IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF MICHIGAN

SYMBILITY SOLUTIONS INC., a Canadian corporation, *Plaintiff*, **v.** **XACTWARE, INC.**, a Utah corporation, *Defendant*.	)	**No. 2:05 CV 73068**

XACTWARE'S MEMORANDUM ON
CLAIM CONSTRUCTION ISSUES

Robert S. Krause
DICKINSON WRIGHT PLLC
500 Woodward Avenue, Suite 4000
Detroit, MI 48226-3425
(313) 223-3670 (ph)
(313) 223-3598 (fax)

Mark M. Supko
Jennifer H. Burdman
CROWELL & MORING LLP
1001 Pennsylvania Avenue, N.W.
Washington, D.C. 20004-2595
(202) 624-2500 (ph)
(202) 628-5116 (fax)

Attorneys for Defendant/Counterclaim-Plaintiff Xactware, Inc.

TABLE OF CONTENTS

TABLE OF AUTHORITIES

Cases

Statutes

INTRODUCTION

Defendant Xactware, Inc. ("Xactware") respectfully submits this memorandum in support of its proposed construction of the disputed claim terms in U.S. Patent Nos. 6,037,945 ("the '945 patent") and 6,816,819 ("the '819 patent").[1] The parties previously submitted a Joint Claim Construction Statement identifying the constructions on which they agree.

STATEMENT OF FACTS

I. Background of the Technology

The '945 and '819 patents are directed to computer-based methods for generating cost estimates for construction-related projects. For generations, estimates of this type were performed using a manual process of partitioning the project into a series of rooms and then generating a comprehensive list of requirements for each room. This required not only taking extensive linear measurements, but also performing many mathematical operations to, for example, determine the square footage associated with various material requirements. This type of "list-mode" estimating is reasonably simple and effective for rectangular-shaped cubical rooms, but when rooms contain more complex structural features (*e.g.*, bay windows, vaulted ceilings), estimation becomes increasingly more complicated and subject to error. *See* '945 Patent, 1:16-29 (Ex. A).

Relatively recently, "graphical-mode" estimation using computers has provided a more intuitive format through which an estimator can define or describe a room undergoing

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[1] Copies of the '945 and '819 patents are attached as Exhibits A and B, respectively. U.S. Patent No. 6,810,383 is also a patent-in-suit, however the parties do not believe that the claim terms in the '383 patent require the Court's construction.

estimation. However, similar to list-mode estimation techniques, prior art graphical-mode estimation techniques have typically used a line-centric approach for defining rooms. For example, an estimator would define a first line segment representing a specific wall, followed by a second line segment connected to the first one representing an adjacent wall, and continuing until a series of defined line segments provide a two-dimensional representation of the room. Again, such estimation tools work best with simple, rectangular-shaped cubical rooms. *Id.* at 1:54-2:10.

II. Overview of the '945 and '819 Patents

The invention to which the '945 and '819 patents are directed was conceived by James B. Loveland nearly 10 years ago to address deficiencies in prior art estimation techniques. In accordance with particular embodiments of the invention, a room can be modeled by an estimator using computer software that provides a graphical interface for intuitively sketching a three-dimensional representation of the room. An estimator can select a default shape (*i.e.*, an "estimation polyhedron") from a graphical tool kit and place it onto a grid for modification (*i.e.*, "morphing") to approximate the room undergoing estimation. During the morphing process, the computer program continuously revises the affected parts of the polyhedron to maintain the integrity of the estimation model. For instance, the stretching of existing planes triggers a recalculation of various spatial attributes (*e.g.*, surface area, coordinates of vertices) of both the affected and new planes. In this way, the estimation attributes of the modeled room are updated in real-time. '945 Patent, 3:53-4:21.

Embodiments of the patented invention also enable an estimator to assign descriptive attributes to various planes of the estimation polyhedron. For example, by assigning the attribute

of "floor" to one of the planes, estimation requests for the requisite amount of flooring required for the room will return the area of that plane. Likewise, it is possible to associate material and labor costs per square foot of flooring, such that a total cost for installation can be estimated. The computer program can automatically update such totals in real-time while the estimator is changing the dimensions of the estimation polyhedron. *Id.* at 4:22-37.

