United States District Court,
S.D. California.

LUCENT TECHNOLOGIES, INC., and Multimedia Patent Trust,
Plaintiffs.
v.
MICROSOFT CORPORATION,
Defendant.
And Related Claim,
And Related Claims.

No. 06-CV-0684-H (CAB)

Nov. 13, 2007.

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CLAIM CONSTRUCTION ORDER FOR UNITED STATES PATENT NUMBERS: 5,227,878**;** 6,412,004**;** 6,438,217**;** 5,438,433**;** 5,917,499**;** 6,339,794**;** 5,764,913**;** 6,565,608**;** 5,941,947**;** 5,838,319**; and 5,977,971**

MARILYN L. HUF, District Judge.

This case involves eleven United States patents: 5,227,878 ("Puri ' 878"); 6,412,004 ("Chen '004"); 6,438,217 ("Huna '217"); 5,438,433 ("Reifman ' 433"); 5,917,499 ("Jancke '499"); 6,339,794 ("Bolosky '794"); 5,764,913 ("Jancke '913"); 6,565,608 ("Fein '608"); 5,941,947 ("Brown "7"); 5,838,319 ("Guzak '319"); and 5,977,971 ("Guzak '971"). Multimedia Patent Trust ("MPT") is asserting Puri '878 against Microsoft Corp. ("Microsoft"), while Microsoft is asserting the remaining ten patents against Lucent Technologies, Inc. ("Lucent") and Alcatel-Lucent. Lucent was the original plaintiff in this case, but after Lucent created MPT and assigned certain patents to it, the Court granted leave under Federal Rule of Civil Procedure 25(c) for Lucent to add MPT as a party. (*See* Doc. No. 45.)

On October 19, 2007, the Court held a tutorial with respect to all eleven patents. (*See* Doc. No. 101.) The parties have submitted their joint claim construction worksheets, joint claim construction charts, simultaneous opening briefs, simultaneous responsive briefs, and supporting declarations and exhibits. (*See*

Doc. Nos. 94-97, 99, 102-32, 137-44). On November 7, 2007, the Court issued a tentative claim construction to aid the parties in preparing for oral argument. (Doc. No. 146.) On November 9, 2007, the Court held a hearing on the claim construction for all eleven patents. (*See* Doc. No. 150.) Robert Appleby, Paul Bondor, James Marina, and Karen Robinson appeared on behalf of MPT and Lucent. Scott Partridge appeared on behalf of Alcatel-Lucent. John Gartman, Chrisopher Marchese, Shekhar Vyas, Andrew Kopsidas, and Raymond Scott appeared on behalf of Microsoft. At the hearing, the Court invited the parties to file their demonstrative materials with the Court.

The Court has considered the authorities, evidence, and arguments offered by the parties and prepared constructions for all of the claim language at issue. The Court adopts the constructions attached as Appendices A through J.

Where the Court provides both "function" and "structure" headings within an entry, the Court construes the language as a "mean-plus-function" element in accordance with 35 U.S.C. s. 112 para. 6. Where the Court indicates "no construction necessary," the Court concludes both that the patent uses the term in a manner consistent with its ordinary meaning and that the term does not appear to require construction. *See, e.g.,* Biotech Biologische Naturverpackungen GmbH & Co. KG v. Biocorp, Inc., 249 F.3d 1341, 1349 (Fed.Cir.2001) (holding that district court did not fail to uphold its duty to construe claim language when the meaning of "melting" did not "appear to have required 'construction,' or [departed] from its ordinary meaning."). Unless otherwise indicated, the Court only construes language once for a given patent and intends that the language shall be construed consistently throughout that patent. Except as explained in Appendix J for the Guzak patents, a construction is applicable only to the patent for which it is offered.

Attachments:

APPENDIX A	Puri '878
APPENDIX B	Chen '004
APPENDIX C	Huna '217
APPENDIX	D Reifman '433
APPENDIX E	Jancke '499
APPENDIX F	Bolosky '794
APPENDIX G	Jancke '913
APPENDIX H	Fein '608
APPENDIX I	Brown "7
APPENDIX J	Guzak '319 and Guzak '971

IT IS SO ORDERED.

