UNITED STATES DISTRICT COURT
DISTRICT OF MINNESOTA

TimeBase Pty Ltd.,

        Plaintiff,

v.   Civil No. 07-1687 (JNE/JJG)
                                                                                         ORDER

The Thomson Corporation,
West Publishing Corporation,
and West Services,

        Defendants.

Arthur A. Gasey, Esq., and Joseph N. Hosteny, Esq., Niro, Scavone, Haller & Niro, and Michael R. Cunningham, Esq., Gray, Plant, Mooty, Mooty & Bennett, P.A., appeared for Plaintiff TimeBase Pty Ltd.

David J. F. Gross, Esq., Calvin L. Litsey, Esq., Mary V. Sooter, Esq., and Kevin P. Wagner, Esq., Faegre & Benson, LLP, appeared for Defendants The Thomson Corporation, West Publishing Corporation, and West Services.

Plaintiff TimeBase Pty Ltd. asserts claims of patent infringement against Defendants The Thomson Corporation, West Publishing Corporation, and West Services. The case is before the Court to construe disputed claim terms pursuant to *Markman v. Westview Instruments, Inc.*, 517 U.S. 370 (1996).

I.   BACKGROUND

The parties asked the Court to construe terms and phrases from two patents, U.S. Patent No. 6,233,592 (filed July 1, 1998) and U.S. Patent No. 7,293,228 (filed Oct. 12, 2000).[1] Because the '228 Patent is a continuation in part of the '592 Patent, the '592 Patent's specification is

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[1]   In their joint claim construction chart, the parties originally asked the Court to construe more terms and phrases. In later briefs and at the *Markman* hearing, the parties indicated that they have agreed upon or no longer ask the Court to construe seven of those terms: amended, modified, means for searching, searching means, step of searching, searching step, and allowing the user to search or input at least one search request.

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incorporated into the '228 Patent's specification. The patents encompass an electronic database for publishing text-based data (e.g., legislation) designed to allow an end user to navigate and search the data. The patents' technology is computer software, and they include both method and apparatus claims.

The patented technology allows an end user to navigate and search text-based data that is constantly updated and amended. The embodiments disclosed in the specifications involve legislation. The specifications note, however, that the invention may be practiced with numerous other types of text-based data, including medical, scientific, and pharmaceutical data. The concept at the heart of the invention is that the text-based data is divided into predefined portions, and these portions are mapped in a multidimensional space. The data, of course, is not literally mapped or placed in a multidimensional space. Instead, the computer program stores the portions of data such that each portion may be conceptualized as occupying a point in a multidimensional space. The end user can navigate through the space and view the various predefined portions of data. As an example, consider the Federal Rules of Civil Procedure as the text-based data. The data set, the Rules, could be divided so that each rule is a predefined portion. Each predefined portion would then have a rule number associated with it. At this point, the predefined portions could be mapped in a one dimensional space, on a single axis, and the position of a particular predefined portion on that axis would correspond to an attribute, in this case, the rule number.

A second dimension, say time, is easily visualized. The Rules have been modified over time so it is possible to consider amended versions of each rule, which the patents refer to as modified portions of text-based data. The effective dates of a particular portion could be a second attribute for a particular version of a particular rule. With this added complexity, it is

possible to map the portions in a two dimensional space. The first dimension is, as in the one dimensional case, the rule number. The second dimension is time, namely, the dates when the particular portion was effective. An easy way to visualize this two dimensional mapping is to consider it as a chart with columns defined as rule numbers and rows defined as effective dates. The text of each version of each rule would be located inside each of the chart's cells so that each cell would contain a portion of text-based data. The patent teaches the use of a multidimensional space with more than three dimensions. A space of more than three dimensions is a concept not easily visualized but may be likened to a mathematical function with more than three variables.

The technology taught in the patents goes beyond organizing the text-based data in a multidimensional space. The software allows an end user to navigate and search the text-based data. For example, the computer program might display the text of the current version of Rule 1. The program might also display buttons, labeled "next rule" and "previous version." Clicking "next rule" would change the display to the text of Rule 2, and clicking "previous version" would change the display to the text of an older version of the rule. Adding two more buttons that allow movement to the "previous rule" and the "next version" would allow a user to move in all four directions in the two dimensional example above and to navigate pathways to any cell. Note that these buttons would only allow movement parallel to the axes; that is, the user cannot change both version and rule number at the same time. Adding a button that allows the user to move to the next rule number and the next version with a single click would allow movement in a direction that is not parallel to either axis. The buttons in this simple example could be enabled by links (the '228 Patent) or linking means (the '592 Patent). The parties contest how the claims allow these links to be accomplished. They agree that the links are enabled using "a markup

language," which is a type of programming language that allows code to be embedded in text-based data so that it is invisible to the end user but adds functionality to the text-based data. In the case of links, the added functionality would be connecting two portions, allowing navigation between the connected portions.

II.   STANDARD

The construction of patent claims "is a matter of law exclusively for the court." *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 970-71 (Fed. Cir. 1995) (en banc), *aff'd*, 517 U.S. 370 (1996). "[T]he claims of a patent define the invention to which the patentee is entitled the right to exclude." *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005) (internal quotation marks omitted). Words of a claim are generally given their ordinary and customary meaning, which is the meaning that the term would have to a person of ordinary skill in the pertinent art at the time of the invention (i.e., as of the effective filing date of the patent application). *Id.* at 1312-13. "[T]he person of ordinary skill in the art is deemed to read the claim term not only in the context of the particular claim in which the disputed term appears, but in the context of the entire patent, including the specification." *Id.* at 1313. Because the meaning of a claim term as understood by persons of skill in the art is often not immediately apparent, a court should look to the sources available to the public that show what a person of skill in the art would have understood the claim language to mean. *Id.* at 1314. "Those sources include 'the words of the claims themselves, the remainder of the specification, the prosecution history, and extrinsic evidence concerning relevant scientific principles, the meaning of technical terms, and the state of the art.'" *Id.* (quoting *Innova/Pure Water, Inc. v. Safari Water Filtration Sys., Inc.*, 381 F.3d 1111, 1116 (Fed. Cir. 2004)).

