, it provides a higher level of security.

Dkt. #92-10 at 98 (emphasis in original); see also id. at 115 (explaining how transmitting and receiving units determine and synchronize overflow sequence number independently, “without transmitting the overflow sequence number from one terminal of the communication path to another”). On appeal, defendant argued that its application should be allowed because unlike the “initial value” in the prior art, which was “extracted from the transmitted signal,” the overflow sequence is “not communicated from one end to the other end of the communication path.” Dkt. #92-11 at 20-21. Defendant emphasized the difference between extracting an overflow sequence number from transmitted data, as in the prior art, and “independently determin[ing]” this number at the receiver, as in defendant’s invention. Id. Defendant never abandoned this argument and the Japanese patent office ultimately allowed the claims at issue, including the claim identical to claim 17 in the '712 patent.

It is well established that statements made by the inventor or patentee during continued prosecution of a related patent application may be relevant to claim construction. TIP Systems,

LLC v. Phillips & Brooks/Gladwin, Inc., 529 F.3d 1364, 1371 (Fed. Cir. 2008) (“This court has held that the prosecution history of a related patent application may inform construction of a claim term”); Microsoft, 357 F.3d at 1349-51 (recognizing that “the prosecution history of one patent is relevant to an understanding of the scope of a common term in a second patent stemming from the same parent application”). As the court of appeals explained in Microsoft, “[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, and the relevance of the statement . . . is enhanced by the fact that it was made in an official proceeding in which the patentee had every incentive to exercise care in characterizing the scope of its invention.” Id. at 1350; see also Verizon Services Corp. v. Vonage Holdings Corp., 503 F.3d 1295, 1306-07 (Fed. Cir. 2007) (court found disavowal in related patent prosecution that occurred after patent-in-suit issued); Ormco Corp. v. Align Technology, Inc., 498 F.3d 1307, 1314 (Fed. Cir. 2007) (statements made in “familial application are relevant in construing the claims at issue”) (citation and quotation omitted).

The Court of Appeals for the Federal Circuit has also explained that the prosecution history of a related patent before a *foreign* patent office should be considered when it contains relevant information. Tanabe Seiyaku Co. v. United States International Trade Commission, 109 F.3d 726, 733 (Fed. Cir. 1997) (representations to foreign patent offices should be considered “when [they] comprise relevant evidence”) (quoting Caterpillar Tractor Co. v. Berco, S.P.A., 714 F.2d 1110, 1116 (Fed. Cir. 1983)). For example, in Abbott Laboratories v. Sandoz, Inc., 566 F.3d 1282, 1290 (Fed. Cir. 2009), the court of appeals found that a document

submitted with the application of a related Japanese patent was “relevant objective evidence of the inventor’s knowledge at the filing” of the United States application and was evidence that claims in the United States patent should be construed to exclude a particular embodiment. The United States application claimed priority under the Japanese application and the Japanese application had been made part of the prosecution history of the United States application. Id. See also Gillette Co. v. Energizer Holdings, Inc., 405 F.3d 1367, 1374 (Fed. Cir. 2005) (relying on construction accused infringer gave to term “comprising” in foreign proceeding relating to foreign counterpart to asserted United States patent as support for broadly construing claim); Glaxo Group Ltd. v. Ranbaxy Pharmaceuticals, Inc., 262 F.3d 1333, 1337 (Fed. Cir. 2001) (relying on statements made by applicant in foreign counterpart proceeding to construe term in United States patent); cf. Ajinomoto Co. v. Archer-Daniels-Midland Co., 228 F.3d 1338, 1349 (Fed. Cir. 2000) (using expert testimony and evidence of patentee’s and infringer’s own usage of term in submission to foreign government office to affirm district court’s claim construction and infringement verdict; noting that “the district court’s claim construction and related conclusion are supported by the testimony of the experts and fully accord with [the infringer]’s and [the patentee]’s own usages”); In re Omeprazole Patent Litigation, 2008 WL 2369864, *5 (Fed. Cir. 2008) (unpublished) (relying on patentee’s statements in European counterpart to patent that talc was not source of carbonate as additional evidence to support finding of noninfringement).

It is true that the court of appeals has warned that in the context of claim construction, differences in international requirements for patent prosecution could make reliance on

representations before foreign patent offices inappropriate. AIA Engineering Ltd. v. Magotteaux International S/A, – F.3d –, 2011 WL 3862645, *12 (Fed. Cir. Aug. 31, 2011) (because “the theories and laws of patentability vary from country to country, as do examination practices,” “our precedent cautions against indiscriminate reliance on the prosecution of corresponding foreign applications in the claim construction analysis”); TI Group Automotive Systems (North America), Inc. v. VDO North America, LLC, 375 F.3d 1126, 1136 (Fed. Cir. 2004) (declining to consider prosecution statements made during foreign prosecution, noting that “varying legal and procedural requirements for obtaining patent protection in foreign countries might render consideration of certain types of representations inappropriate for consideration in a claim construction analysis of a United States counterpart”); Pfizer, Inc. v. Ranbaxy Laboratories Ltd., 457 F.3d 1284, 1290 (Fed. Cir. 2006) (statements made during prosecution of foreign counterpart patents were irrelevant to claim construction “because they were made in response to patentability requirements unique to Danish and European law”).

Defendant contends that the statements made before the Japanese patent office should be disregarded because extrinsic evidence should not be used to impose a negative limitation on a claim where the intrinsic record is unambiguous and does not require the limitation. In addition, defendant points out that the purported benefits of secrecy and efficiency created by not transmitting the overflow sequence number are not mentioned anywhere in the ‘712 specification. In fact, contrary to the statements made by the patentee to the Japanese patent office, the ‘712 patent never discusses any purported benefits of keeping the “transmit overflow sequence number” private to the transmitter. Instead, the patent says that the invention was

intended primarily to address the problems of prior art encryption techniques with reassembling packets that arrive at different times at the transmitting and receiving communication units. '712 patent, dkt. #5-2, at col. 2, lns. 13-14, 17-20. Finally, defendant argues that what happens to the overflow sequence number is irrelevant to claim 17, which relates only to the encryption process and not the transmission process.

The overflow sequence number is an essential part of encryption under claim 17 and the invention generally; what happens to it is not irrelevant. I conclude that the statements made by defendant during the Japanese prosecution are powerful extrinsic evidence regarding the scope of defendant's invention. Although the patent itself is ambiguous regarding this issue, defendant's statements during prosecution of the Japanese counterpart are not. They confirm that the overflow sequence number is not transmitted.

The Japanese counterpart shares the same title and inventors and contains a claim identical to asserted claim 17. The Japanese prosecution concerned a legal issue that is common to United States prosecutions, obviousness, and defendant does not argue that its statements were made in response to unique patentability requirements under Japanese law. In any event, defendant's statements were not made in the context of amending the terms to provide a narrower scope or additional limitations. Defendant's statements regarding the overflow sequence number simply describe defendant's understanding of its own invention and the ways in which it differed from existing technology. As the court of appeals has explained, when it comes to a patentee's description of its own invention, "[w]e take the patentee at its word." Microsoft, 357 F.3d at 1350. In sum, although the specification and claims are ambiguous

regarding whether the overflow sequence number may be transmitted, the extrinsic evidence confirms that the overflow sequence number is never transmitted to the receiver.

C. '193 Patent: "transmitting . . . from the subscriber unit to the communication system" (cl. 29)

Surrounding Claim Language	Plaintiff's Proposed Construction	Defendant's Proposed Construction
<p>A method of authenticating a subscriber unit in a communication system, comprising: (a) providing the subscriber unit with at least part of a plurality of information bits which uniquely identify a target communication unit; (b) generating an authentication message in the subscriber unit as a function of the at least part of the plurality of information bits; and (c) <i>transmitting the authentication message and the at least part of the plurality of information bits from the subscriber unit to the communication system.</i></p>	<p>"transmitting . . . from a mobile or portable unit over a cellular radio telephone system"</p>	<p>plain meaning; or "sending [the authentication message and the at least part of the plurality of information bits] from the subscriber unit to the communication system"</p>

The '193 patent concerns a method of authenticating messages in a cellular telecommunication system by using cryptographic enciphering and deciphering keys in order to prevent eavesdropping and interception by illegitimate users. '193 patent, dkt. #5-4, at col. 1, lns. 53-60. The only disputed term submitted by the parties for construction is "transmitting . . . from the subscriber unit to the communication system," found in independent claim 29 of the '193 patent, from which asserted claim 31 depends. The parties dispute whether the claim term is limited to transmission over a cellular radio telephone system or whether it is broad enough to cover other types of communication systems. Plaintiff contends that the

communication system should be limited to a cellular radio telephone system.

The claim itself does not define “communication system” in the way plaintiff proposes. The claim recites “transmitting . . . to the communication system,” without specifying the type of “communication system.” In addition, the lay understanding of “communication system” is much broader than “cellular radio telephone system.” However, courts cannot look at the claims in isolation or consider only the lay understanding of a term, but must consider the patent as a whole. As the court explained in Phillips, 415 F.3d at 1315, “claims must be read in view of the specification, of which they are a part.” In fact, “the specification is always highly relevant to the claim construction analysis. Usually, it is dispositive; it is the single best guide to the meaning of a disputed term.” Id. (citation omitted). See also ICU Medical, Inc. v. Alaris Medical Systems, Inc., 558 F.3d 1368, 1374 (Fed. Cir. 2009) (“[N]ot only is the written description helpful in construing claim terms, but it is also appropriate ‘to rely heavily on the written description for guidance as to the meaning of the claims.’”) (citation omitted).