APPENDIX A (Puri '878 Patent)

Claim 13 (language for which parties proposed a construction in **bold**):

An apparatus for decoding a compressed digital video signal, comprising:

a **means for receiving a compressed digital video bit stream;** and

a **means responsive to a motion compensation type signal for selectively and adaptively performing motion compensated decoding of frames of the compressed digital video bit stream and fields of the compressed video bit stream.**

Claim Language	**MPT**	**Microsoft**	**Court's Construction**
"means for receiving a compressed digital video bit stream"	*Function:* receiving a compressed digital video bit steam	*Function:* receiving a compressed digital video bit steam	*Function:* receiving a compressed digital video bit steam
	Structure: input line 50 (as shown in Fig. 2 and described at col 14, lines 8-10)	*Structure:* input line 50 (as shown in Fig. 2 and described at col 14, lines 5-10)	*Structure:* input line 50 (as shown in Fig. 2 and described at col. 14, lines 8-10)
			[COMMENT-Microsoft wants the structure to include additional specification language also describing the decoder in general and referring to the encoder. The function is "receiving" a bit stream. While the bit stream may be essential to operation of the invention, the encoding and decoding of that bit stream is not necessary to perform the recited function of receiving it. *See Cardiac Pacemakers, Inc. v. St. Jude Medical,* 296 F.3d 1106, 1119 (Fed.Cir.2002) (need all structure that performs function, but not all things necessary to invention).]
"motion compensation type signal"	a signal that identifies one of two or more available modes of motion compensation to be used in	the signal from the compressed digital video bit stream that identifies which motion compensation mode is used for decoding, where the motion compensation modes are completely independent of whether the decoder is to decode frames or fields	a signal that identifies one of two or more available modes of motion compensation to be used in motion compensated decoding of a video signal

	producing an estimate of a video signal.		
			[COMMENT-See Note 1 after this chart.]
"selectively"	selected/selecting from among two or more options	no construction necessary	in a manner that selects from among two or more options
			[COMMENT-Although the parties seem to agree that the term is used in its ordinary meaning, a definition would help to provide a distinction from "adaptively."]
"adaptively"	adjusted/adjusting to the video signal	changing the motion compensation mode based on whether field or frame coding is used	in a manner that changes in response to the motion compensation type signal
			[COMMENT-This is related to the issues with "motion compensation type signal." See Note 1 after this chart.]
"motion compensated decoding"	a process of decoding video that uses motion vectors to produce predictions of a video signal	reversing the effect of previous motion compensated encoding, where that encoding included the use of motion vectors to produce estimates of video signals	decoding a compressed video signal using data representing motion vectors that was produced and transmitted during the compression process, where "decoding" means taking a compressed version of a video signal and reproducing either the original video signal or an estimate of the original video signal
			[COMMENT-Microsoft's "reversal" language is overly limiting and could cause confusion. MPT's alternative, however, does not take into account [ ] language surrounding the section they cite at (2:19-28).[ ] Also, MPT does not

			suggest a meaning for "decoding." Construction of "decoding" is needed, particularly to aid in identifying the structure below.]
"decoding"	NONE OFFERED	taking a compressed version of a video signal and reproducing either the original video signal or an estimate of the original video signal	
			[COMMENT-See note 2 after this chart.]
"selectively and adaptively performing motion compensated decoding"	no construction necessary once component terms constructed as described above	performing motion compensated decoding, choosing among decoding methods and adjusting decoding based on an input such that the motion compensation mode changes based on whether field or frame coding is used	performing motion compensated decoding in a manner that selects from among two or more options and that changes in response to the motion compensation type signal
"means responsive to a motion compensation type signal for selectively and adaptively performing motion compensated decoding of frames of the compressed digital video bit stream and fields of the compressed video bit stream"	Function: selectively and adaptively performing motion compensated decoding of frames of the compressed digital video bit stream and field of the compressed video bit stream	Function: in response to the motion compensation type signal, selectively and adaptively reversing the effect of previous motion compensated encoding, where that encoding included the use of motion vectors to produce estimates of video signals by choosing among decoding methods and adjusting the decoding based on an input	Function: selectively and adaptively performing motion compensated decoding of frames of the compressed digital video bit stream and fields of the compressed video bit stream
	Structure: Decoder and demultiplexer 54, IDCT 72, block unformatter 72A, summing element 74, and	*Structure:* circuit 100 (as shown in Fig. 2 and its internal circuitry as shown in Figs. 3, 4A, and 4B and as described at col. 15 line 22 to col. 18 line 10); circuit 94 (as shown in Fig. 2 and the circuitry within circuit 94 as shown and described in Figs. 15, 16A, and 16B, and the description of	[COMMENT-The "responsive" limitation modifies the means, not the function. Terms should be further construed as discussed above.]