The claims provide substantial guidance as to the meaning of particular claim terms. *Id.* In some cases, the use of a term within the claim provides a firm basis for construing the term. *Id.* Other claims of the patent, both asserted and unasserted, can be valuable sources of enlightenment as to the meaning of a claim term. *Id.* "Because claim terms are normally used consistently throughout the patent, the usage of a term in one claim can often illuminate the meaning of the same term in other claims." *Id.* In addition, differences between claims can help determine the meaning of particular claim terms. *Id.* For example, a dependent claim that adds a particular limitation creates a presumption that the limitation is not present in the independent claim. *Id.* at 1314-15.

The claims do not stand alone, however, and "must be read in view of the specification, of which they are a part." *Id.* at 1315 (internal quotation marks omitted). The specification is "always highly relevant" to claim construction and usually is dispositive because it is "the single best guide to the meaning of a disputed term." *Id.* (internal quotation marks omitted).

In addition to the claims and specification, a court should consider the patent's prosecution history, if it is in evidence. *Id.* at 1317. This is because the prosecution history can "inform the meaning of the claim language by demonstrating how the inventor understood the invention and whether the inventor limited the invention in the course of prosecution, making the claim scope narrower than it would otherwise be." *Id.*

Finally, a court may consider extrinsic evidence, which is "all evidence external to the patent and prosecution history, including expert and inventor testimony, dictionaries, and learned treatises." *Id.* (internal quotation marks omitted). Extrinsic evidence, however, is less significant than the intrinsic record in claim construction. *Id.* Dictionaries and treatises can be useful in claim construction, particularly technical dictionaries, which attempt to give the

accepted meanings of terms used in science and technology. *Id.* at 1318. Such technical

dictionaries can help a court determine the meaning of particular terms to those skilled in the

pertinent art. *Id.* Expert testimony may aid a court in a variety of ways: by providing

background on the relevant technology; by explaining how an invention works; and by ensuring

that a court's understanding of technical concepts and terms is consistent with that of a person of

ordinary skill in the art. *Id.* Expert testimony that consists of conclusory, unsupported assertions

as to the definition of a claim term is not useful, however, and "a court should discount any

expert testimony 'that is clearly at odds with the claim construction mandated by the claims

themselves, the written description, and the prosecution history, in other words, with the written

record of the patent.'" *Id.* (quoting *Key Pharm. v. Hercon Labs. Corp.*, 161 F.3d 709, 716 (Fed.

Cir. 1998)).

III.   DISCUSSION

A.   Multidimensional space

Claims 1, 5, 20, 24, 40, 44, and 59-61 of the '592 Patent and claims 1, 13, 24, and 36 of

the '228 Patent recite multidimensional space. Claim 1 of the '228 Patent, for example, recites:

"[P]roviding a plurality of attributes, wherein the attributes define a manner in which the

plurality of portions of text-based data and the amended portion of text-based data can be

organized, displayed and linked in a multidimensional space." Plaintiff proposes that

multidimensional space is "an area not having boundaries and that is capable of, or involves,

more than three dimensions." (Joint Claim Construction Chart) Defendants propose that

multidimensional space is "an area not having boundaries and that is capable of, or involves,

more than three dimensions, where the dimensions are axes along which point-to-point

movement is allowed." Accordingly, the parties propose the same construction, except that Defendants also define dimension.

Multidimensional space is described in the '592 Patent's specification as "an area not having boundaries and that is capable of, or involves, more than three dimensions." '592 Patent col.7 ll.52-54. Plaintiff suggests that this definition suffices and that the Court does not need to clarify further. An absence of further clarification would leave the definition of multidimensional space too unconstrained; it would then depend on the meaning of an unexplained and undefined term: dimension. Because the parties dispute the definition of this central concept, the Court must define dimension to construe multidimensional space. The Federal Circuit has reasoned:

> [W]e do not ordinarily construe words that are not in claims. However, in this case, the court correctly looked to the words used in the specification, including the word "malleable," to provide an initial construction. After the court provided that construction, the parties disputed the definition of the word "malleable" in the claim construction, but that definition was elucidated by the specification. Thus, the court was similarly correct to look to the specification to clarify its initial construction.

Edward Lifesciences LLC v. Cook Inc., 582 F.3d 1322, 1334 (Fed. Cir. 2009). Accordingly, the Court considers the specification to define dimensions, thereby clarifying the construction of multidimensional space.

The specification makes clear that the ability to locate predefined portions of text-based data at particular points in space and movement between these points is central to the concept of multidimensional space. The specification teaches that the invention "makes it possible to locate each piece or block of text at a particular point in a 'multidimensional space' using as coordinates the attributes added to the piece or block of text." '592 Patent col.7 ll.49-51. The '592 Patent's Figure 1 "illustrates a multi-dimensional space as used in the embodiments of the

invention." Figure 1 shows a three dimensional grid; the lines of the grid are orthogonal. In other words, movement parallel to one of the lines varies one attribute without varying any other. The intersections of the lines of the grid are nodes, where predefined portions are mapped by assigning the node's coordinates to the portion. "The effect of mapping nodes . . . is that a course . . . through the information represented in the three dimensional space . . . can be easily plotted." '592 Patent col.8 ll.1-3. Similarly, "[w]ith such coordinates known (located or mapped), it is possible to move easily between points in the multidimensional space." '592 Patent col.7 ll.65-67. Figure 3 illustrates movement through the multidimensional space by showing a particular pathway that follows the orthogonal grid lines. Accordingly, movement between portions along pathways is a significant functional aspect of the invention.