A. The Asserted Claims

Xactware is currently asserting claims 1-3, 6, 8-10, 15, 17-18 and 20 of the '945 patent and claims 1-11, 13-16 and 18-20 of the '819 patent. Of these 29 claims, 8 are independent claims and 21 are dependent claims.[2] The '945 and '819 patents derive from the same original patent application filed on December 16, 1997. The specifications for these patents are therefore substantially identical.

ARGUMENT

I. Legal Standards Governing Claim Construction

Claim construction is a matter of law for the Court to decide. *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 979 (Fed. Cir. 1995) (en banc), *aff'd*, 517 U.S. 370 (1996). In general, claims should be given their "ordinary and customary meaning" as understood by a person skilled in the relevant art as of the effective filing date of the patent. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312-13 (Fed. Cir. 2005) (en banc). Nevertheless, a patentee is free to be his or her own lexicographer. *See Id.* at 1316. Thus, where the patentee has defined a term in the

[2] A dependent claim is a claim that adds limitations to a preceding claim (which may or may not be another dependent claim). A dependent claim includes all of the limitations of the claim(s) from which it depends. *See* 35 U.S.C. § 112, ¶ 4.

patent specification in a way different from its ordinary meaning, the patentee's definition controls. *See Phillips*, 415 F.3d at 1316.

"It is well-settled that, in interpreting an asserted claim, the court should look first to the intrinsic evidence of record, *i.e.*, the patent itself, including the claims, the specification and, if in evidence, the prosecution history. Such intrinsic evidence is the most significant source of the legally operative meaning of disputed claim language." *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996) (citation omitted). If the claim language, specification and prosecution history remove all ambiguity, the Court should not rely on "extrinsic evidence" to interpret the claims. *Id.* at 1583.

Extrinsic evidence is "all evidence external to the patent and prosecution history, including expert and inventor testimony, dictionaries, and learned treatises." *Markman*, 52 F.3d at 980; *see also Vitronics*, 90 F.3d at 1583.[3] While it "can shed useful light on the relevant art," extrinsic evidence cannot be used to contradict a meaning that is clear from the intrinsic evidence. *Phillips*, 415 F.3d at 1317-18 (citations omitted); *Vitronics*, 90 F.3d at 1583-84.

II. Proposed Claim Constructions

For the convenience of the Court, Exhibit C provides a list of the claims at issue, with the disputed terms highlighted. Exhibit D lists the proffered definition of each disputed claim term, with cross-references to the applicable claims.

[3] While technically extrinsic evidence, the Court may always consult dictionaries to help ascertain the ordinary meaning of claim terms. *See Phillips*, 415 F.3d at 1322-23.

A. Graphical Estimation

The '945 and '819 patents are directed to computer-based methods for generating cost estimates for construction-related projects. In accordance with particular embodiments of the invention, a room can be modeled by an estimator using computer software that provides a graphical user interface for intuitively sketching a three-dimensional representation of the room. The following terms related to this aspect of the patented invention are in dispute (Xactware's proposed constructions are in italics).

1. "graphically estimating attributes of a room"

Modeling and estimating construction attributes for a room undergoing estimation using a graphical user interface. The attributes are features of the room undergoing estimation.

"a graphical method for estimating material requirements for a room within a structure"

Modeling and estimating the requisite material for a construction project using a graphical user interface.

The above-identified terms appear in the preamble of claims 6 and 10 of the '945 patent respectively. As such, they should not be considered limitations of the claims and therefore do not require construction by the Court. *IMS Technology, Inc. v. Haas Automation, Inc.*, 206 F.3d 1422, 1434 (Fed. Cir. 2000). In the event the Court disagrees, however, Xactware's proposed constructions reflect the plain meaning of the words, consistent with the teaching of the patent specification. *See* '945 Patent, 1:6-14.