estimation circuit 100 (as shown in Fig. 2 and described at 14:15-18, 14:45-61, 15:27-28, 15:35-41)	circuit 94 and its internal circuitry set forth in col. 15 lines 11-28 and in col. 25 line 26 to col. 27 line 34); summing element 92; picture stores 100C and 100A; circuit 54 (as shown in Fig. 2, and as described in Fig. 12 and at col. 14 lines 5-68 and col. 24 lines 47-60); circuit 64 (as shown in Fig. 2 and its internal circuitry as shown in Fig. 14, and as described at col. 14 lines 5-68 and col. 25 lines 9-25); circuit 66 (as shown in Fig. 2 and its internal circuitry as shown in Fig. 13, and as described at col. 14 lines 5-68 and at col. 24 line 61 to col. 25 line 8); circuit 72 (as shown in Fig. 2 and as described at col. 14 lines 5-68); circuit 66A (as shown in Fig. 2 and as described at col. 14 lines 40-55); circuit 80 (as shown in Fig. 2 and as described at col. 15 lines 4-10); circuit 60 (as shown in Fig. 2 and as described at col. 14 lines 37-55); circuit 72A (as shown in Fig. 2 and its internal circuitry as shown in Fig. 7, and as described at col. 14 lines 5-68 and col. 19 lines 19-38); summing element 74 (as shown in Fig. 2 and as described at col. 14 lines 5-68); and including all inputs, outputs, and interconnections of these elements	*Structure:* circuit 100 (as shown in Fig. 2 and its internal circuitry as shown in Figs. 3, 4A, and 4B and as described at col. 15 line 22 to col. 18 line 10); circuit 94 (as shown in Fig. 2 and the circuitry within circuit 94 as shown and described in Figs. 15, 16A, and 16B, and the description of circuit 94 and its internal circuitry set forth in col. 15 lines 11-28 and in col. 25 line 26 to col. 27 line 34); summing element 92; picture stores 100C and 100A; circuit 54 (as shown in Fig. 2, and as described in Fig. 12 and at col. 14 lines 5-68 and col. 24 lines 47-60);

circuit 80 (as shown in Fig. 2 and as described at col. 15 lines 4-10); and including all interconnections of these elements [COMMENT-See note 2 after this chart.]

NOTE 1: Additional discussion for " *motion compensation type signal* " and " *adaptively:* "

Microsoft would like to limit the "motion compensation type signal" so that "the motion compensation modes are completely independent of whether the decoder is to decode frames or fields." They also seek to limit "adaptively" to changes "based on whether field or frame coding is used." Both of these terms relate to the same or similar statements in the specification and an amendment made in the course of the prosecution history.

While prosecuting the patent, the patentee amended claim 13 in response to a prior art rejection due to the "Krause patent" (new terms underlined and deleted terms in brackets):

An apparatus for decoding a compressed digital video signal, comprising:

a means for receiving a compressed digital video bit stream; and

a means responsive to a *motion compensation* [coding] type signal for selectively *and adaptively performing motion compensated* decoding of frames of the compressed digital video bit stream and fields of the compressed video bit stream.

(Decl. Jennifer Schmidt Supp. MPT's Claim Construction Brief Concerning Puri '878 ("Schmidt Decl.") Ex. 9 at LUC 1102881.) The patentee explained that:

[T]he motion compensation in the Krause patent is performed in the same manner regardless of whether field processing or frame processing is chosen for encoding. There is no need to produce two different kinds of motion vectors for the motion compensation arrangement in the Krause patent and according there is no such production of motion vectors.