The passages of the specification quoted above show that movement requires several elements. Movement requires a multidimensional space—without the multidimensional space, there would be nothing to move through. The portions must also be mapped to nodes—without mapping a particular portion to a particular node in the multidimensional space, the nodes would be empty and movement between them would have no functionality. Also, each portion's coordinates must be known. The computer program must keep track of each portion's location in the space. Otherwise, moving from node to node would result in movement from one portion to an unknown, potentially unrelated portion. Thus, multidimensional space is not, by itself, sufficient for point-to-point movement. It is, instead, a necessary condition of point-to-point movement. In summary, portions are organized in multidimensional space by mapping the portions in the multidimensional space and keeping track of the portions' locations. This combination allows the possibility of point-to-point movement. In this sense, Defendants are correct in that multidimensional space "allows" point-to-point movement. Or, more specifically,

it is one of the invention's elements that allows point-to-point movement. Accordingly, the

Court construes multidimensional space as: an area not having boundaries and that is capable of,

or involves, more than three dimensions, where the dimensions are axes along which, or along

some combination of which, point-to-point movement is allowed.

Plaintiff attempts to lessen the impact of the language of the specification quoted above

by pointing out that the language comes from the embodiments' descriptions and cannot be used

to add claim limitations that are not recited. Claim 1 of the '592 Patent, for example, does not

recite movement through a multidimensional space. Instead, it recites organizing portions in a

multidimensional space. On this basis, Plaintiff argues that claim 1 and multidimensional space,

in general, do not "require" point-to-point movement. But, as the Court understands their

proposed construction, Defendants do not propose that multidimensional space "requires" point-

to-point movement. Instead, they suggest that point-to-point movement is allowed by

multidimensional space.[2]

Plaintiff also argues that claim differentiation weighs against Defendants' proposed

construction. Where a patent claim "does not contain a certain limitation and another claim

does, that limitation cannot be read into the former claim." *Amgen Inc. v. Hoechst Marion, Inc.*,

314 F.3d 1313, 1326 (Fed. Cir. 2003) (internal quotation marks omitted). Plaintiff points out that

claim 24 contains a limitation requiring text retrieval and claim 9 contains a limitation requiring

a linking means for creating departure and destination points, both of which Plaintiff describes as

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[2]   There are some inconsistencies in Defendants' position on this point. In most of
Defendants' arguments, Defendants claim that multidimensional space "allows" point-to-point
movement. But in other portions of their argument, they go farther: "point-to-point movement
. . . is instead a *required feature* of the multidimensional space in the independent claims."
(Defs.' Resp. 7-8 (emphasis added)) Requiring point-to-point movement goes beyond
Defendants' proposed claim construction as stated in the joint claim construction chart, which
states that point-to-point movement is merely allowed.

"moving to" a given portion. Because these claims recite limitations involving movement, Plaintiff argues, it would be inappropriate to read a movement limitation into the more general claims. The argument fails for at least two reasons. First, even if retrieval and a linking means based on departure and destination points are indeed types of movement, the claims that recite retrieval and departure and destination points *require* those particular types of movement, whereas the Court's construction of multidimensional space only limits the claims to inventions where point-to-point movement is *allowed*. Second, retrieval and the creation of departure and destination points are, at best, specific types of point-to-point movement. Because the Court's construction of multidimensional space involves point-to-point movement in general, the limitations in claims 24 and 9 are more limiting and claim differentiation does not apply.

The prosecution history supports the Court's construction of multidimensional space. When the '592 Patent was reexamined, the patent examiner was concerned that the '592 Patent might be anticipated by prior art, "Arnold-Moore," which described a database and query language. Accordingly, Plaintiff attempted to distinguish the '592 Patent from Arnold-Moore by arguing that Arnold-Moore discloses a "version tree" rather than multidimensional space. Plaintiff went on to explain that "because of the predefined nature of the multidimensional space, the pathways for navigating from one predefined portion to any other predefined portion are known." (Defs.' Opening Br. Ex. H at 16) This statement is consistent with the Court's construction: multidimensional space, along with other necessary conditions (such as "predefining" the space), makes known pathways for navigating, or moving, through the space possible. The patent examiner also explained how point-to-point movement may be related to multidimensional space. The examiner reasoned that "one can trace though the other coordinates

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or Dimensions" by fixing one or two dimensions in the multidimensional space and changing other variables. (Defs.' Opening Br. Ex. I at 6)

Defendants' proposed construction would seem to limit point-to-point movement to movement in directions parallel to dimension axes, because it defines dimensions as "axes along which point-to-point movement is allowed." Nothing in the claims or specification, however, suggests that point-to-point movement is so limited. The '592 Patent's specification, for example, describes accessing data "under any combination of dimensions from the multidimensional space." '592 Patent col.6 ll.56-57. The "combination of dimensions" language suggests movement in diagonal directions. For example, given orthogonal dimension axes, movement that effects changes in a combination of dimensions is movement that is not parallel to any dimension axis. Defendants assert, and Plaintiff has not denied, that Plaintiff originally proposed a construction of multidimensional space containing a statement that multidimensional space "allows movement along different axes or pathways." Because a pathway need not be parallel to an axis, Plaintiff's initial construction is preferable to Defendants' proposed construction, and the Court adopts a construction that does not restrict point-to-point movement to directions parallel to the axes. Moreover, there is nothing to suggest that the movement is limited to that between contiguous points. In other words, the pathway may pass through points without "stopping" at those points. For example, a user could jump from section one of a statute to section three without viewing section two.

The Court construes multidimensional space as *an area not having boundaries and that is capable of, or involves, more than three dimensions, where the dimensions are axes along which, or along some combination of which, point-to-point movement is allowed.*

B. **Linking means**

      1.   Applicability of 35 U.S.C. § 112 ¶ 6 (2006)

Claims 1, 5, 8-10, 20, 24, 27-29, 40, 44, 47-49, and 59-61 of the '592 Patent recite a

limitation requiring a plurality of linking means. Defendants argue that this limitation should be

construed as a means-plus-function limitation under 35 U.S.C. § 112 ¶ 6. Plaintiff counters that

the claims recite sufficient structure to preclude construing linking means as a means-plus-

function limitation. Whether a particular limitation is in the means-plus-function format is a

question of law that may be decided at the *Markman* stage. *See TriMed, Inc. v. Stryker Corp.*,

514 F.3d 1256, 1259 (Fed. Cir. 2008).

Generally, claims define the scope, the metes and bounds, of the patentee's property

interest. *Phillips*, 415 F.3d at 1312. The specification, on the other hand, discloses, or "teaches,"

the new invention. When the scope of the property interest is to be determined, courts must use

the claim language rather than the specification. Section 112 ¶ 6 provides an exception to this

general rule:

> 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.