Several references in the written description and specification suggest that “communication system” is limited to a cellular radio telephone system. Perhaps the most significant is the statement in the “Technical Field” section at the beginning of the patent that “the invention relates generally to communications systems *and more particularly to radio frequency (RF) cellular telecommunication systems.*” ‘193 patent, dkt. #5-4, at col. 1, lns. 21-23 (emphasis added). Additionally, the discussion of the purported benefits of the invention over prior art focus on issues related to cellular radio telephone systems. For example, the “Background of the Invention” describes the problems of eavesdropping and interception in cellular radio telephone

systems and the ineffectiveness of current systems at preventing unauthorized detection. Id. at col. 1, lns. 25-65 (describing cellular radio telephone systems and radio frequency eavesdropping); col. 2, lns. 1-13 (describing European cellular standards); col. 2, lns. 58-61 (explaining that “[t]here exists a need for a substantially enhanced authentication technique for a cellular telecommunication system that detects fraudulent users and efficiently protects identification numbers from unauthorized detection”). The “Brief Summary of the Invention” discusses communication “via RF signals” (radio frequency) and states that “[t]his invention provides a means for detecting multiple subscribers using the same serial numbers and telephone numbers,” suggesting that the invention is limited to telephone communication. Id. at col. 3, lns. 2-52. The section titled “Best Mode of Operation” describes an embodiment of the invention in a cellular radio telephone system. And, although the specification describes alternative embodiments of the invention, each of the alternative embodiments also exists in cellular radio telephone systems. E.g., id. at col. 4, lns. 22-27 (“An alternative embodiment, for example, in a cellular system, may include . . .”).

Although each of these references apply the invention to a cellular radio telephone system, the Court of Appeals for the Federal Circuit has reminded courts time and again that “it is improper to read limitations from a preferred embodiment described in the specification—even if it is the only embodiment—into the claims absent a clear indication in the intrinsic record that the patentee intended that the claims be so limited.” Liebel-Flarsheim Co. v. Medrad, Inc., 358 F.3d 898, 913 (Fed. Cir. 2004). See also Netcraft Corp. v. eBay, Inc., 549 F.3d 1394, 1398 (Fed. Cir. 2008) (even “use of the phrase ‘the present invention’ does not ‘automatically’ limit

the meaning of claim terms in all circumstances[;] [rather], such language must be read in the context of the entire specification and prosecution history.”). In the ‘193 patent, although most of the language in the written description and specification focuses on cellular radio telephone systems, it is not clear that the invention is limited to those types of systems.

The abstract is worded broadly, stating that the invention is “[a] method and apparatus for authentication between a subscriber unit and a communication unit.” ‘193 patent, Abstract. The abstract does not mention radio frequency signals or cellular telephones. The Court of Appeals for the Federal Circuit has recognized on multiple occasions the importance of the abstract in construing the scope of a claim term. Pandrol USA, LP v. Airboss Railway Products, Inc., 320 F.3d 1354, 1363 (Fed. Cir. 2003); SciMed Life Systems, Inc. v. Advanced Cardiovascular Systems, Inc., 242 F.3d 1337, 1342 (Fed. Cir. 2001).

In addition, the statement in the “Technical Field” that “this invention relates generally to communication systems and more particularly to radio frequency (RF) cellular telecommunication systems,” does not necessarily limit the invention to radio frequency cellular telecommunication systems. Martek Biosciences Corp. v. Nutrinova, Inc., 579 F.3d 1363, 1383 (Fed. Cir. 2009) (claims should not be construed to comport “with a single sentence, even one purporting to be a definition, that is inconsistent with the remainder of the specification.”). This case is distinguishable from Broadcom Corp. v. Qualcomm Inc., 543 F.3d 683 (Fed. Cir. 2008), which plaintiff cites in support of its proposed limitation. In that case, although the court cited language in the “Technical Field” portion of the patent in support of its claim construction, the parties did not dispute whether the invention was limited to the field as described. Id. at 693.

Further, although the much of the '193 specification describes a cellular radio telephone system, nothing in the specification clearly limits the invention to such a system. The "Brief Summary of the Invention" never uses the phrase "cellular radio telephone system" or even mentions cellular phones. It states that the invention provides a "method for authentication and protection of subscribers in *telecommunication systems*." '193 patent, dkt. #5-4, at col. 3, lns. 3-5 (emphasis added). It discloses a first communication unit, "*such as* a "subscriber unit," a second communication unit, "*such as* a fixed network communication unit," and a "historic non-arbitrary value of predetermined communication events, *such as* a count of the number of telephone calls made by a subscriber." Id. at col. 3, lns. 6-7, 13-15 (emphasis added). Similarly, the "Best Mode of Operation" describes a "subscriber communication unit (10) *such as* a subscriber telephone and a fixed network communication unit (2) *such as* a cellular telephone base-site and switching center." Id. at col. 3, lns. 65-66, col. 4, lns. 1-2 (emphasis added). Use of the phrase "such as" indicates that the patentee is providing merely one example of an embodiment of the invention, not limiting the invention to that example. Further, although there may be a strong argument that the invention is limited to a communication system that transmits "via RF signals," as described in the "Brief Summary of the Invention," neither party has explained whether radio frequency signals are used solely in the context of cellular radio telephone communication systems. Without evidence on this point, I will not assume that a system using radio frequency signals is necessarily a cellular radio telephone communication system.

Another reason for rejecting plaintiff's proposed limitation is that it would render meaningless several dependent claims in the '193 patent. For example, claim 32, a claim that

is also dependent from claim 29, recites transmission over a communication medium such as a “radio communication link, satellite link, fiber optic cable, coaxial cable, [or] wireline.” The parties agree that, with the exception of the radio communication link, these communication mediums do not exist in cellular radio telephone communication systems. Thus, if claim 29's communication system is limited to a cellular radio telephone system, claim 32's recitation of different communication media does not make sense. In fact, plaintiff's proposed limitation would render claims 6, 10, 14, 23, 27, 32, 36 and 43 meaningless, as all of these dependent claims cite the additional communication medium possibilities. Ortho-McNeil Pharmaceutical, Inc. v. Mylan Labs., 520 F.3d 1358, 1362 (Fed. Cir. 2008) (“court strives to reach a claim construction that does not render claim language in dependent claims meaningless”); Cat Tech LLC v. TubeMaster, Inc., 528 F.3d 871, 885 (Fed. Cir. 2008) (refusing to adopt claim construction that would render claim meaningless). See also Robotic Vision Systems, Inc. v. View Engineering, Inc., 189 F.3d 1370, 1376 (Fed. Cir. 1999) (rejecting construction that “incorrectly attributes the requirement of separately fabricated index pads to an independent claim when it is clear that a claim that depends from that independent claim does not incorporate that limitation”).

Plaintiff contends that even if the language of the specification alone is insufficient to limit the invention to cellular radio telephone systems, the prosecution history makes clear that such a limitation is proper. Specifically, plaintiff contends that defendant disclaimed any “communication system” broader than a cellular radio telephone system through amendments and arguments made during the prosecution of a parent patent of the ‘193 patent. During

prosecution of U.S. Patent Application No. 07/378,721 (an application in a chain of applications that led to the '193 patent), the patent examiner rejected several claims in the '721 application as obvious in light of prior art references. In its June 4, 1990 response, defendant amended several of the claims to specifically limit their scope to a radiotelephone communication system. For example, defendant changed claim 1 from "A method for facilitating communications between a first communication unit and a second communication unit" to "A method of authentication and protection as between a subscriber unit and a second communication unit in a radiotelephone communication system." Dkt. #92-15, '721 file history, at 77. Defendant stated in its comments to the examiner that "[t]he applicants wish to point out the field of invention of the claimed subject matter as being most particularly related to cellular-type radio frequency telecommunication systems. The amended claims reflect this limitation." *Id.* at 81.

"[P]rosecution disclaimer may arise from disavowals made during the prosecution of ancestor patent applications." Omega Engineering, Inc. v. Raytek Corp., 334 F.3d 1314, 1333 (Fed. Cir. 2003). In addition, "[a]lthough a disclaimer made during prosecution can be rescinded, permitting recapture of the disclaimed scope, the prosecution history must be sufficiently clear to inform the examiner that the previous disclaimer, and the prior art that it was made to avoid, may need to be re-visited." Hakim v. Cannon Avent Group, PLC, 479 F.3d 1313, 1318 (Fed. Cir. 2007). In this case, however, although it is clear that defendant limited the scope of the '721 application to cellular radio telephone systems, it is not clear that defendant narrowed the scope in order to avoid prior art. Nothing in the record establishes that the relevant prior art was inapplicable to cellular radio telephone systems. In addition, in the

applicant's response to the prior art rejection, the applicant distinguished its invention from the prior art on several grounds, but did not argue that the prior art was inapplicable to cellular radio telephone systems or that its narrowing amendments resolved the prior art issues. Dkt. #92-15 at 6-9. Later, in the application that led directly to the '193 patent, defendant amended the claims again, taking out the language limiting the claims to cellular radio telephone systems and adding additional claims that recited a variety of communication mediums. I cannot conclude that defendant should have notified the examiner of the prior art issues that were raised during the '721 application, because it appears that those issues were not related to the type of communication system at issue in the patent. In other words, the amendments that defendant made during the '721 prosecution were not clear disavowals of the scope of the claims that should be carried forward into the '193 patent.