...

The decoder referred to in the Krause patent does not involve any adaptive motion compensated decoding of an input bit stream, and does not need such decoding capability, because there is no adaptive motion compensated coding of video in the encoder shown in the Krause patent. The motion compensation has no adaption capability in the Krause patent because ... the motion compensation does not change regardless of whether field coding or frame coding is used, as discussed above.

(Schmidt Decl. Ex. 9 at 1102887-88.)

Microsoft argues that this amendment makes clear that the motion compensation type signal does not specify whether to decode frames or fields. While the amendment replaced "coding type signal" with "motion compensation type signal," nowhere does it state that a motion compensation type signal cannot **be determined in accordance with the coding type.** As MPT points out, the specification indicates that different motion compensation types may be selected depending on whether frame or field data is being encoded and decoded. Microsoft also argues for its approach based on the specification, which states that:

"Two basic quantization and coding modes are allowed for a macroblock: frame coding and field coding. These quantization and coding modes are completely independent of the motion-compensation modes." (5:57-61.) **This does not require the inverse proposition, that motion-compensation modes are completely independent of the coding modes. Furthermore, while it may be true that motion compensation modes and coding modes are "independent" in the sense that they are conveyed by logically separate signals that follow separate paths in the block diagrams, stating that they are "completely independent" could lead to a misunderstanding inconsistent with the specification. It is clear from the circuitry of Fig. 4, for example, that certain motion compensation modes are specific to field or frame coding.**

MPT's approach with respect to "motion compensation type signal," which argues that the signal is not necessarily independent of the coding mode, is persuasive. Rather than referring to production of "estimates" of a video signal, however, the tentative construction cross-references the language of motion compensated decoding.

Microsoft points out, quite reasonably, that "adaptively" must be distinguished from "selectively" since it was added to limit the claim during prosecution and should be given some independent meaning, **but Microsoft's proposed construction would read too much into "selectively.**" Microsoft's argument that the specification speaks primarily in terms of the "invention" is not supported; nearly all of their citations to the word "invention" are actually references to an "example of" the invention. [ ]

With "adaptively," a middle ground is necessary. Although the patentee used "adaptively" in a variety of contexts, here it is clear that "adaptively" specifically refers to the performance of motion compensated encoding, and the context makes clear that this adaptation occurs in response to the motion compensation type signal. Beyond that, however, Microsoft's proposed limitations lack support.

NOTE 2:

In identifying the structure for the means-plus-function element at issue here, the Court has balanced two primary considerations. First, the corresponding structure includes all structure that actually performs the stated function while excluding structure that does not perform the stated function. *See, e.g.,* Northrop Grumman Corp. v. Intel Corp., 325 F.3d 1346, 1352-53 (Fed.Cir.2003). Second, it is appropriate to give an independent claim broader scope than a dependent claim so that the dependent claim will not be redundant. *See, e.g.,* Phillips v. AWH Corp., 415 F.3d 1303, 1324-25 (Fed.Cir.2005) (citing Dow Chem. Co. v. Untied States, 226 F.3d 1334, 1341-42 (Fed.Cir.2000)). The Court therefore sought an approach would include all structure necessary to perform the stated decoding function without rendering any of dependent claims 14 through 17 redundant.

To make this determination, it is necessary to have a clear definition of "decoding," particularly given that this term is used in varying contexts throughout the patent. "Decoding," and similar terms like "decoded," are used to refer both to the overall process of recovering the transmitted video signal, and for individual steps within the process where particular parts of the signal are decoded. For example, at Col. 14:31-35, Fig. 2 element 54 decodes only a particular "differential DC coefficient" rather than the whole signal. Similarly, in Claim 15 the patent refers to both a "decoded estimate error signal" and a "decoded video signal," suggesting at least two different forms of decoding. Claim 13 makes clear that it uses "decoding" in reference to frames or fields, i.e. entire segments of the video signal.