Accordingly, a means-plus-function claim is drafted as a means or step, and the claim's breadth

is limited to the structures, materials, or acts disclosed in the specification (and their equivalents)

that perform the claimed function. Thus, in contrast to a "normal" claim where the limits of the

property right are defined by the claim language, the limits of a means-plus-function claim are

partially defined by what is disclosed in the specification.

If a limitation "contains the word 'means' and recites a function," there is a presumption

that the limitation is in the means-plus-function format. *Envirco Corp. v. Clestra Cleanroom*,

Inc., 209 F.3d 1360, 1364 (Fed. Cir. 2000). The presumption is rebutted, however, if the claim

also "recites sufficient structure to perform the claimed function." *Id.* Defendants correctly

argue that the test for rebuttal is not whether one of skill in the art could implement the claimed

structure based on the structure's description in the claim. *See Aristocrat Techs. Austl. Pty Ltd.*

v. Int'l Game Tech., 521 F.3d 1328, 1336-37 (Fed. Cir. 2008). The test is whether the claim

language recites sufficient structure to perform the claimed function. Defendants, citing *TriMed*,

intimate that rebutting the means-plus-function presumption "requir[es] that the exact structure

be set forth." (Defs.' Opening Br. 31) The language from *TriMed* cited by Defendants does not

stand for this proposition. The *TriMed* court stated that "[s]ufficient structure exists when the

claim language specifies the exact structure." *TriMed*, 514 F.3d at 1259-60. The language

"sufficient structure exists when" simply signifies that reciting the exact structure is sufficient to

rebut the presumption; it does not, as Defendants suggest, state that reciting the exact structure is

necessary. Further, the "exact structure" language is not prevalent in Federal Circuit precedent.

Instead, the Federal Circuit consistently states the rule as requiring "sufficient structure for

performing the described functions in their entirety." *See, e.g.*, *id.* at 1259. Although one can

state the rule for rebutting the presumption with certainty, "[t]he line between insufficient and

sufficient structure can be thin," 5A Donald S. Chisum, Chisum on Patents § 18.03(5)(e) (2007).

The disputed linking means phrase occurs only in the '592 Patent and is present in each

of the '592 Patent's independent claims. The entire text of the limitation, as found in claim 1, is

"a plurality of linking means of a markup language, each predefined portion of said text-based

data and said at least one modified predefined portion of text-based data being encoded with at

least one linking means." The parties agree that the use of the term means creates a rebuttable

presumption that linking means is a means-plus-function limitation. The Court concludes that there is insufficient structure to rebut the means-plus-function presumption.

Plaintiff argues that "markup language" is the recited structure that performs the linking function. (Pl.'s Opening Br. 17-18; Pl.'s Resp. 20) A person of skill in the art would understand, as the specification makes clear, that a markup language is a programming language that allows code to be embedded in text-based data so that it is invisible to the end user but adds functionality to the text-based data. For example, the markup may change the text's appearance by making the text appear in bold-face type. Another example is a markup that displays a link to a website. The claims also state that at least one linking means must be "encoded" in each predefined portion of text-based data and each modified predefined portion of text-based data. Thus, the claims recite some structure: markup language embedded in predefined portions and modified predefined portions. But this structure is not sufficient to perform the recited function. Inserting "markup language" in the portions could accomplish a number of functions, e.g., linking predefined portions, or changing font color or typeface. The Court is not rejecting Plaintiff's argument based on the breadth of claim coverage. Whether a claim is broad is not the test for determining if it is in the means-plus-function format. *See Lighting World, Inc. v. Birchwood Lighting, Inc.*, 382 F.3d 1354, 1359-60 (Fed. Cir. 2004) (rejecting argument that a limitation must be a means-plus-function limitation if it covers a "broad class of structures"). Here, the recited structure covers far too many functions and is thus too vague. The language is nearly as imprecise as stating that the linking means is accomplished with a programming language—an argument supported by Plaintiff's suggested claim construction, which defines linking means as "*any piece of code* or mark-up." (Joint Claim Construction Chart) Reciting

that a function is accomplished with "any piece of code or mark-up," even if the code is specified

as being a markup, is not enough to rebut the means-plus-function presumption.

Alitris, Inc. v. Symantec Corp., 318 F.3d 1363 (Fed. Cir. 2003), supports this conclusion.

Alitris involved a patent for software allowing a computer to be rebooted remotely by a second

computer to update the first computer's software. The issue was whether sufficient structure was

recited for "a means of booting" to rebut the means-plus-function presumption. The limitation

included language about "commands" being stored on the two computers, and the plaintiff

argued that this was sufficient structure to rebut the means-plus-function presumption. The

Federal Circuit rejected that argument because, in part, the language "merely point[ed] out that

the relevant structure is software." *Id.* at 1376. Because one had to look to the specification to

determine the structure of the software, the structure recited in the claim was insufficient to rebut

the means-plus-function presumption. *Id.* The Court faces a similar situation here: the recited

structure merely points out that the relevant structure is a particular type of software language.

To determine the structure of the markups, one must look to the specification. Accordingly, the

means-plus-function presumption is not rebutted. *See also Net MoneyIN, Inc. v. VeriSign, Inc.*,

545 F.3d 1359 (Fed. Cir. 2008) (the structure recited must be more than a general purpose

computer).