B. The Default Shape

Each of the asserted claims of the '945 and '819 patents recites, either directly or indirectly, a default shape used as a starting point for modeling a room undergoing estimation.

1. "default polyhedron"

A three-dimensional shape, consisting of multiple two-dimensional planes that define the boundaries of a closed volume, that serves as a starting point for modeling a room.

Claims 1 and 6 of the '945 patent refer to the selection of a "default polyhedron." While the term itself is not explicitly defined in the patent, Xactware's proposed construction tracks nearly word-for-word the description of the default shape in the specification. *See* '945 Patent, 5:58-63.

2. "default volumetric polyhedron"

A three-dimensional shape consisting of multiple two-dimensional planes that define the boundaries of a closed volume.

Claims 1 and 6 of the '819 patent refer to the selection of a "default volumetric polyhedron."[4] This term is synonymous with the "default polyhedron" discussed in the preceding section, and Xactware's proposed construction finds identical support in the specification of the '819 patent. '819 Patent, 5:65-6:3.

3. "volumetric estimation polyhedron"

A three-dimensional shape consisting of multiple two-dimensional planes that define the boundaries of a closed volume, the dimensions of which have been altered to approximate the chamber or room undergoing estimation.

The term "volumetric estimation polyhedron," recited in claims 10 and 15 of the '819 patent, is explicitly defined in the specification as a default polyhedron (as defined above) that

[4] Claim 1 of the '819 refers to a "non-derivational default volumetric polyhedron." The parties agree that the term "non-derivational" means that the default shape is not derived from the actual room being estimated. Joint Claim Chart for U.S. Patent No. 6,816,819, p. 1 (Ex. G).

has been altered to better approximate the chamber or room undergoing estimation. '819 Patent, 5:65-6:12. Xactware's construction tracks this definition.

4. "defined as a series of vertices"

Each plane of the estimation polyhedron is described by designating the coordinates of at least three points, each of which comprises the intersection of two or more lines or curves forming the plane.

Claims 1, 6 and 10 of the '819 patent recite that the facets (*i.e.*, planes) forming the estimation polyhedron are "defined as a series of vertices." Xactware's construction reflects the description of this feature in the specification of the '819 patent. '819 Patent, 7:53-61.

5. "default surface polygon"

A closed plane figure that forms one plane of the estimation polyhedron, and serves as a starting point for modeling part of the room undergoing estimation.

Claims 10 and 15 of the '945 patent and claims 10 and 15 of the '819 patent refer to displaying a "default surface polygon" which forms "one plane of a plurality of planes of an estimation polyhedron for approximating [a] room." Xactware's proposed construction of this term is drawn from the express teaching in the specifications of the patents-in-suit. '945 Patent, 6:5-32; '819 Patent, 6:12-40.

6. "characteristic"

A spatial feature associated with a plane of the estimation polyhedron that corresponds to its size and/or orientation, such as the coordinates of its vertices.

Claims 1, 6, and 10 of the '945 patent recite that each facet of the estimation polyhedron has at least one "characteristic" that can be altered during the modeling process. In the context of the patent specification, and particularly in view of the examples provided therein, it is

apparent that a "characteristic" is a spatial feature of the estimation polyhedron that corresponds to its size or orientation. '945 Patent, 4:1-21, 5:66-6:32, 7:41-54.

C. Attributes

The patents-in-suit describe various embodiments that enable an estimator to assign descriptive "attributes" to the planes of an estimation polyhedron to facilitate estimating.

1. "estimation attribute"

A feature associated with a plane of the estimation polyhedron that corresponds to some structural or physical aspect of the room undergoing estimation, and which can be used to generate a cost estimate.

Claims 1, 6, 10, 15 and 18 of the '945 patent and claims 13 and 18 of the '819 patent each recite an "estimation attribute." As described in the patents, the planes that comprise the estimation polyhedron may be defined as having various attributes, such as "floor" or "ceiling." '945 Patent, 5:66-6:32, 7:55-8:5. Additional attributes can include, for example, the surface area of particular planes, specified in appropriate units (*e.g.*, specifying the surface area of a floor in square yards). '945 Patent, 7:55-8:5. Xactware's proposed construction thus reflects how a person of ordinary skill would understand the term "estimation attribute" after reading the patent specifications.