Because neither the claims, specification nor prosecution history limits the "communication system" in the asserted claims of the '193 patent strictly to cellular radio telephone systems, I will reject plaintiff's proposed limitation.

D. '559 Patent

The '559 patent discloses a method for generating preamble sequences in a CDMA communication system from the product of an outer code and an inner code. '559 patent, dkt. #55, Abstract. Defendant has asserted claims 4 and 5 of the '559 patent. The disputed terms are "outer code" and "preamble sequence," found in claims 1 and 5. Claim 4 depends from claim 1, and claim 5 is an independent claim.

1. “preamble sequence”

Surrounding Claim Language	Plaintiff’s Proposed Construction	Defendant’s Proposed Construction
A method for generating <i>preamble sequences</i> in a CDMA system, the method comprising the steps of: . . . multiplying the outer code by the inner code to generate a <i>preamble sequence</i> .	“a signal that is sent by the transmitter prior to the transmission of the information-bearing signal”	“a signal preceding the transmission of a message that is the product of an inner code and an outer code”

According to the parties, their dispute regarding this term is whether the “preamble sequence” must be a signal that is “transmitted” from the mobile station to the base station. Plaintiff contends that what makes a preamble sequence unique is how it is used, that is, that it notifies a base station of the mobile station’s incoming communication. In other words, the term “preamble sequence” as used in the claim does not cover all sequences that result from the multiplication of two codes; rather, it covers only sequences that are created for a particular purpose.

In support of its proposed limitation, plaintiff cites the specification, which describes a “preamble” as a “short training signal prior to the transmission of the information-bearing signal.” *Id.* at col. 1, lns. 50-54. The specification also says that transmitted preamble sequences “can be detected by a base station with simple circuitry.” *Id.* at col. 4, lns. 51-53; see also col. 1, lns. 63-64 (“signal generated by the preamble generator” must be “easily detectable by the receiver”). Plaintiff contends that these references confirm that preamble sequences are signals “sent by the transmitter prior to the transmission of the information-bearing signal.”

After reviewing the arguments made by the parties in their briefs and at the claim construction hearing, I conclude that there is no real dispute between the parties with respect to this term. Although defendant objects to plaintiff's construction, arguing that it adds a transmission requirement to claims describing only the generation of a preamble sequence, defendant admits that the preamble sequence "may ultimately be transmitted to the receiver" and "is intended to ultimately be transmitted." Dft.'s Resp. Br., dkt. #108, at 64, 66. Defendant's own proposed construction of preamble sequence as "a signal preceding the transmission of a message" suggests that the preamble sequence is intended to be transmitted and to notify the base station of the mobile station's incoming communication. Thus, despite plaintiff's arguments to the contrary, not every sequence could qualify as a preamble sequence under defendant's proposed construction.

Further, although plaintiff argues that construction of this term is necessary to resolve an infringement issue because the "preamble sequence" in plaintiff's accused devices is the product of three values (as opposed to simply an inner and outer code), plaintiff does not explain how its proposed construction addresses that issue. Plaintiff's construction does not shed any light on how the preamble sequence is formed.

In sum, because, because it is not clear that there is a dispute regarding this term that will be resolved by either parties' proposed construction, I will not adopt either proposed construction and I will not construe this term at this stage.

2. "outer code"

Surrounding Claim Language	Plaintiff's Proposed Construction	Defendant's Proposed Construction
<p>1. A method for generating preamble sequences in a CDMA system, the method comprising the steps of:</p> <p style="padding-left: 40px;">forming an <i>outer code</i> in a mobile station, wherein the <i>outer code</i> is formed from a generator from the group consisting of a maximum length sequence generator, a Kasami sequence generator, and a Gold sequence generator;</p> <p style="padding-left: 40px;">forming an inner code in the mobile station; and</p> <p style="padding-left: 40px;">multiplying the <i>outer code</i> by the inner code to generate a preamble sequence.</p> <p>5. A method for generating preamble sequences in a CDMA system, the method comprising the steps of:</p> <p style="padding-left: 40px;">forming an <i>outer code</i> in a mobile station;</p> <p style="padding-left: 40px;">forming an inner code in the mobile station utilizing the following equation:</p> <p style="padding-left: 80px;">. . .; and</p> <p style="padding-left: 40px;">multiplying the <i>outer code</i> by the inner code to generate a preamble sequence.</p>	<p>“a code that consists of multiple repetitions of a sequence of chips, and that is common for all handset transmitters”</p>	<p>“a pseudorandom sequence formed at a mobile station”</p> <p>or</p> <p>“a code sequence formed at a mobile station”</p>

The parties dispute whether (1) the outer code must be “periodic”; and (2) whether all handset transmitters must use the same outer code. Plaintiff seeks both of these limitations, proposing that the claim be construed as “a code that consists of multiple repetitions of a sequence of chips . . . that is common for all handset transmitters.” Defendant denies that either limitation is supported by the claims or specification, contending that plaintiff is attempting to import limitations from the specification and the preferred embodiment into the claim.

a. The outer code need not be periodic

Plaintiff's first argument that the outer code must be "periodic" is that all references to the outer code in the specification describe and illustrate the outer code as consisting of the same sequence of chips repeated multiple times. For example, the outer code of the described embodiment "is periodic with period K chips." '559 patent, dkt. #5-5, at col. 3, lns. 42-43; id. at Fig. 6. In addition, plaintiff contends that only a periodic outer code achieves the goal of the invention, which is to generate a preamble sequence "that can be detected by a base station with simple circuitry." Id. at col. 4, lns. 51-53. The specification states that "[t]hese codes must be designed such that the correlator needed in the base station must be of relatively low complexity." Id. at col. 1, lns. 18-20.

However, the specification says only that "the *preferred* embodiment . . . is periodic with period K chips" Id. at col. 3, lns. 41-45. In fact, all references to periodicity exist in descriptions of a "preferred embodiment," "one embodiment" or in descriptions of prior art. As both parties are well aware, elements of preferred embodiments should not be read into the limitations of the claims without clear justification. Fuji Photo Film Co. v. International Trade Commission, 386 F.3d 1095, 1106 (Fed. Cir. 2004) ("It is a familiar axiom of patent law, however, that the scope of the claims is not limited to the preferred embodiments described in the specification.").

Plaintiff's second argument in support of its contention that the outer code must be periodic is that claim 2, which depends from claim 1, assumes that the outer code in claim 1 is periodic. Claim 2 recites a "method for generating preamble sequences in a CDMA system in

accordance with claim 1, *wherein the period of the outer code* comprises k symbols, wherein k is a positive integer.” ‘559 patent, dkt. #5-5, at col. 5, lns. 9-12 (emphasis added). Plaintiff contends that unless the outer code of claim 1 is understood to be periodic, the italicized portion of claim 2 has no antecedent in claim 1 and would be invalid as indefinite.

It is true that courts should strive to adopt constructions that preserve the validity of claims if possible. Phillips, 415 F.3d at 1327. “O]ther claims of the patent in question, both asserted and unasserted, can also be valuable sources of enlightenment as to the meaning of a claim term.” Id. at 1314. However, although dependent claim 2 recites a periodic outer code with certain attributes, I am not convinced that the language of claim 2 places a limitation on claim 1 or that a person of ordinary skill in the art could not ascertain the meaning of “periodic” in claim 2 without referring to claim 1. Energizer Holdings v. International Trade Commission, 435 F.3d 1366, 1370 (Fed. Cir. 2006) (claim is not indefinite for lack of antecedent basis if “meaning of the claim would reasonably be understood by persons of ordinary skill when read in light of the specification”). The specification describes “periodic” codes and plaintiff does not suggest that persons of ordinary skill in the art would be unable to determine what “periodic” means in claim 2.