Claim 15 recites a means for producing a motion compensated estimate of a decoded video signal, a means for producing an estimate error signal, and a means for producing a decoded video signal in response to these two estimates. This suggests that decoding the video signal may be broader than both of these functions.

The specification indicates that the decoder of Fig. 2 may operate in at least two general modes of operation. "The output of the inverse discrete cosine transform circuit 72 in Fig. 2 is a decoded version of either the video signal on input line 10 in the case of I-pictures and intra coded portions of P- and B-pictures or it is a decoded version of the estimate error signal on line 13 in Fig. 1." 14:50-55; *see also* 15:42-46 (indicating that the estimate signal from circuit 100 is disconnected from the output when "I-pictures are being decoded or when intra coded portions of P- and B-pictures are involved"). In one mode, therefore, the decoded video signal is produced directly from circuit 72. When circuit 72 instead produces an estimate error signal, it is combined with the motion compensated estimate to produce a signal analogous to the original video input. *See* 14:64-69; 15:35-46. This later mode of operation, where the estimate error signal is used in combination with the motion compensated estimate, appears to correspond to the apparatus described in Claim 15.

This leaves the question of which mode or modes of operation correspond to the apparatus recited in Claim 13. Since Claim 13 is limited to motion compensated decoding, it does not make sense to include the first mode of operation, in which the output of estimation circuit 100 is disconnected. Including the production of both the estimate error and motion compensated estimate, however, would render Claim 15 redundant. Therefore, the Court concludes that Claim 13 involves the production of the motion compensated estimate. While Claim 15, as a whole, should be construed as being narrower that Claim 13, the Court concludes that the second means-plus-function element of Claim 13 is broader than the first means-plus-function element of Claim 15, standing alone. The former speaks in terms of "motion compensated decoding" while the latter is limited to production of a "motion compensated estimate." The Court concludes that the former is broader and therefore includes certain elements here that are not included in the structure of the first means-plus-function in Claim 15.

Claim 15 (language for which parties proposed a construction in **bold**):

The apparatus of claim 13, in which the decoding means comprises:

a **means responsive to a motion compensation type signal and selectively responsive to frame motion vectors and field motion vectors for producing an adaptive motion compensated estimate of a decoded video signal;** and

a **means responsive to the compressed digital video bit stream for producing a decoded estimate error signal;** and

a **means responsive to the adaptive motion compensated estimate and the estimate error signal for producing a decoded video signal.**

Claim Language	MPT	Microsoft	Court's Construction
"The apparatus of claim 13, in which the coding means comprises:"	no construction necessary	In addition to the elements set forth in claim 15 itself, claim 15 includes all elements of claim 13.	no construction necessary
			[COMMENT-Instructions regarding interpretation of dependent claims may be determined at an appropriate time in the future.]
"motion compensation type signal"	Same as discussed for claim 13 above.		

"selectively"	Same as discussed for claim 13 above.		
"adaptive"	Same as discussed for "adaptively" in claim 13 above .	capable of changing in response to the motion compensation type signal	
			[COMMENT-Merely changed from adverb to adjective form.]
"frame motion vectors"	motion vectors for producing an estimate of pixels organized in a frame-based manner	motion vectors used in frame-based motion compensated encoding	motion vectors for producing signals representing frames of picture elements
			[COMMENT-Claim 12 suggests a definition for frame/field motion vectors. For these terms, the Court's construction adapts language from Claim 12, recognizing MPT's concern that both Microsoft's language and the tentative construction might create confusion between the decoding and encoding processes.]
"field motion vectors"	motion vectors for producing an estimate of pixels organized in a field-based manner	motion vectors used in field-based motion compensated encoding	motion vectors for producing signals representing fields of picture elements.
			[COMMENT-See previous comment.]
"decoded video signal"	no construction necessary; or alternatively "a video signal that has been decoded"	video signal that is reconstructed by reversing the effect of the previous encoding of that video signal	a video signal that has been decoded
			[COMMENT-Language of "reversing" the process has potential for confusion.]
"means	*Function:*	*Function:* producing an adaptive	*Function:* producing an adaptive