2. "listing said estimation attributes"

Displaying the at least one estimation attribute associated with each of the plurality of facets recited in element (a), which may be, but need not be, all of the facets forming the estimation polyhedron.

Claim 6 of the '945 patent recites "listing said estimation attributes of said estimation polyhedron as said attributes of said room." In the context of a method for graphically estimating the attributes of a room, "listing" plainly refers to visually displaying the estimation

attributes. Consistent with this construction, Figure 9 of the '945 patent depicts an exemplary listing of estimation attributes, showing the amount of material and labor required to drywall the walls and ceilings. '945 Patent, 11:23-37, Fig. 9. Xactware's construction accurately reflects the plain meaning of the term.

3. "said chamber attributes"

The attributes of the room undergoing estimation. This includes the total surface area of the plurality of facets recited in the claim from which it depends, which may be, but need not be, all of the facets forming the estimation polyhedron.

Claim 3 of the '945 patent recites: "The method as recited in claim 1, further comprising the step of (a) defining said chamber as a room within a building; and (b) defining *said chamber attributes* to include a surface area correlating to said plurality of facets of said estimation polyhedron." '945 Patent, 12:13-18 (emphasis added). The term "said chamber attributes" finds antecedent basis in the preamble of claim 1, and plainly refers to the attributes of the room undergoing estimation. Claim 3 of the '819 patent also recites "said chamber attributes," referring back to claim 1 (from which it depends). Here, the "chamber attributes" are the "material and labor calculation attributes" recited in element (b) of the claim.[5]

4. "structural attribute"

A physical feature of the room, such as a floor, walls, ceiling, window and door openings, and the like.

Claims 1, 6, and 10 of the '819 patent recite a "structural attribute" of the chamber or room being modeled. As discussed above, the patent discloses that planes or facets of the room

[5] The construction of this term in the two patents is slightly different as a result of the different independent claims from which they depend.

being modeled may be assigned "functional/locational attributes such as floor, wall and ceiling definitions. Additional attributes or qualities assigned to the [planes] may further include thicknesses of walls and other display and calculation attributes such as specifying a particular polygon or wall as being a missing wall for the purposes of calculation and display." '819 Patent, 7:62-8:12. Xactware's proposed construction thus accurately reflects how this term would be understood in view of the specification.

5. "finishing parameters"

Displayed estimates of finishing material and labor needed for a selected facet of the estimation polyhedron, derived from the material and labor calculation attributes assigned to that facet.

The term "finishing parameters" appears in claims 1, 6, and 10 of the '819 patent:

> (c) graphically displaying said estimation polyhedron and concurrently displaying finishing parameters relating to said estimation polyhedron, wherein said finishing parameters provide estimates of finishing material and labor needed for a selected facet of said one or more of said plurality of facets, wherein said finishing material is in established industry units [for purchase], and wherein said finishing parameters correspond to said material and labor [calculation] attributes;[6]

'819 Patent, 12:5-14, 13:22-30, 14:23-30. Xactware's proposed construction accurately reflects the meaning set forth in the claim itself.

6. "material and labor [calculation] attributes"

Features associated with a plane of the estimation polyhedron that correspond to some structural or physical aspect of the room undergoing estimation, which can be used to generate an estimate of material and labor costs.

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[6] Differences in claims 1, 6, and 10 of the '819 patent are shown in brackets, but they have no bearing on the proper construction of "finishing parameters."

"assigning materials and labor [calculation] attributes to one or more of said plurality of facets [or planes]"

Associating features with one or more planes of the estimation polyhedron that correspond to some structural of physical aspect of the room undergoing estimation, which can be used to generate an estimate of material and labor costs.