At the claim construction hearing, plaintiff cited three cases in support of its indefiniteness argument, stating that in each case the court redefined claim terms after finding implied antecedents in those claim terms. Hrg. Trans., dkt. #118, at 57: Energizer Holdings, 435 F.3d at 1371; Bose Corp. v. JBL, Inc., 274 F.3d 1354, 1359 (Fed. Cir. 2001); and Slimfold Manufacturing Co. v. Kinkead Industries, 810 F.2d 1113, 1116 (Fed. Cir. 1987). However,

plaintiff mischaracterizes their holdings. In none of these cases did the court “redefine[] a claim term earlier in the claim which otherwise didn’t have that limitation,” as plaintiff contends. Hrg. Trans., dkt. #118, at 57. Additionally, the courts did not consider whether they should construe a term narrowly in order to preserve the validity of a claim that was not at issue in the case. Thus, plaintiff has provided no persuasive argument for limiting the outer code in claim 1 to a periodic code.

b. The outer code need not be common for all mobile stations

I am unpersuaded by plaintiff’s contention that the outer code must be common for all mobile station transmitters. No language in the claims requires, or even suggests, that the “outer code” formed in one mobile station is the same as the outer code formed in all other mobile stations. The specification states only that the outer code “is *preferably* common for all transmitters.” ‘559 patent, dkt. #5-5, at col. 3, lns. 46-47. In addition, although plaintiff alleges that outer codes in prior art (called “inner codes” by previous inventors) were common to all handsets, it does not follow that the outer codes in the ‘559 patent must be common to all handsets.

Plaintiff points out that one of the main objectives of the invention is to “allow the base station to detect preambles using simple circuitry,” *id.* at col. 4, lns. 51-53, and that requiring all handsets to use the same outer code makes it easier for the base station to correlate the inner and outer codes. In particular, under the ‘559 invention, a mobile station multiplies an inner and outer code to form a preamble sequence. Then, a base station multiplies an outer code (the

same code used by the mobile station) against the preamble received from the mobile station to recover the inner code. Id. at col. 4, lns. 36-41. Plaintiff argues that because the base station must be able to detect the preamble for any new mobile station that comes into the cell using the outer code, it follows that all transmitters must use that same outer code.

Although the specification states generally that the invention enables the use of simple circuitry, nothing in the specification says that a common or periodic outer code is necessary to enable simple circuitry. In addition, even if a common and periodic outer code would simplify the base station's detection of preambles, nothing about the patent requires the use of the *simplest* circuitry. Plaintiff does not explain why a base station with two or five outer codes would be unable to practice the invention.

In sum, because the limitations proposed by plaintiff are not supported by the intrinsic evidence, I will not adopt them.

PLAINTIFF'S PATENTS

A. '852 Patent and '486 Patent: "software component architecture"

Surrounding Claim Language	Plaintiff's Proposed Construction	Defendant's Proposed Construction
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<p>the layered arrangement comprising: a <i>software component architecture</i> layer interfacing with an operating system to control the operations of the computer, the <i>software component architecture</i> layer defining a plurality of computing components; . . . wherein the network component layer coupled to the <i>software component architecture</i> layer in integrating relation to facilitate communication among the computing and network navigation components. [cl. 1]</p> <p>the apparatus comprising: an object-oriented <i>software component architecture</i> layer configured to define at least one network component that integrates the object-oriented software components needed to access the one or more data types associated with the network resource; and an encapsulated network entity component cooperating with <i>the component architecture</i> layer and containing a reference to the network resource. . . . [cl. 7]</p>	<p>“arrangement of software components”</p>	<p>“an architecture that provides a modular document-based computing arrangement”</p>
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The ‘852 and ‘486 patents relate generally to computing arrangements that simplify a user’s access to computer networks. The term “software component architecture” is part of the phrase “software component architecture layer” in asserted claim 1 of the RE ‘486 patent and asserted claim 7 of the ‘852 patent. The parties agree that the term should be construed consistently for both patents. According to the parties, their dispute regarding this term is whether the software component architecture must exist in a “modular document-based” computing environment or whether software component architecture may exist in other computing environments. Defendant contends that the “software component architecture” recited in the asserted claims describes a modular document-based computing environment and

that because its accused products use an application-based environment, they do not infringe the claims.

Several references in the written description and specification support defendant's assertion that the invention is not created for a traditional application-based computing environment. In the "Background of the Invention," the patentee distinguishes application-based systems from document-based systems, stating that "[i]n contrast to this typical application-based computing environment, *a software component architecture provides a modular document-based computing arrangement* using tools such as viewing editors." '852 patent, dkt. #97-7, at col. 3, lns. 56-69 (emphasis added). The patentee describes the advantages offered by document-based computing that are not available in application-based systems, *id.* at col. 3, lns. 62-66, and explains that "*the present invention*" is an effort to extend the capabilities of a document-based arrangement to network-oriented services:

The *software component architecture* provides the foundation for assembling *documents* of differing contents and the present invention is directed to a system for extending this capability to network-oriented services.

Id. col 4, lns. 6-10 (emphasis added).

In the detailed description of the embodiment, the applicants explain that the software component architecture "creates a compound document composed of data having different types and formats," which is a key aspect of document-based computing. *Id.* at col. 7, lns. 57-59. Further, the specification states that "*the present invention* is based on a *modular document computing arrangement* as provided by an underlying software component architecture, rather than the typical application-based environment of prior computing systems." *Id.* at col. 7, lns. 16-20

(emphasis added).

Defendant points to the prosecution history of the RE '486 patent in support of its proposed limitation. The RE '486 patent was rejected in 2004 as obvious. In response, the applicants distinguished their invention by asserting that it “employs a ‘component-based’ approach to browsing and retrieving network-oriented information as opposed to the monolithic application-based approach of prior browsing systems.” Dkt. #97-17 at 8.

Although I think defendant is correct that the software component architecture described in the claims does not exist in a traditional application-based computing environment, I am not persuaded that it would be appropriate or necessary to limit “software component architecture” to a “modular document-based computing arrangement.” At the hearing, both parties agreed that the use of “software component architecture” in these claims is not a reference to a traditional application-based system. In fact, defendant stated at the hearing that the parties did not dispute that “[s]oftware component architecture is distinct and different from this application-based architecture.” Hrg. Trans., dkt. #118, at 68. Plaintiff stated that the component system in the patent can be distinguished “from the old application-based system” because “[t]he application-based system is not a component-based system. This is a component-based system.” Id. at 75-76.

The parties’ agreement that the software component architecture described in the asserted patents does not exist in a traditional application-based environment undermines defendant’s purported justification for seeking construction of this term. In its motion requesting claim construction, defendant said that its products “use the traditional application-based environment

and not [a] document-based arrangement.” Dft.’s Br., dkt. #96, at 46. If this is true, then it is not clear why construction of this term is necessary.

Moreover, defendant’s construction raises more questions than it answers. Specifically, it is clear that the parties do not agree on the meaning of “modular document-based computing arrangement.” The patent provides examples of document-based systems and describes their attributes, but also makes clear that the invention builds upon existing document-based systems by adding network functionality. E.g., ‘852 patent, dkt. #97-7, at col. 8, lns. 4-6 (“The network component layer 450 extends the functionality of the underlying component architecture layer 430 by defining network-oriented components 480 that seamlessly integrate with these components . . .”). It is not clear whether adding network functionality takes the invention outside existing document-based systems and creates an entirely new computing arrangement, or whether a person of ordinary skill in the art would view the computing arrangement as one still existing in a modular document-based system. Adopting defendant’s construction would not resolve that dispute.

In sum, because defendant has not shown that its proposed limitation is necessary to resolve a dispute between the parties or that it would actually resolve a dispute, I am rejecting defendant’s proposed limitation and declining to construe this claim.

B. ‘354 Patent: “connection information”

Surrounding Claim Language	Plaintiff’s Proposed Construction	Defendant’s Proposed Construction
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<p>creating, on behalf of a first object, <i>connection information</i> representing the first object's interest in, and an associated object method for, receiving notification of a change to a second object; . . . registering the <i>connection information</i> with a connection object; [cl. 1]</p> <p>creating, on behalf of a receiver object, <i>connection information</i> representing the receiver object's interest in, and an associated object method for, receiving notification of a change to a source object; . . . registering the <i>connection information</i> using a connection object; . . . using the <i>connection information</i> in the connection object to configure status information to enable the notifying step (d). [cl. 41]</p>	<p>“a representation of the [first/receiver] object's interest in, and an associated object method for, receiving notification of a change to a [second/source] object”</p>	<p>“data stored in a connection object that identifies a particular [second/source] object and a method of the [first/receiver] object”</p>
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The '354 patent relates to a method for implementing an event notification system in an object-oriented software environment. '354 patent, dkt. #12-5, Abstract. The disputed claim term “connection information” is used in asserted claims 1 and 41. The parties identify three disputes regarding the meaning of “connection information”: (1) whether connection information must be stored inside a connection object; (2) whether connection information must identify a particular source object; and (3) whether connection information must identify a method of the receiver object. Defendant contends that the answer to all of these questions is yes, and that the claims' scopes should be limited accordingly. Plaintiff takes the position that the claim need not be construed at all, admitting that its own proposed construction is merely a recitation of the claim language.

After reviewing the arguments made by the parties in their briefs and at the claim

construction hearing, I am not persuaded that adopting either sides' construction of "connection information" will resolve any dispute between the parties. First, there is no clear dispute between the parties regarding whether connection information must be "stored" in a connection object. Although defendant's construction would define connection information as "data stored in a connection object," defendant conceded at the hearing that connection information is not always stored in a connection object. Rather, defendant explained that "*at some point* during the method [the connection information] gets stored in a connection object." Hrg. Trans., dkt. # 118, at 88 (emphasis added). Defendant explained further that

[A]t some point here is this connection information stored in the connection object. And if you look at the claims, clearly right here when you register, it gets stored. . . . [A]t some point you create [the connection] information before you register it. I agree with that. But you always register it. You always register it. It always gets stored.