        2.   Construing linking means

Having determined that linking means is a means-plus-function limitation, the Court

turns to defining the limitation's function and structure. Means-plus-function claims are

construed in a two-step process. *Rest. Techs., Inc. v. Jersey Shore Chicken*, 360 F. App'x 120,

126 (Fed. Cir. 2010). "First, the court identifies the claimed function based on the claim

language and limitations. Second, the court ascertains the corresponding structures disclosed in

the specification for performing that function." *Id.* (citations omitted). As quoted above, the claim "shall be construed to cover the corresponding structure . . . described in the specification and equivalents thereof." § 112 ¶ 6.

a.   Function

The parties agree that the function of linking means is to connect text-based data.[3] They dispute whether linking means can connect "related material." Specifically, Plaintiff suggests the following function: "Generally speaking, the main function of a linking means is to connect portions to other portions and other related material, as set forth in the literal language of the applicable claims." (Joint Claim Construction Chart) Defendants suggest the following function: "[L]ogically connecting a block of text-based data to another specific block of text-based data." (*Id.*) Defendants argue that the specification and claims refer to linking only text-based data and therefore the linking means function should be limited to connecting text-based data. The thrust of Plaintiff's main argument on this point is that connecting related materials should be included in the linking function because "the patents show that related materials, such as cases and articles, can indeed be linked." (Pl.'s Resp. 14) Plaintiff supports its argument by

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[3]   Defendants suggest that "blocks of text-based data," "portions," and "portions of text-based data" are synonymous. Plaintiff asserts that Defendants make no argument why "different words and phrases" should mean the same thing, and that Defendants have "waived" any right to construe "block" or "text-based data." Litigants' positions on claim construction are not waived in the manner suggested by Plaintiff: "[A] district court may engage in claim construction during various phases of litigation, not just in a *Markman* order." *Conoco, Inc. v. Energy & Envtl. Int'l, L.C.*, 460 F.3d 1349, 1359 (Fed. Cir. 2006). Moreover, the claims' plain language supports Defendants' position. Claim 1 of the '592 Patent, for example, describes "portions of text-based data," and dependent claim 19 states that "each predefined portion is a block of said text-based data." The '592 Patent's specification describes dividing "information into 'suitably' small pieces (or blocks) of text, each of which is a predefined portion." '592 Patent col.7 ll.41-43. It is therefore evident that "blocks of text-based data," "portions," and "portions of text-based data" may be used interchangeably.

citing various[4] claims and parts of the specification—'592 Patent col.10 ll.24-50, for example—

that support its proposition that cases and journal articles may be linked to portions of legislation.

The premise of Plaintiff's argument is well-supported: the claims claim and the specification

teaches the linking of cases and journal articles. But this does not support Plaintiff's

construction because cases and journal articles may be organized in the multidimensional space

as portions of text-based data. Claim 1, for example, claims a system for organizing portions by

using a plurality of attributes that define points in the multidimensional space. Figure 4 of the

'592 Patent shows how "case and journal information" may be mapped on the multidimensional

space by using a "type" attribute. '592 Patent col.11 ll.7-9. The specification makes clear that

the invention allows movement from legislation to cases and journal articles, and this movement

is accomplished with the linking means. But the cases and journal articles are mapped onto and

organized in the multidimensional space, so they are predefined portions of text-based data, as

described in claim 1. Plaintiff's argument that linking means connects portions to other related

material fails because the other related materials to which Plaintiff points are predefined portions

of text-based data. Defendants' proposed function is therefore correct.

        b.   Structure

The parties also dispute the structure disclosed in the specification that performs the

linking means function. Plaintiff suggests that the structure is "[a] piece of information of a code

or mark-up that is used to connect to, or between portions or between related material and

portions." (Joint Claim Construction Chart) Defendants suggest that the structure is "markup

language consisting of a single reference ID which uniquely identifies a specific block of text-

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[4]   Many of Plaintiff's citations on this issue appear only in the '228 Patent. Because linking means appears in only the '592 Patent, these citations are irrelevant to defining the linking-means function. The citations are, however, relevant to defining "link" as it appears in the '228 Patent.

based data." (*Id.*) Plaintiff's suggested structure is quickly rejected. The structure is roughly

equivalent to the means-plus-function limitation in the claim. It would be inconsistent to define

the structure in those terms, because the Court has already concluded that the claim language

does not provide sufficient structure for performing the claimed function.

Defendants point to three structures in the specification, SGML ID and IDREF links,

XREF Cross References, and Folio Views Jump Links (jump links), that perform the linking

function. The Court concludes that these structures perform the linking function. First, consider

SGML ID and IDREF links. The '592 Patent describes how the text-based data is marked up

using the SGML markup language. ID is defined as a markup that gives the identifier for a

particular text block. For example, "SECTION ID='CWACT-19950104-SEC-1'" might be

inserted just before a block of text, indicating that the text following the markup is identified as

CWACT-19950104-SEC-1. The specification describes ID as an identifier, suggesting that an

ID is unique to a particular portion of text-based data. Furthermore, the elements of the ID string

require that it be unique to a particular portion. The ID string above, for example, indicates that

the portion is section one of Act number 104 of 1995. Because there must be only one section

one of Act number 104 of 1995, the ID string is unique. Further structure for the ID and IDREF

links is given in the Document Type Definitions (DTDs). The manner in which the text-based

data is marked up depends in part on its document type—e.g., legislative acts may be marked up

differently than regulations. The '592 Patent's first embodiment includes DTDs, which are code

that defines how a particular type of text-based data will be marked up. The '592 Patent's Table

B is an example of DTDs for acts and regulations. It includes specifications that are unique to a

particular document type, and it includes specifications that are common to both types. *See, e.g.*,

'592 Patent col.31 ll.3-7, 15. A status entity is defined in the common specifications of the

DTDs. A list of six items appears within the status-entity code, three of which, insert-leg, repeal-leg, and amend-leg, are described as links to inserting, repealing, and amending legislation, respectively. '592 Patent col.35 ll.3-9. These three links are identified as IDREFs. Table D further describes the three linking items, e.g., "[t]he amend-leg should be used to insert the ID of the legislation that amended the ACT." '592 Patent col.103 ll.8-9. Accordingly, the specification describes a method by which a link is created by inserting the unique identifier, the ID, of a portion of text-based data as an IDREF. An accurate description of this structure is markup language that uses a reference ID, which uniquely identifies a specific block of text-based data.