Claims 1, 6, 10 and 15 of the '819 patent recite "material and labor attributes" or "material and labor calculation attributes." Specifically, element (b) of these claims reads "assigning material and labor attributes to one or more of said plurality of facets, wherein said material and labor attributes corresponds to structural attributes of said room." As previously discussed, the term "attribute" is used throughout the '945 and '819 patents to describe a feature associated with a plane of the estimation polyhedron. The terms "material" and "labor" should be given their ordinary and customary meaning in the construction industry. Thus, "material and labor attributes" are features associated with a plane of the estimation polyhedron that correspond to some structural or physical aspect of the room undergoing estimation, and which can be used to generate an estimate of material and labor costs. '819 Patent, 4:55-5:5. This definition is confirmed by the examples in the specification of the '819 patent, including "estimation of the square footage of selected walls, estimated square yardage of required carpet for polygons having floor attributes, drywall material and labor estimates for wall and ceiling, painting and cleaning estimates." *Id.* at 11:13-21.

In view of the disclosure in the specification, the term "assigning materials and labor calculation attributes to one or more of said plurality of facets [or planes]" in claims 1 and 10 of the '819 patent refers to associating features with one or more planes of the estimation polyhedron that correspond to some structural or physical aspect of the room undergoing

estimation, which can be used to generate an estimate of material and labor costs. *See* '819 Patent, 4:55-5:5, 11:13-21.[7]

7. "defining"

Associating the listed features with the default polyhedron.

Claim 5 of the '819 patent recites:

> 5. The method as recited in claim 1, wherein said selecting a default polyhedron further comprises the step of:
> (a) defining said default polyhedron to include:
> i. at least 4 facets each defined by a plurality of vertices shared by others of said at least 4 facets;
> ii. a surface area for each of said at least 4 facets; and
> iii. a volume of said default polyhedron as bounded by each of said at least 4 facets.

Only the meaning of the word "defining" is in dispute. "Defining" is not a technical term of art, but rather a simple English word whose ordinary meaning is easily understood. In the context of claim 5, "defining" simply means associating the listed features with the default polyhedron.

8. "converting said estimation attributes of said estimation polyhedron into said material requirements"

Computing the material requirements for the room undergoing estimation using the estimation attributes.

Claims 10 and 15 of the '945 patent recite "converting said estimation attributes of said estimation polyhedron into said material requirements." Again, "converting" is not a technical term. In the context of the claims, "converting said estimation attributes" simply refers to

[7] Claims 1 and 6 use the term "facets" while claim 10 uses the term "planes." The parties have agreed that these terms are synonymous. Joint Claim Construction Statement, p. 1 (Ex. E).

computing the material requirements for the room undergoing estimation using the estimation attributes. This interpretation is confirmed by the '945 patent specification, which describes a feature of a preferred embodiment where the estimation attributes of the estimation polyhedron are correlated to compute the specific quantity of material or labor requirements. '945 Patent, 11:6-21.

9. "converting said estimation attribute into a quantity of a specific one of said material requirements"

Computing the material requirements for the room undergoing estimation using the estimation attributes.

Claim 17 of the '945 patent reads:

> 17. The computer-readable medium of claim 15, wherein said computer-executable instructions for performing the step of converting said estimation attributes of said estimation polyhedron step further comprises computer-executable instructions for performing the step of:
> (a) converting said estimation attribute into a quantity of a specific one of said material requirements.

As with the previously-addressed claim term, the word "converting" is easily understood in the context of the '945 patent to mean computing the material requirements for the room undergoing estimation using the estimation attributes. *See* '945 Patent, 11:6-21.

D. <u>Altering the Default Shape to Accurately Depict a Room</u>

The claims of the '945 and '819 patents contemplate alteration of the estimation polyhedron to better approximate the room being modeled. The estimation polyhedron is modified or "morphed" by an estimator until it satisfactorily models the room or chamber undergoing estimation. During the morphing process, the program continuously revises the estimation polyhedron to maintain the integrity of the model. For example, any stretching,

partitioning, or other modification of a plane triggers a recalculation of the attributes (*e.g.*, surface area and vertices) of the affected and any new planes of the estimation polyhedron. '945 Patent, 3:53-4:20.