Id. at 88-89.

Defendant's description of the connection information as being eventually stored in the connection object, but not always, is inconsistent with its proposed construction. Moreover, there is no dispute between the parties about whether the connection information is "registered" with the connection object at some point. As plaintiff stated at the hearing, "at some point [the connection information] has to be registered with the object . . . that's what the claim says." Id. at 93.

It appears that defendant's proposed construction is actually an attempt to limit the meaning of the word "registering" to "storing." However, defendant has not requested construction of that term and even if it had, it has not explained how "storing" is different from

“registering,” or even whether it is different. On the one hand, defendant states in its brief that “registering the connection information with the connection object [as recited in asserted claims 1 and 41] *is synonymous with storing it there.*” Dft.’s Resp. Br., dkt. #108, at 24 (emphasis added). On the other hand, it is not clear why defendant would seek to import a storage requirement if the registration requirement in the claim is sufficient.

I am also not persuaded that a real dispute exists regarding whether connection information must identify a “particular” source object. Defendant contends that its construction is necessary to make it clear that the connection information identifies one or more particular source objects “as opposed to an amorphous collection of such objects.” Dft.’s Resp. Br., dkt. #108, at 26. However, plaintiff does not dispute this. It conceded at the hearing that “the connection information [must] be a representation of an object,” Hrg. Trans., dkt. #118, at 77, and noted in its brief that its only objection to the word “particular” was that it seemed to limit the information to one source object. Plt.’s Resp. Br., dkt. #106, at 9. Because defendant has explained that it does not wish to limit identification to one object, there appears to be no dispute that would be resolved by construing “connection information” as data that “identifies a particular” object.

Finally, it is unclear what the parties’ dispute is regarding whether the connection information must identify “a method of the receiver object.” The asserted claims say that the connection information represents “an associated object method for receiving[] notification of a change to a source object.” Defendant contends that the “associated object method” should be replaced with “method of the receiver object” because during the prosecution, the applicants

defined “associated object method” as “the appropriate method of the notification receiver.” Dft.’s Br., dkt. #96, at 40.

Defendant’s argument is more directly related to the construction of the term “associated object method” than to “connection information.” However, “associated object method” was not listed as a disputed term in defendant’s initial motion requesting claims construction. Moreover, even if I concluded that the term were properly before the court for construction, I would not adopt defendant’s proposed construction because it would lead to questions about the meaning of “method of the receiver object,” a phrase that defendant has not explained adequately.

In sum, because defendant has not explained how adoption of its proposed limitations would resolve any disputes between the parties regarding invalidity or infringement, I am declining to construe “connection information.”

C. ‘983 Patent: “during runtime”

The invention in the ‘983 patent is an apparatus that allows object-oriented applications to use object-oriented methods, rather than procedural methods, to access applications in a procedural operating system. ‘983 patent, dkt. #12-7, at col. 3, lns. 45-48. Plaintiff is asserting claims 1, 7, 16 and 22 against certain of defendant’s Android-based products. The phrase “during runtime” appears in each of the asserted claims. Claim 1, reproduced in part below, is representative of the asserted claims.

Surrounding Claim Language	Plaintiff’s Proposed Construction	Defendant’s Proposed Construction
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<p>1. A computer system, comprising: . . . procedural program logic code, responsive to invocations of the object-oriented methods <i>during runtime</i>, for causing the procedural operating system to control the computer hardware to perform the required native system services;</p> <p>executable program memory associated with the computer hardware for runtime execution of the procedural operating system, invocations of the object-oriented methods and related portions of the procedural program logic code;</p> <p>means for making determinations <i>during runtime</i> execution if object-oriented methods to be invoked are present in the executable program memory; and</p> <p>a runtime loader, responsive to the determinations, to selectively load required object-oriented methods into the executable program memory <i>during runtime</i> before invocation of the object-oriented methods.</p>	<p>“while running or executing”</p>	<p>“during the execution of the object-oriented application”</p>
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Although it appeared from the parties’ briefs that construction of “during runtime” was necessary to resolve a dispute regarding the meaning of the term, it became clear at the claim construction hearing that it is not really in dispute. In particular, plaintiff’s proposed construction defines “during runtime” so broadly that plaintiff’s position appeared to be that the claim could apply so long as the computer is turned on and the operating system is running.

Such a construction is too broad. As explained in the specification of the ‘983 patent, the purpose of the invention is to allow an object-oriented application to access services of a procedural operating system. E.g., id. at col. 5, lns. 4-9 (“[T]he present invention is directed to a system and method of enabling an object-oriented application to access in an object-oriented manner a procedural operating system having a native procedural interface during run-time

execution of the application in a computer.”); col. 6, lns. 25-31 (“The wrapper **128** enables the object-oriented applications **130A**, **130B** to directly access in an object-oriented manner the procedural operating system **114** during run-time execution of the applications **130A**, **130B**. . . .”); col. 7, lns. 65-66 (“The present invention is described in the context of executing the object-oriented application **130A** on the computer platform.”). Thus, the invention is necessary only when an object-oriented application is actually running and in need of a service from the procedural operating system. Defendant’s proposed construction seeks to clarify this by limiting the term “during runtime” to mean “during the execution of the object-oriented application.”

At the hearing, plaintiff conceded that it was “not disputing that one of the programs running in these claims is an object-oriented application. That’s explicit in the claims.” Hrg. Trans., dkt. #118, at 108. In other words, plaintiff has conceded defendant’s position that an object-oriented application must be running in order for the claims to make sense. Plaintiff went on to state that it proposed the broad construction to make clear that the object-oriented application is “not the only program running.” *Id.* However, defendant never denied that other programs might be running at the same time as the object-oriented program. Thus, it appears that both parties agree about the scope of these claims. Moreover, it is not clear how that issue is relevant to the invalidity or infringement disputes in this case. Accordingly, no construction is necessary.

D. ‘337 Patent: “storing means for storing a specific set of events of which said at least one event consumer is to be informed”

Surrounding Claim Language	Plaintiff’s Proposed Construction	Defendant’s Proposed Construction
<p>1. In a computer including at least one event producer for detecting that an event has occurred in the computer and generating an event and at least one event consumer which needs to be informed when events occur in the computer, a system for distributing events comprising:</p> <p><i>storing means for storing a specific set of events of which said at least one event consumer is to be informed;</i></p> <p>event manager control means for receiving the event from the event producer, comparing the received event to the stored set of events, and distributing an appropriate event to an appropriate event consumer; and</p> <p>distributor means for receiving the event from the control means and directing said control means to distribute an appropriate event to an appropriate event consumer.</p>	<p><u>Function:</u> storing a specific set of events of which said at least one event consumer is to be informed.</p> <p><u>Structure:</u> Combination of: (1) subscription matrix as shown in Figs. 2 and 4 as element 330, and as described in the '337 Patent at 7:61-65, 8:6-35; (2) event queues as shown in Figs. 2 and 4 as element 320, and as described in the '337 Patent at 6:59- 65 and 7:26-60; and (3) event kind headers as shown in Figs. 2 and 4 as element 331, and as described in the '337 Patent at 8:61-9:4.</p> <p>OR</p> <p>(1), (2) and (3) above, and (4) a sequential consumer database as shown in Fig. 2 as element 350 and Fig. 5b, and as described in the '337 Patent at 7:65-8:5 and 8:36-55.</p>	<p><u>Function:</u> storing a specific set of events of which at least one event consumer is to be informed</p> <p><u>Structure:</u> Combination, as described in 6:59- 65, of: (1) sequential consumer database as shown in Fig. 2 as element 350 and Fig. 5b as element, and as described in 7:65-8:5 and 8:36-55; (2) subscription matrix as shown in Figs. 2 and 4 as element 330, in Fig.5a as element 3300, and as described in 7:61-65 and 8:6-35; (3) event queues as shown in Figs. 2 and 4 as element 320, and as described in 6:59-65 and 7:26-60; and (4) event kind headers as shown in Figs. 2 and 4 as element 331 and as described in 8:61-9:4.</p>

The '337 patent describes a method, known as the “event management system,” for an operating system to distribute “events” to applications. An event is an occurrence, such as a key stroke or a mouse click, that allow different pieces of software to communicate with each other. The senders of events are called “producers” and the recipients are called “consumers.” ‘337

patent, dkt. #12-12, at col. 4, lns. 1-20. The invention of the '337 patent uses a centralized event management system that accepts events from producers and routes those events to relevant consumers. The patent describes two types of consumers: (1) broadcast consumers, who have no relationship with other consumers and receive notification of events simultaneously with other consumers; and (2) sequential consumers, who have definite relationships with other consumers and require that no other consumer be told about an event while they themselves are still processing it. Id. at col. 4, lns. 22-31.