Second, XREFS are described as: "A cross reference to a single target. It has a single attribute, ref, which must contain the id string of the target of the reference." '592 Patent col.121 ll.33-34. The structure of XREFs can therefore be described as markup language that uses a reference ID, which uniquely identifies a specific block of text-based data.

Finally, Defendants suggest that jump links are also structures for performing the linking function. The specification describes how SGML ID markups are converted into "jump destinations," which are a type of markup written in Folio Views' proprietary markup language.[5] The jump destinations are text strings that are nearly identical to the SGML IDs. Like the SGML IDs, jump destinations uniquely identify particular portions. The specification also describes jump links, allowing movement from one portion to another. Defendants suggest that a particular jump destination may be the target of a jump link, but nothing they cite to in the

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[5] Curiously, Plaintiff writes "Folio Views [is] not [a] markup language[]" in response to Defendants' contention that jump links are a type of structure that perform the linking function. (Pl.'s Resp. 18-19) But the specification describes the "Folio Views markup language" and states that "Folio Views has its own proprietary markup language." '592 Patent col.9 ll.53, 55.

specification directly states this proposition. Irrespective of whether Defendants are correct on this score, the jump links structure is captured by the same description that captures the SGML IDREFs and XREFs structures: markup language that uses a reference ID, which uniquely identifies a specific block of text-based data.

There is, however, at least one other structure in the specification that performs the linking means function. "RNGREF" is "[a] cross reference to a sequential range of targets, e.g. see Sections 3 to 7. It has two required attributes, startref and endref. Startref is the id of the first of the targets referenced and endref is the id of the last target referenced." '592 Patent col.121 ll.27-29. RNGREF is therefore a link to a range of portions, and its structure is two unique identifiers that identify the beginning and end of the range. This structure is captured by changing the structure description above to: markup language that uses reference IDs, each of which uniquely identifies a specific block of text-based data. Plaintiff also suggests that TEMPREF[6] is a structure that performs the linking function. But the described structure for TEMPREF cited by Plaintiff is limited: "A reference to a piece of legislation where the ID is not known. The tempref element will [be] converted to an XREF element at a later date (when the ID is known)." '228 Patent col.133 (also found in '592 Patent col.121 ll.23-24). This language is not sufficiently detailed to define TEMPREF's structure. To the extent that the language discloses structure, that structure is an XREF, a structure that is captured by the description above. The language cited by Plaintiff essentially describes TEMPREF's specific linking function without describing the structure of the markup language used to perform that function.

Accordingly, the Court construes linking means as a means-plus-function limitation, the function of which is *logically connecting a block of text-based data to another specific block of*

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[6]   Plaintiff cites the '228 Patent for this proposition, but the same description of TEMPREF is found in the '592 Patent. '592 Patent col.121 ll.22-24.

text-based data; and the structure of which is *markup language that uses reference IDs, each of which uniquely identifies a specific block of text-based data*.

C.   Link

Link is the '228 Patent's counterpart to the '592 Patent's linking means and appears in claims 1, 5-7, 13, 15-18, 24, 28-30, and 38-41 of the '228 Patent. Plaintiff proposes that a link is "[a] connection which utilizes any piece of code or mark-up that allows departure and destination points to be created to portions, between portions or between related material and portions." (Joint Claim Construction Chart) Defendants propose that a link is "[a] logical connection between a block of text-based data and another specific block of text-based data, where the logical connection is markup language consisting of a single reference ID, which uniquely identifies the specific block of text-based data." (*Id.*) Because link is not in the means-plus-function format, construing link is markedly different from construing linking means. Nevertheless, as with linking means, the parties agree that link is a connection, but they disagree as to what may be connected and how the connection is formed.

The parties disagree as to whether the connection can be made to "related material." As with linking means, Defendants argue that there is nothing in the specification or claims that describes connecting anything other than text-based portions. Plaintiff makes the same argument as it did for linking means: the claims and specification describe linking more than just legislation. Plaintiff cites numerous instances in the '228 Patent's claims and specification demonstrating that cases and journal articles may be linked. Again, Plaintiff's premise is correct. This does not, however, support Plaintiff's assertion that links connect things that are not portions of text-based data because, for the reasons described above, cases and journal articles are text-based data. The '228 Patent's claims also support a construction treating cases and

journal articles as text-based data. Claim 13 of the '228 Patent, for example, states that "when the user selects the case link . . . the portion of legislation is replaced with a list of portions of text-based data associated with the case link." Accordingly, claim 13 treats case material as text-based data. Further, claim 19 of the '228 Patent indicates that material related to legislation may be treated as portions of text-based data: "[E]ach of the portions of text-based data is a respective provision of said legislation or material related to a provision of said legislation."

The parties also debate the way in which the link is accomplished. Defendants argue, as with linking means, that links are only created by embedding markups that consist of a single unique identifier. Defendants base their argument on the claim language, which states that portions are encoded with markup language "to include at least one link defined by one of the plurality of attributes." '228 Patent col.163 ll.28-29. On this basis, Defendants argue that a link consists of one of the attributes associated with the portions. Defendants further argue that the '228 Patent makes clear which attribute forms the link: the unique identifier of the target portion to be linked. Defendants support this contention by pointing out that the '228 Patent's specification describes links that provide "the id of the target as the value of an attribute." '228 Patent col.111. Defendants' argument is flawed because the '228 Patent's specification, like the '592 Patent's, also describes links that consist of something more than a single unique identifier, e.g., RNGREF. '228 Patent col.133. The better construction of the claim language is therefore that the portion must be encoded with at least one link of a particular type, namely a link that consists of one of the plurality of attributes. Accordingly, the language cited by Defendants does not define link in general, but rather defines a particular type of link with which each portion must be encoded. Nothing in the language suggests that this is the only type of link. Allowing a more flexible definition of link is more consistent with the rest of the claim language, which

describes links that are "defined by one *or more* of the plurality of attributes." '228 Patent col.164 ll.29-32.