1. "selected facet"

A facet of the estimation polyhedron that a user chooses to alter.

Claim 1 of the '945 patent recites a "method for computerized modeling of a chamber to enable automatic computerized estimation of chamber attributes." In the first recited step, a default polyhedron is selected as a cost estimation polyhedron. This cost estimation polyhedron has "a plurality of facets with each facet having at least one characteristic." *Id*. at 11:49-55. The second step recites "altering at least one of said characteristics of a selected facet of said plurality of facets." *Id.* at 11:56-59. Thus, it is clear from the claim language that the "selected facet" is simply one of the plurality of facets of the estimation polyhedron that a user chooses to alter.

2. "accurately depicts"

The user has determined that the estimation polyhedron provides a satisfactory representation of the room undergoing estimation.

Claim 1 of the '945 patent further recites in step (d) "repeating said altering and revising steps until said estimation polyhedron accurately depicts said chamber undergoing estimation." The term "accurately depicts" is not a technical term of art -- it has a plainly understood meaning in the English language. In addition, the specification of the '945 patent states that "[a]n estimator using the graphical method of the present invention may continue to morph or mold the estimation polyhedron until such a graphical model adequately approximates the room or chamber undergoing estimation." '945 Patent, 7:7-11, 4:48-51, 10:66-11:5. Xactware's

proposed construction thus reflects how a person of ordinary skill in the art would understand this term in the context of the '945 patent.

3. "when additional facets [or planes] better approximate said chamber [or room] undergoing approximation"

The user has determined that additional facets or planes would more satisfactorily represent the room undergoing estimation.

Claims 2 and 8 of the '945 patent and claims 2, 8, 11 and 16 of the '819 patent all contain the phrase "when additional facets [or planes] better approximate said chamber [or room] undergoing approximation."[8] Again, the terms at issue should be given their ordinary, plain language meaning. Furthermore, the patents specifically describe a process for graphically stretching, contorting, and/or partitioning the planes of the room being estimated when such changes would better approximate the room undergoing estimation. *See* '945 Patent, 6:48-54, 10:49-57; '819 Patent, 6:55-61, 10:56-64. Xactware's proposed construction thus accurately reflects the manner in which the term is used in the patents-in-suit.

4. "redefining another one of said plurality of planes of said estimation polyhedron as said default surface polygon"

Designating a different one of the planes forming the estimation polyhedron as the plane capable of being acted upon by the display, morphing and revising steps.

Claim 18 of the '945 patent and claims 13 and 18 of the '819 patent recite the single step of "redefining another one of said plurality of planes of said estimation polyhedron as said default surface polygon to display, morph and revise estimation attributes associated therewith."

[8] Whether the claim uses the term "facet" versus "plane" or "chamber" versus "room" has no impact on the construction of this claim element. The parties have agreed that the respective pairs of terms are synonymous. Joint Claim Construction Statement, p. 1-3 (Ex. E).

Xactware's proposed construction reflects the ordinary meaning of the word "redefining" in the context of the patent.

5. "altering [said characteristic of] said default surface polygon into an altered polygon to approximate a plane of said room undergoing estimation"

A spatial feature of the default surface polygon is revised to better approximate the corresponding plane of the room undergoing estimation.

Element (b) of claims 10 and 15 of the '945 patent are reproduced below.

10. ***
(b) altering said characteristic of said default surface polygon into an altered polygon to approximate a plane of said room undergoing approximation;

15. ***
(b) altering said default surface polygon into an altered polygon to approximate a plane of said room undergoing estimation;

The parties agree that the term "altering" means changing. Joint Claim Construction Statement, p. 2 (Ex. E). The construction of "default surface polygon" is discussed *supra*, page 7. The remaining words in element (b) of claims 10 and 15 are subject to their ordinary meaning in the context of the '945 patent, as reflected in Xactware's proposed construction. *See* '945 Patent, 6:54-58.