Plaintiff asserts claims 1 and 6 of the '337 patent against certain of defendant's Android-based products. Claim 6 is dependent from claim 3, which in turn is dependent from claim 1. The disputed term, "storing means for storing a specific set of events of which said at least one event consumer is to be informed," is one of the three "means-plus-function" limitations recited in claim 1. The parties agree on the proposed function of the limitation and also agree on much of the corresponding structure. However, they disagree whether the structure must have a "sequential consumer database." In addition, they dispute whether Figure 5a is a required part of the "subscription matrix" in the structure. Defendant contends that the sequential consumer database is required and that Figure 5a is a required part of the subscription matrix, while plaintiff contends that both structures are optional.

Construing claims containing means-plus-function limitations requires a special analysis because such claims fall under an exception to the general rule about not reading limitations from the specification into the claims. According to 35 U.S.C. § 112 ¶ 6,

An element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts

in support thereof, and such claim shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof.

In other words, “if a claim includes a function but fails to identify the structure that performs the function, the structure is limited to the examples provided in the specification.” Douglas Dynamics, LLC v. Buys Products Co., 2010 WL 744253, *2 (W.D. Wis. Mar. 2, 2010).

Construction of a means-plus-function limitation involves a two-step analysis. First, the claimed function must be identified. Omega Engineering, Inc. v. Raytek Corp., 334 F.3d 1314, 1321 (Fed. Cir. 2003). In this case, the parties agree that the claimed function is “storing a specific set of events of which said at least one event consumer is to be informed.”

The second step is to “ascertain the corresponding structures in the written description that perform those functions.” Id. at 1321. “[T]o qualify as corresponding, the structure must not only perform the claimed function, but the specification must clearly associate the structure with performance of the function.” Cardiac Pacemakers, Inc. v. St. Jude Medical, Inc., 296 F.3d 1106, 1113 (Fed. Cir. 2002). “In other words, the structure must be necessary to perform the claimed function.” Omega Engineering, 334 F.3d at 1321.

I. “sequential consumer database”

The parties agree that Figure 2 is the starting point for determining the structure that corresponds to the claimed function. According to the specification, “Figure 2 is a block diagram of the architecture for the event manager **30**.” ‘337 patent, dkt. #12-12, at col. 6, lns. 36-37.

The specification describes the “storing means” as the “data structures” in Figure 2 as follows:

The event manager 30 includes an event manager control unit 305 and data structures. The data structures include a subscription matrix 330, a sequential consumer database 350, a plurality of event queues 320 provided in one-to-one

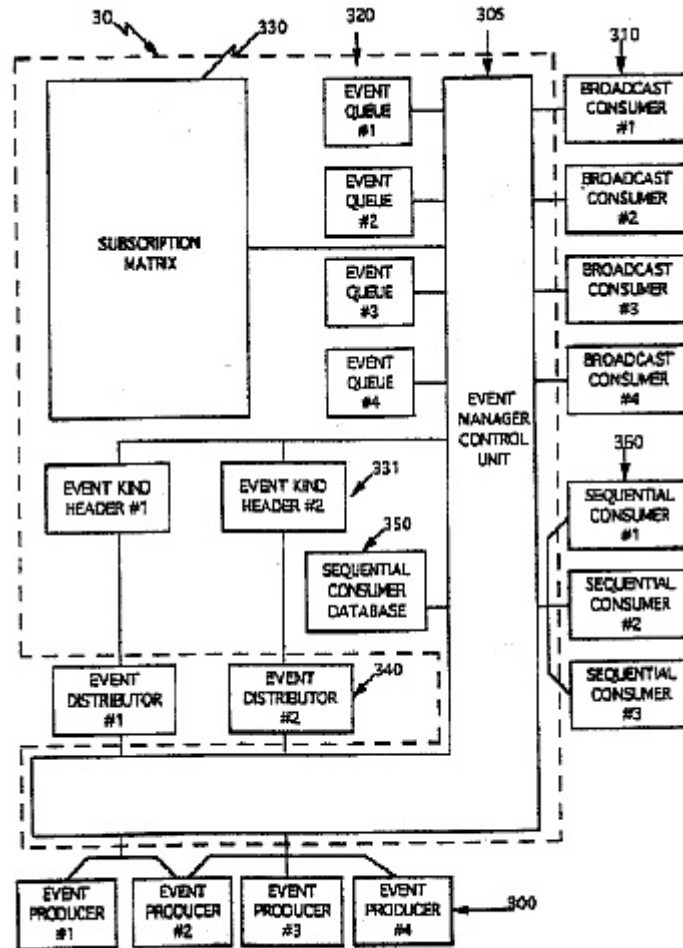


FIG. 2

correspondence with the broadcast consumers 310, and a plurality of event kind headers 331 provided in one-to-one correspondence with the event distributors 340.

Id. at col. 6, lns. 59-65.

Thus, the structure disclosed in the specification includes a subscription matrix, event

queues, event kind headers and a sequential consumer database as “storing means.” Under 35 U.S.C. § 112, ¶ 6 then, it appears that all of these elements are required structure.

Plaintiff argues that the sequential consumer database is an optional structure that is required in only one embodiment of the invention. First, the specification states that “a given system may have either one or more broadcast consumers or one or more sequential consumers, or both.” ‘337 patent, dkt. #12-12, at col. 6, lns. 42-46. In addition, the specification makes it clear that the sequential consumer database is used for storing information related to sequential consumers, not broadcast consumers. *Id.* at col. 8, lns. 2-5 (“The sequential consumer database 350 is composed of a plurality of sequential consumer entries which list the events in which each sequential consumer 360 is interested.”); col. 9, lns. 43-47 (“The sequential consumer database 350 communicates with and is operationally connected to the event manager control unit 305 and the sequential consumers 360 communicate with the sequential consumer database 350 via the event manager control unit 305.”). Thus, plaintiff contends, because a sequential consumer database stores information for sequential consumers, it “would not be necessary in a system that supports only broadcast events.” Plt.’s Br., dkt. #91, at 121.

However, the patent does not disclose a system “that supports only broadcast events” or a structure that would correspond to such a system. Although the patent states that a given system may have only broadcast consumers, this is not the same thing as stating that a system may *support* only broadcast consumers. As the specification explains, each type of event can have any number of event consumers and the identity and number of consumers needing to know about events “are subject to constant change.” *Id.* at col. 3, lns. 61-64. Additionally, the

disclosed algorithms used to operate the event management system require the event manager to check the sequential consumer database before distributing events to broadcast consumers, even if no sequential consumers are registered. Id., Fig. 9B. Nothing in the patent suggests that a system using the '337 invention may be capable of handling only one type of consumer, and the patent does not disclose any structure for such a system. Douglas Dynamics, 2010 WL 744253, at *7 (“When there is only one embodiment of a structure linked or associated with a claimed function, the claimed function is limited to that embodiment of the structure and its equivalents.”).

Plaintiff’s own proposed construction undermines its argument that the structure associated with the claimed “storing means” need support only broadcast consumers or sequential consumers, but not both. Plaintiff contends that there may be a system with no sequential consumers, thus making the sequential consumer database unnecessary; however, under plaintiff’s logic, there could also exist a system with no broadcast consumers, thus making a subscription matrix and event queues unnecessary. But plaintiff’s proposed construction includes a subscription matrix and event queues as required corresponding structure. In fact, plaintiff’s proposed structure requires “event *queues*,” even though a system may have only one consumer. Plaintiff does not explain the inconsistencies between its own proposed construction, which relies on the structure disclosed in Figure 2, and defendant’s proposed construction, which also relies on the structure in Figure 2.

In its second argument that the sequential consumer database is not a required structure, plaintiff relies on the concept of claim differentiation. Plaintiff contends that claim 1 should

not be interpreted to include a sequential consumer database because defendant's claim 6 recites "storing means" comprising

a subscription matrix for storing subscriptions to events in which the broadcast consumers are interested; and

a sequential consumer database for storing entries to events in which the sequential consumers are interested.

Id. at col. 22, lns. 15-19.

This argument is unpersuasive. First, plaintiff's argument is again inconsistent with its own proposed construction that includes "a subscription matrix" as a required structure for claim 1. More important, as the Court of Appeals for the Federal Circuit explained in Laitram Corp. v. Rexnord, Inc., 939 F.2d 1533, 1538 (Fed. Cir. 1991), so long as the court's interpretation of the corresponding structure comes from the written description and not from a dependent claim, the prohibition against reading limitations from a dependent claim into the independent claim is not violated. Here, the corresponding structure for the "storing means" in claim 1 is found in Figure 2 of the specification and not in claim 6. Moreover, the concept of claim differentiation "is a guide, not a rigid rule [and] does not override the requirements of § 112 ¶ 6 when the claim will bear only one interpretation." Nomos Corp. v. Brainlab USA, Inc., 357 F.3d 1364, 1368 (Fed. Cir. 2004) (citation and quotation marks omitted). Where "only one embodiment is described in the [] patent . . . the corresponding structure is limited to this embodiment and its equivalents." Id. The patentee "cannot evade the limitations of [§ 112 ¶ 6] by claiming [the structure separately] in [a] dependent [claim]." Id. As the court of appeals explained in Laitram,

[T]he judicially developed guide to claim interpretation known as "claim differentiation" cannot override the statute. A means-plus-function limitation is

not made open-ended by the presence of another claim specifically claiming the disclosed structure which underlies the means clause or an equivalent of that structure. If [such an] argument were adopted, it would provide a convenient way of avoiding the express mandate of section 112(6). We hold that one cannot escape that mandate by merely adding a claim or claims specifically reciting such structure or structures.