Finally, the Court rejects Plaintiff's suggestion that a link may be created with "any piece of code." Plaintiff points to nothing in the '228 Patent suggesting that links can be created with anything other than markups.

The Court construes link as *a connection between portions of text-based data utilizing a markup language*.

D.   Each

Each appears in claims 1, 20, 40, and 59-61 of the '592 Patent and claims 1 and 24 of the '228 Patent. Plaintiff proposes that each should have its "[p]lain and ordinary [meaning], referring individually to things." (Joint Claim Construction Chart) Defendants propose that each should mean "[e]very one considered separately." (*Id.*) Defendants' construction is consistent with the ordinary meaning of each: "[U]sed to refer to every one of two or more people or things," *New Oxford American Dictionary* 544 (Angus Stevenson & Christine A. Lindberg eds., 4th ed. 2010). Because the patents' claims and specifications provide no justification for departing from this ordinary meaning the Court adopts Defendants' proposed construction.

The Court construes each as *every one considered separately*.

E.   Attributes

The attributes term appears in claims 1, 3, 5, 12-14, 20, 22, 24, 31-33, 40, 42, 44, 51-53, and 59-61 of the '592 Patent and claims 1, 2, 13-15, 24, 25, and 36-38 of the '228 Patent. Plaintiff proposes that attributes are "[a] piece of code or mark-up that describes a point on an axis of a multidimensional space for example, the section number, or ID, or the effective date of a section of a statute." (Joint Claim Construction Chart) Defendants propose that attributes are

"[c]haracteristics or descriptors of text-based data." (*Id.*) Defendants base their argument on the '592 Patent's specification, which states: "The embodiments advantageously divide information into 'suitably' small pieces (or blocks) of text, each of which is a predefined portion of data, and add to each piece of text, either expressly or implicitly, a number of attributes (characteristics or descriptors)." '592 Patent col.7 ll.41-45. Plaintiff argues that Defendants' definition ignores other parts of the specification and the claim language that require attributes to be defined as points on axes of the multidimensional space. In particular, Plaintiff points out that all of the '592 Patent's independent claims recite "a plurality of attributes, each attribute being a point on an axis of a multidimensional space," '592 Patent col.155 ll.11-12, and that the '592 Patent's specification describes how attributes are used "as coordinates" in the multidimensional space, '592 Patent col.7 ll.49-51. The language cited by Plaintiff only describes how attributes are used in the claim limitations. It does not constrain the actual definition of attributes. The cited claim language limits the claims to inventions that use attributes as points on axes in a multidimensional space, it does not define attributes as points on axes in a multidimensional space. Defendants' construction of attributes is correct.

The Court construes attributes as *characteristics or descriptors of text-based data*.

F.   Graphical representation

Graphical representation appears in claims 24 and 36 of the '228 Patent. Plaintiff proposes that graphical representation means "a written, printed or pictorial presentation or display," whereas Defendants propose that it means "a pictorial presentation or pictorial display." (Joint Claim Construction Chart) Plaintiff's definition is too broad because graphical representation would include "a written . . . display." Plaintiff points to nothing in the claims or specification suggesting that the term should be construed so broadly as to contradict the

common understanding of the phrase. But there is also nothing to suggest that a display is not a graphical representation merely because it contains some text. The Court therefore adopts Defendants' proposed construction with one clarification: graphical representation means *a pictorial presentation or pictorial display, which may include some textual information*.

G.   Displaying

Displaying appears in claims 1, 13, 24, and 36 of the '228 Patent. Plaintiff proposes that displaying means "[p]utting on a visual output device of a computer; presenting data visually; providing a visual presentation of data. Output devices include printers, plotters and other reproductive devices." (*Id.*) Defendants propose that displaying means "[s]howing on a computer screen." (*Id.*) The central aspect of the parties' disagreement is whether displaying may be performed by output devices such as printers. Displaying with a printer is inconsistent with the specification, which emphasizes that the display is a "video display" and separately references output devices, like printers. Moreover, the '228 Patent's claims that contain the displaying term also contain limitations involving the displaying of links. Because it makes no sense to select a link, which should generate some real time response in the computer program, on a printout, it makes little sense to construe displaying to encompass printing. Nevertheless, Defendants' construction is too limited because it would rule out displaying on anything other than a computer screen, such as a projector and screen.

The Court construes displaying as *showing on an electronic video device capable of changing in real time in response to inputs, such as a CRT monitor, an LCD monitor, or a projector and screen*.

H. Dividing

Dividing appears in claims 1 and 24 of the '228 Patent. Plaintiff proposes that dividing should be construed as "[s]eparating into suitable portions." (*Id.*) Defendants propose the following construction, "[s]eparating into two or more parts." (*Id.*) Defendants' construction is consistent with the commonly understood meaning of dividing. Plaintiff's main argument against Defendants' plain-meaning construction is that it incorrectly includes dividing into arbitrary portions within the claim coverage, a process specifically criticized in the specification. The claim language and specification provide support for Plaintiff's argument. Claim 1, for example, states that the divided portions will be organized in a multidimensional space. The specification teaches that division into "'suitably' small pieces" is what "makes it possible to locate each piece or block of text at a particular point in a 'multidimensional space' using as coordinates the attributes." '592 Patent col.7 ll.41-51. Accordingly, because the claim states that the divided portions will be organized in a multidimensional space, the claim assumes that dividing produces "suitable" portions. Arbitrarily divided text-based data would not be covered by the claims because the portions could not be organized in a multidimensional space. Defendants argue that such a construction risks the possibility of rendering the claims indefinite because suitability is a subjective evaluation without an objective standard for measuring the scope of what is suitable. But there is an objective standard: suitability requires that the divided portions be capable of being organized in a multidimensional space as the specification contemplates.

The Court construes dividing as *separating into two or more suitable parts*.