6. "morphing said selected facet [or plane]"

Graphically changing or altering one of the planes forming the estimation polyhedron.

Claims 1, 6, 10 and 15 of the '819 patent recite the step of "morphing said selected facet [or plane]." The specification describes an estimation polyhedron "capable of being massaged and contorted to form an acceptable approximation of the chamber or room undergoing estimation. Such a graphical mutation or modification has commonly become known as morphing." '819 Patent, 6:40-46, 61-65. Thus, in the context of the '819 patent, the term

"morphing" means graphically changing or altering one of the planes forming the estimation polyhedron. The "selected facet" or "selected plane" being morphed is a facet or plane of the estimation polyhedron that a user chooses for display of finishing parameters and morphing. *See id.* at 6:61-65. Xactware's construction thus accurately reflects the meaning the term is given in the patent.

7. "until said estimation polyhedron accurately approximates said room [of said building structure] undergoing estimation"[9]

The altering and revising steps are repeated until the user determines that the estimation polyhedron provides a satisfactory representation of the room undergoing estimation.

Claim 15 of the '945 and '819 patents recites the step of repeating the altering and revising steps "until said estimation polyhedron accurately approximates said room undergoing estimation." This claim term is not technical in nature and its ordinary meaning is unambiguous, as reflected in Xactware's proposed construction. *See* '945 Patent, 6:48-58, 10:49-57; '819 Patent, 6:55-65, 10:56-64.

E. Real Time Revisions

In accordance with embodiments of the patented invention, as the estimation polyhedron is morphed to adequately model the room, the computer program continuously revises and maintains the integrity of the volumetric entity. For instance, the stretching of existing planes or the introduction of additional planes into the estimation polyhedron triggers a recalculation of various attributes (*e.g.*, surface area, coordinates of vertices) of the affected and new planes. In

[9] Claim 15 of the '819 patent adds the phrase "of said building structure" in the term at issue, but this additional language does not impact the claim construction analysis.

this way, the estimation attributes of the modeled room are updated in real time in response to the morphing of the graphical model. '945 Patent, 3:53-4:20.

The primary dispute with respect to the following claim elements appears to be focused on the definition of the terms "automatically" and "real time." The meaning of "automatically" is straight-forward, being commonly understood to mean occurring spontaneously without further input. *See Random House Webster's College Dictionary* 92 (2d ed. 2001) (Ex. H). Similarly, the term "real time" is not a technical term specific to construction estimation software -- its ordinary meaning can be confirmed by resort to a standard dictionary. For example, one common dictionary provides the following relevant definition: "real time" means "of or pertaining to computer applications or processes that can respond immediately to user input." *Random House Webster's* at 1100 (Ex. H). With these definitions in mind, the following constructions accurately reflect the use of the terms in the patents-in-suit.

1. "revising in real time said at least one estimation attribute"

In response to a user altering a plane of the estimation polyhedron, at least one estimation attribute associated with the altered plane is automatically updated without further action by the user.

Claims 1 and 6 of the '945 patent include the following clause: "revising in real time said at least one estimation attribute." Given the definition of "real time" cited above, this term means that in response to a user altering a plane of the estimation polyhedron, at least one estimation attribute associated with the altered plane is automatically updated without further action by the user. The specification of the '945 patent explains that "any planes or polygons affected by the stretching or introduction of additional planes into the estimation polyhedron, *triggers* a recalculation of the attributes (e.g., surface area; and vertices) of the affected and new

planes of the estimation polyhedron." '945 Patent, 4:14-22 (emphasis added). *See also id.* at 6:59-7:7, 10:58-66.

2. "automatically revising in real time said material and labor calculation attribute of said morphed facet and any adjacent facets of said estimation polyhedron also modified and affected by said step of morphing"[10]

In response to a user altering a plane of the estimation polyhedron, the material and labor calculation attributes associated with the altered plane are automatically updated without further action by the user.