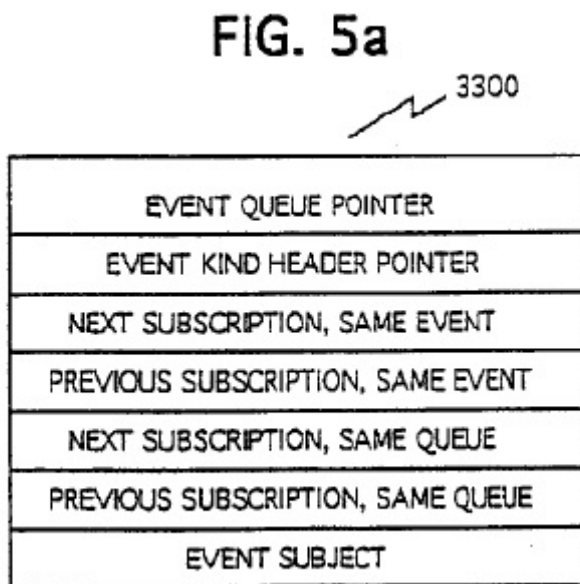
Laitram, 939 F.2d at 1538. In any event, as the court explained in Laitram, a dependent claim such as claim 6, which recites the required structure, is actually narrower than the independent claim from which it depends. Id. “Literally, claim [1] covers the structure described in the specification *and equivalents* thereof. . . . Dependent claim [6] does not *literally* cover equivalents. . . .” Id. (emphasis in original). Thus, I am not persuaded that “a sequential consumer database” must be considered an optional structure either to maintain claim differentiation or to avoid reading improper limitations to claim 1.

2. Figure 5a and the “subscription matrix”

The parties agree that “subscription matrix” is a required structure. The patent describes “subscription matrix” as “a structure that maintains the information about all existing event subscriptions. In particular, the subscription matrix **330** is used to keep track of the subscriptions for the events in which the broadcast consumers are interested.” ‘337 patent, dkt. #12-12, at col. 7, lns. 61-65. However, the parties dispute whether the specific structure depicted in Figure 5a of the ‘337 patent is a necessary structure corresponding to the function “storing a specific set of events of which said a least one event consumer is to be informed.”

Defendant contends that Figure 5a is a necessary structure, while plaintiff contends that it is only one example of how subscriptions may be stored in the subscription matrix.

It is true that the specification describes Figure 5a as “an *exemplary embodiment* of the



subscription data structure according to the present invention,” id. at col. 3, lns. 30-31, and states that “[a]ccording to *one embodiment*, the subscriptions 3300 are stored in the subscription matrix 330 in the format shown in FIG. 5a.” Id. at col. 8, lns. 22-24 (emphasis added). However, it is also true that every disclosed structure in the ‘337 patent is described as “one embodiment” or “an exemplary embodiment,” including Figures 2, 4 and 5b, which plaintiff agrees depict required structures. Id. at col. 3, lns. 20-50. Moreover, the figures and descriptions on which plaintiff relies as the disclosed structure for the subscription matrix are merely broad descriptions and illustrations of the general elements of the subscription matrix and its relation

to other structures. Only Figure 5a discloses how all of the components of the subscription matrix relate to one another and to the rest of the subscriptions to form a matrix. Because this is the only disclosed structure corresponding to the “subscription matrix,” it is a necessary structure. Nomos, 357 F.3d at 1369.

In sum, I conclude that both “a sequential consumer database” and Figure 5a’s depiction of a subscription matrix are necessary structures to the corresponding function “storing a specific set of events of which said a least one event consumer is to be informed” recited in claim 1 of the ‘337 patent.

E. ‘721 Patent: “dynamic binding”

Surrounding Claim Language	Plaintiff’s Proposed Construction	Defendant’s Proposed Construction
A method for sending an object oriented programming language based message having <i>dynamic binding</i> from a first object in a first process to a second object in a second process [cl. 1]	“binding messages to the actual methods to be invoked during runtime”	“binding messages to actual methods to be invoked, allowing objects of any class to be substituted at run time”

The invention in the ‘721 patent provides a method for using “proxy objects” to send messages between objects that are in different processes. ‘721 patent, dkt. #12-14, Abstract. In object-oriented programming, a “message” generally refers to a specific set of instructions called a “method” and the data values that must be passed to that method. Id. at col. 1, lns. 33-37. In the ‘721 patent, messages are sent between objects located in two difference “processes.” The term “processes” refers to an executing program and its memory space.

Plaintiff asserts claims 1 and 5 of the '721 patent against certain of defendant's Android-based products. The term "dynamic binding" appears in claim 1.

As reflected in the proposed constructions, both parties agree that dynamic binding means that messages sent to an object are not bound to the actual methods to be invoked by the object until "runtime" of the receiving object. Id. at col. 8, lns. 29-31. Different receivers may have different method implementations for the same method name, and the particular method to be invoked depends on the class of the receiving object. Id.

What is disputed is whether dynamic binding in claim 1 must "allow objects of any class to be substituted at run time," as proposed by defendant. Defendant contends that allowing objects of any class to be substituted at runtime is a central element of the invention in the '721 patent because this feature of dynamic binding is what allows the "proxy objects" claimed in the '721 patent to forward messages from objects in one process to objects in another process. In particular, the invention relies on proxy objects that *cannot* implement the methods associated with the messages they forward. Id. at col. 13, lns. 58-67; see also Fig. 5. Defendant contends that the claimed proxy objects can exist only in a system with "dynamic binding" that "allows objects of any class to be substituted at run time," because, as described in the patent, the proxy "acts as a local receiver for all objects in the local program." Id. at col. 6, lns. 51-59. According to defendant, without such "dynamic binding," the system would register an error when a message was received by a proxy object that was unable to implement it and the proxy could not forward the message.

Although I agree with defendant that the '721 invention depends on a system that allows

proxy objects to forward messages even if they are incapable of implementing those messages, defendant has not explained adequately why it is the “dynamic binding” recited in claim 1 that allows the forwarding process. The specification of the ‘721 patent discloses the following with respect to “dynamic binding” of messages:

One feature of objective C is ‘dynamic binding’ of messages to the actual methods to be invoked, depending on the class of the receiver. A programmer writing code in objective C can create code that sends a message “doSomething” to an object. The actual method corresponding to the class of the target object does not need to be determined until the message must be sent. This allows objects of any classes that implement[] the doSomething method to be substituted for the target object at run time without having to modify the part of the program that sends the message.

Id. at col. 8, lns. 29-39.

This passage confirms the aspect of the proposed construction on which the parties’ already agree, that is, that the “actual method corresponding to the class of the target object does not need to be determined until the message must be sent.” In other words, the actual method is not bound to the message until runtime. This delayed determination of the actual method “allows objects of any classes *that implement [a given method]* to be substituted for the target object at run time,” meaning that the message can be sent to objects in any class, so long as the object has a way of implementing the method. This is possible because the specific method is not bound to the message until the receiver is running.

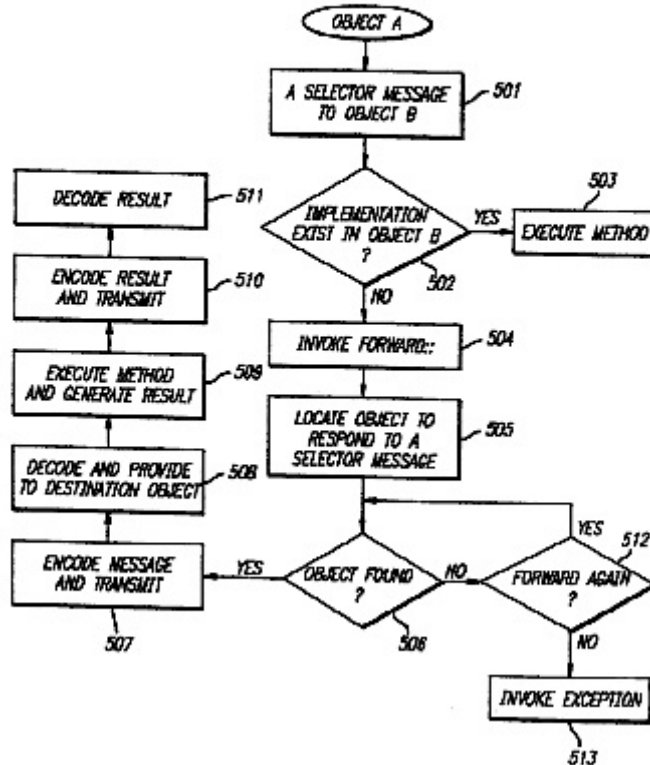
Defendant’s proposed construction takes this description of dynamic binding found in the specification one step further, by requiring that the claimed messages “having dynamic binding” be capable of being sent to objects in *any* class, regardless whether that object implements the message. Defendant points to the specification’s description of the message forwarding process

described in the specification:

“In objective C, when an object receives a message that contains a method that the object does not recognize, an exception is provoked leading to an error. The present invention, instead of provoking an exception, redirects the message to an acquaintance that can understand the message. For example, if an object receives a message containing a method that the receiving object does not contain, the message is forwarded to an acquaintance object that does contain the method.”