I.   Portion, predefined, and predefined portion

Portion appears in claims 1, 4, 5, 9-11, 13-15, 17, 19, 20, 23, 24, 28-30, 32-34, 36, 39, 40, 43, 44, 48-50, 52-54, 56, and 58-61 of the '592 Patent and claims 1, 7, 8, 10, 12, 13, 15, 17-19, 21, 24, 29-31, 33, 35, 36, 38, 40-42, 44, and 46 of the '228 Patent. Predefined and predefined portion appear in claims 1, 4, 5, 10, 11, 13-15, 17, 19, 20, 23, 24, 29, 30, 32-34, 36, 39, 40, 43, 44, 49, 50, 52-54, 56, and 58-61 of the '592 Patent. Plaintiff proposes that portion should be construed as "[a] part of a writing or written work and more than a single word, for example, a section in the case of a statute, act or regulation." (Joint Claim Construction Chart) Defendants propose that a portion is "[a] block of text-based data." (*Id.*) A central difference between the two constructions is that Plaintiff's construction requires that a portion be something less than an entire writing or written work, while Defendants' construction would allow a portion to be composed of an entire writing or written work, e.g., an entire case. Plaintiff argues that Defendants' construction merely substitutes block for portion and is therefore unhelpful. Plaintiff further argues that the specifications teach that storing the entire new version of the text-based data (e.g., the new version of a legislative act) is not optimal because it requires the indiscriminate storage of a data set that is too big. Plaintiff also points to the prosecution history, which differentiates the '592 Patent from prior-art Arnold-Moore because Arnold-Moore stores arbitrary portions, which could consist of a whole document. Plaintiff therefore argues that the specifications rule out a construction of portion that would include entire documents as portions.

Plaintiff's construction is somewhat problematic. First, it is ambiguous as to what a writing or written work is. It is unclear, for example, whether the entire United States Code would be a writing or written work, or whether a single Title or Chapter of the United States Code could also be a writing or written work. Moreover, as discussed above, the text-based data

can be a mix of legislative materials, case law, and secondary sources. In such cases, it is unclear whether the text-based data would be a single writing or written work or whether the text-based data would consist of multiple writings or written works. Second, as Defendants point out, dependent claims explicitly contain the limitation that Plaintiff attempts to read into the independent claims through its construction of portion: "The system according to claim 1, wherein each predefined portion is a block of said text-based data, said block being larger than a single word and less than an entire document of said text-based data." '592 Patent col.156 ll.9-12.

Consideration of the claim language yields a better construction. Claim 1 of the '592 Patent recites: "A computer-implemented system for publishing an electronic publication using text-based data, comprising: a plurality of predefined portions of text-based data with each predefined portion being stored." Accordingly, the claim involves publishing text-based data by using portions of the text-based data. Neither the claim language nor the specifications limit the text-based data to a single writing or written work. A portion is therefore a part of the text-based data to be published, something less than all of the text-based data. If the text-based data were a mix of statutes and cases on those statutes, a portion could be a section of the statutes or it could be an entire case that discusses the statutes, each of which would be something less than all of the text-based data. This construction is consistent with the specifications, which describe a flexible publication system that can be used to publish a wide range of text-based data, including scientific, medical, and pharmaceutical text-based data. Limiting portions to something less than an entire writing or written work would substantially inhibit this flexibility. The Court also rejects Plaintiff's suggestion that a portion must be more than a single word. Nothing in the claim language or specifications suggests that such a limitation should be read into the claims—

single-word portions for a section of a statute are easily imagined, e.g., "repealed" or "reserved."

In short, the claim language describes portions of text-based data; it does not describe portions of

writings or written documents.

The Court therefore construes portion as *a part of the text-based data to be published*.[7]

Plaintiff proposes a separate definition for predefined: "The size or structural type of a

portion determined based upon an analysis of the nature of the information and knowledge of

how the information will be used." (Joint Claim Construction Chart) Defendants propose the

following construction for predefined portion: "A block of text-based data that has been chosen

for storage." (*Id.*) Plaintiff's construction suffers from a grammatical flaw—the construction is

of a noun but predefined is an adjective. Nevertheless, the gist of Plaintiff's construction is that

portions are predefined so as to be suitable, and this requires analysis of the nature and structure

of the text-based data. The Court accepts this argument for the same reasons it accepted reading

"suitably" into the construction of dividing. Defendants also object to Plaintiff's construction

because it would improperly include a method of use limitation. The Court notes that one could

make the same argument against Defendants' proposed construction because "choosing" is

likewise functional. Defendants' argument fails because the functional language here does not

create confusion about whether the patent would be infringed when the system is created or

when the system is used. *Compare IPXL Holdings, L.L.C. v. Amazon.com, Inc.*, 430 F.3d 1377,

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[7]   Plaintiff objects to Defendants' use of the word block in their construction of portion. Plaintiff argues that a block is different from a piece, both of which are, according to Plaintiff, types of portions. Plaintiff argues that a block is a contiguous string of text that cannot contain omissions within the string, whereas a piece may contain omissions of intervening words and characters. As discussed in footnote 3, the Court is not convinced that block is so limited. In any event, the Court uses part instead of block in its construction. *See Rexnord Corp. v. Laitram Corp.*, 274 F.3d 1336, 1348 (Fed. Cir. 2001) (interpreting "portion" as a part of any whole, either separated from or integrated with it).

1384 (Fed. Cir. 2005) (improper mixing of apparatus and method limitations), *with August Tech. Corp. v. Camtek, LTD*, Civil No. 05-1396, 2008 WL 2774696, *4 (D. Minn. July 14, 2008) (no improper mixing of apparatus and method limitations).

The Court construes predefined portion as *a suitable part of the text-based data to be published that is chosen for storage at a particular point in the multidimensional space*.

IV.   CONCLUSION

Based on the files, records, and proceedings herein, and for the reasons stated above, IT IS ORDERED THAT the disputed claim terms are construed as set forth in this Order.

Dated: January 21, 2011

s/ Joan N. Ericksen

JOAN N. ERICKSEN
United States District Judge