The specification of the '819 patent states that the "morphing process that the estimation polyhedron is subjected to, continuously revises and maintains the integrity of the volumetric entity or polyhedron." '819 Patent, 4:20-23. As described above, any planes or polygons affected by the stretching or introduction of additional planes into the estimation polyhedron triggers a recalculation of the attributes of the affected and new planes. *Id.* at 4:23-28; 6:66-7:14, 10:65-11:6. Thus, Xactware's construction accurately reflects the ordinary meaning of the claim language in view of the specification of the '819 patent.

3. "automatically updating said finishing parameter display"

A current display of material and labor estimate information is updated without further action by the user.

Element (f) of claims 1, 6, 10 and 15 of the '819 patent begins "automatically updating said finishing parameter display." As previously discussed, the term "automatically" is commonly understood to imply that no further action by the user is necessary. Xactware's

[10] Asserted claims 1, 6, 10, and 15 of the '819 patent. While the exact language of element (e) of each of these claims may differ slightly, any such differences do not affect the construction of this claim element as set forth above. For convenience, claim 1, element (e) will be used as representative of element (e) of claims 6, 10 and 15.

proposed construction reflects this common meaning, and is fully consistent with the specification. *See* '819 Patent, 10:65-11:45.

4. "providing a real time project estimate of material and labor"

Refers generally to the automatic generation of an estimate of material and labor requirements for a construction project as the rooms undergoing estimation are modeled.

Claims 1, 6 and 10 of the '819 patent include the phrase "providing a real time project estimate of material and labor." For substantially the same reasons discussed above, Xactware's proposed construction reflects the meaning a person of ordinary skill in the art would glean from reading the '819 patent.

F. Hierarchical Grouping

1. "hierarchically grouping additional rooms into levels and grouping a plurality of levels into a structure"

Data representations associated with each of the rooms in a multi-room, multi-level structure are logically organized in a hierarchical manner, with one level of the hierarchy associated with the overall structure, a lower level of the hierarchy associated with the different floors of the structure, and a still lower level of the hierarchy associated with the different rooms of each floor of the structure.

In accordance with embodiments of the patented invention, the estimation program can logically organize data representations corresponding to each room in a multi-room, multi-level structure in a hierarchical manner. *See* '945 Patent, 8:11-18, 9:13-58; '819 Patent, 8:18-25, 9:20-65. Xactware's proposed construction thus accurately reflects the use of this term in the context of the patents-in-suit.

CONCLUSION

For the reasons set forth above, Xactware respectfully requests that the Court adopt Xactware's proffered constructions of the disputed claim terms.

Respectfully submitted,

June 6, 2006

/s Mark M. Supko

Mark M. Supko
Jennifer H. Burdman
CROWELL & MORING LLP
1001 Pennsylvania Avenue, N.W.
Washington, D.C. 20004-2595
(202) 624-2500 (ph)
(202) 628-5116 (fax)

Robert S. Krause
DICKINSON WRIGHT PLLC
500 Woodward Avenue, Suite 4000
Detroit, MI 48226-3425
(313) 223-3670 (ph)
(313) 223-3598 (fax)

Attorneys for Defendant/Counterclaim-Plaintiff Xactware, Inc.

CERTIFICATE OF SERVICE

The undersigned hereby certifies that on June 6, 2006 I electronically filed the foregoing papers with the Clerk of the Court using the ECF system which will send notification of such filing to the following:

John E. Carlson, Esq.
John M. Siragusa, Esq.
CARLSON, GASKEY & OLDS, P.C.
400 W. Maple, Suite 350
Birmingham, Michigan 48009
Email: jcarlson@cgolaw.com
jsiragusa@cgolaw.com

Hadrian R. Katz, Esq.
Robert J. Worrall, Esq.
ARNOLD & PORTER LLP
555 12th Street, N.W.
Washington, DC 20004
Email: Hadrian_Katz@aporter.com
Jonsey_Worrall@aporter.com

/s Robert S. Krause
Robert S. Krause
Dickinson Wright PLLC
500 Woodward Ave., Suite 4000
Detroit, MI 48226
(313)223-3500
Email: rkrause@dickinsonwright.com