Id. at col. 13, lns. 58-67. In addition, Figure 5, which is described as an illustration of “the present invention,” demonstrates that the steps claimed in the patent can occur only if the proxy object (502) receives a message that it does not implement. Defendant contends that this process would not be possible without “dynamic binding.”

FIG. 5



However, defendant does not explain why it is appropriate to conflate the specification's discussion of the "forward" method in Figure 5 with "dynamic binding." It is not clear from the specification that a system's ability to send messages to proxy objects is dependent on the dynamic binding claimed in the patent. The specification does not mention dynamic binding in its description of Figure 5 or anywhere in the section titled "Automatic Forwarding of Messages," which discusses the ability of proxy objects to receive and forward messages that they cannot implement. Without more explanation from the parties on this issue, I cannot determine whether the proxy object's ability to send and receive such messages is related to "dynamic binding" or is enabled by some other element of the invention. Indeed, it seems clear from the specification that a proxy's forwarding ability is something that is unique, even in objective C systems. The specification states that "[i]n objective C, when an object receives a message that contains a method that the object does not recognize, an exception is provoked, leading to an error. The present invention, instead of provoking an exception, redirects the message to an acquaintance that can understand the message." Id. at col. 13, lns. 59-63. It is not clear from the specification how a proxy object is able to do this. Perhaps it is because of a particular type of dynamic binding, perhaps it is because of particular characteristics of the proxy object or perhaps it is something else. Without more information on this issue, I will not accept defendant's assertion that it is dynamic binding that enables this.

Finally, the extrinsic evidence cited by the parties does not address this point. The parties cite various dictionary definitions and discussions in publications of "dynamic binding," but none of the citations address the relationship of dynamic binding to a proxy object's ability to forward

messages automatically. Similarly, the recent claims construction decision by the International Trade Commission on the same term in a related case between plaintiff and HTC Corp. is not particularly helpful on this issue. In the Matter of Certain Personal Data and Mobile Communication Devices and Related Software, Investigation No. 337-TA-710, dkt. #148-2. Although defendant states that the commission adopted a construction of “dynamic binding” as used in the ‘721 patent that is very similar to its own proposed construction, the commission’s construction contains an important distinction. In particular, the commission construed “dynamic binding” to mean “permitting messages to be bound to the actual methods to be invoked depending on the class of the receiver, allowing objects *that implement a given method* to be substituted for the target object at run time.” Id. at 223. This is different from defendant’s proposed construction, which would limit dynamic binding to binding that allows objects in *any* class to be substituted, regardless whether the object can implement the given method.

In sum, I will not adopt plaintiff’s proposed construction because it is unnecessary to do so to resolve any dispute between the parties. Additionally, I will not adopt defendant’s proposed construction because defendant has not provided sufficient information to show how “dynamic binding” is related to a proxy object’s ability to forward messages between processes. Therefore, I decline to construe this term at this stage.

F. ‘002 Patent: “programming modules”

Surrounding Claim Language	Plaintiff’s Proposed Construction	Defendant’s Proposed Construction
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<p>a window generation and control logic coupled to the processor and data display screen to create an operating environment for a plurality of individual <i>programming modules</i> associated with different application programs that provide status and/or control functions, . . . wherein each of the plurality of display areas is associated with one of the plurality of individual <i>programming modules</i>, . . . and;</p> <p>an indicia generation logic coupled to the data display screen to execute at least one of the plurality of individual <i>programming modules</i> to generate information for display in one of the plurality of display areas in the first window region, wherein at least one of the plurality of display areas and its associated <i>programming module</i> is sensitive to user input [cl. 1]</p>	<p>“code that performs a function”</p>	<p>“an individual module added to the control strip that provides a specific status or control function”</p>
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The '002 patent describes a control strip that includes a plurality of individual programming modules that provide status and control functions. Plaintiff asserts claims 1, 21, and 46 of the '002 patent against certain of defendant’s smartphones, tablets and other devices. Initially, the parties stated that there were three disputes regarding the meaning of the term “programming module,” found in asserted claims 1, 21 and 41:

- (1) whether the programming module is “code” or whether it is an “individual program”;
- (2) whether the programming module must provide “status or control functions”; and
- (3) whether the programming module must be “added” to a “control strip.”

After reviewing the parties’ briefs and their arguments during the claim construction hearing, I conclude that there are no real disputes between the parties regarding the meaning of

this term that affect an issue of infringement or invalidity or that would be resolved by the parties' proposed constructions.

As to the first alleged dispute, defendant spends a significant portion of its opening brief arguing that programming modules are complex, individual "programs" that have various features, processes and functions and are not "single-function" code pieces. In its response brief, however, defendant removed the word "program" from its proposed construction, replacing it with "module." Because "module" is contained in the term itself, the addition of this word provides no additional meaning to the term and certainly does not clarify whether the claim covers modules that are "code," as plaintiff contends.

Moreover, plaintiff does not argue that modules are "single-function" pieces of code; rather, plaintiff agrees that modules can be multi-functional. Additionally, plaintiff agrees that modules provide "status and control functions," as that is explicitly stated in the claims themselves. Plt.'s Resp. Br., dkt. #106, at 23-24; Hrg. Trans., dkt. #118, at 126. Thus, it appears that the parties do not actually dispute (1) whether programming module is a "code" rather than an "individual program"; or (2) whether the programming module provides status and control functions.

This leaves the dispute regarding whether programming modules must be "added to the control strip." Defendant contends that the programming modules must be added to the control strip because the claims require that a control strip be present. Although none of the claims actually use the term "control strip," defendant says that each of the asserted claims refers to a control strip when it refers to "an operating environment for a plurality of individual programming

modules associated with different application programs that provide status and/or control functions.” E.g., ‘002 patent, dkt. #97-10, at col. 22, lns. 18-21 (cl. 1). According to defendant, the control strip is the operating environment for the programming modules. To support this interpretation, defendant points to language in the specification stating that “[t]he control strip is a control panel that provides the operating environment for control strip modules.” Id. at col. 6, lns. 35-36.

Defendant’s argument regarding the control strip is not really an argument about the meaning of “programming modules”; rather, it is an argument about the meaning of the term “an operating environment,” a term that was not included as a disputed term in defendant’s request for claim construction. Defendant has not explained how construing the term “operating environment” as “control strip” will resolve a disputed issue related to infringement or invalidity. However, even if I agreed with defendant that “operating environment” was properly before the court for construction or that “programming modules” should be construed in a way to clarify the relationship between modules and the “operating environment,” I would reject defendant’s proposed construction because it raises more questions than it answers. In particular, defendant’s proposed construction is problematic because it raises questions about the meaning of “added to” and “control strip,” neither of which is defined clearly in the claims and both of which the parties dispute.

In sum, because defendant abandoned its argument that “programming modules” must be individual programs and because the parties agree that the claimed “programming modules” provide status or control functions, it is not necessary to construe this term to resolve those

disputes. In addition, defendant has provided no justification for its proposed limitation that the claimed “operating environment” is a “control strip” to which the “programming modules” must be added. Therefore, I will not adopt defendant’s proposed limitations nor construe this term at this stage.

ORDER

IT IS ORDERED that

1. The motion for leave to file supplemental claim construction evidence, dkt. #113, filed by plaintiffs Apple, Inc. and NeXT Software, Inc. is GRANTED.

2. From United States Patent No. 5,490,230:

- a. The term “long term energy value for [the/a] frame of information” (1) must be for the same frame of speech as the later recited “pre-component” and “recovered component; and (2) must be the sum of energies for each component for each subframe of a frame; and
- b. The term “extracting from [the recovered signal/the speech coded information] at least one parameter” does not encompass processing multiple parameters to obtain a long term energy value.

3. From United States Patent No. 5,319,712, the “transmit overflow sequence number” is never transmitted to the receiver.

4. From United States Patent No. 5,572,193, “transmitting . . . from the subscriber unit to the communication system” is not limited to a cellular radio telephone system.

5. From United States Patent No. 6,175,559 the “outer code” (1) need not be periodic; and (2) need not be common for all mobile stations.

6. From United States Patent No. 5,566,337, “a sequential consumer database” and

Figure 5a's depiction of a subscription matrix are necessary structures to the corresponding function "storing a specific set of events of which said a least one event consumer is to be informed."

7. The parties' request for claims construction is DENIED for the following terms:

- a. "preamble sequence" from United States Patent No. 6,175,559;
- b. "software component architecture" from United States Patent No. 5,929,852 and United States Reissued Patent No. RE39,486;
- c. "connection information" from United States Patent No. 6,424,354;
- d. "during runtime" from United States Patent No. 6,275,983;
- e. "dynamic binding" from United States Patent No. 5,481,721; and
- f. "programming modules" from United States Patent No. 6,493,002.

8. None of the specific definitions the parties have proposed for the claim terms at issue will be adopted.

Entered this 13th day of October, 2011.

BY THE COURT:
/s/
BARBARA B. CRABB
District Judge