responsive to a motion compensation type signal and selectively responsive to frame motion vectors and field motion vectors for producing an adaptive motion compensated estimate of a decoded video signal"	producing an adaptive motion compensated estimate of a decoded video signal.	motion compensated estimate of a decoded video signal, i.e. a video signal that is reconstructed by reversing the effect of previous encoding of that video signal, by responding to the motion compensation type signal and choosing whether to respond to frame vectors, i.e. motion vectors used in frame-based motion compensated encoding, or field motion vectors, i.e. motion vectors used in field-based motion compensated encoding.	motion compensated estimate of a decoded video signal
	Structure: estimation circuit 100 (as shown in Fig. 2 and described at col 15, lines 27-28, 35-41)	*Structure:* circuit 100 (as shown in Fig. 2 and its internal circuitry as shown in Figs. 3, 4A, and 4B and as described at col. 15 line 22 to col. 18 line 10); circuit 94 (as shown in Fig. 2 and the circuitry within circuit 94 as shown and described in Figs. 15, 16A, and 16B, and the description of circuit 94 and its internal circuitry set forth in col. 15 lines 11-28 and in col. 25 line 26 to col. 27 line 34); summing element 92; and, picture stores 100C and 100A; including all inputs, outputs, and interconnections of these elements	[COMMENT-Additional construction of function not necessary once above terms are construed. The "responsive" modifiers refer to the means, not the function.] *Structure:* circuit 100 (as shown in Fig. 2 and its internal circuitry as shown in Figs. 3, 4A, and 4B and as described at col. 15 line 22 to col. 18 line 10); [ ] and picture stores 100C and 100A; including interconnections of these elements
			[COMMENT-The Court narrows the structure from the tentative construction, noting that since the means is responsive to motion vectors, it is not necessary to include the structure that reconstructs the motion vectors, such as elements 94 and 92. This also provides a clearer distinction from the structure in Claim 13. The Court rejects Microsoft's

			proposed inclusion of all inputs/outputs, since these might incorporate other parts of the decoder not needed here.]
"a means responsive to the compressed digital video bit stream for producing a decoded estimate error signal"	*Function:* producing a decoded estimate error signal	*Function:* producing the decoded estimate error signal in response to a compressed digital video bit stream by reversing the effect of previous encoding of the decoded estimate error signal	*Function:* producing a decoded estimate error signal
	Structure: decoder and demultiplexer 54, IDCT 72, block unformatter 72A (as shown in Fig. 2 and described at col. 14, lines 15-18, 45-60)	*Structure:* (as shown in Figs. 2, 7, 12, 13, and 14 and as described at col.14 lines 5-68, at col. 19 lines 19-38, and at col. 24 line 47 to col. 25 line 25): circuit 54; circuit 64 (see Fig. 14 for internal circuitry); circuit 66 (see Fig. 13 for internal circuitry); and circuit 72, circuit 72A (see Fig. 7 for internal circuitry); and including all inputs, outputs, and interconnections	[COMMENT-Additional construction of function not necessary once above terms are construed. The "responsive" modifiers refer to the means, not the function.]
			Structure: (as shown in Figs. 2, 7, 12, 13, and 14 and as described at col.14 lines 5-68, at col. 19 lines 19-38, and at col. 24 line 47 to col. 25 line 25): circuit 54; circuit 64 (see Fig. 14 for internal circuitry); circuit 66 (see Fig. 13 for internal circuitry); circuit 72; and circuit 72A (see Fig. 7 for internal circuitry); and all interconnections between these elements
			[COMMENT-This mainly adopts Microsoft's construction, but removes reference to all "inputs" and "outputs" since some connect to other parts of the decoder not involved in this particular clause. MPT argued at the hearing that elements 64 and 66 should be excluded based on their inclusion in the structure of Claims 14 and 16. These claims are dependent on Claim 13, not Claim 15. The structure of the various dependent claims need not be mutually

			exclusive.]
"means responsive to the adaptive motion compensated estimate and the estimate error signal for producing a decoded video signal"	*Function:* producing a decoded video signal	*Function:* producing a decoded video signal in response to the adaptive motion compensated estimate and the decoded estimate error signal	*Function:* producing a decoded video signal
	Structure: summing element 74 (as shown in Fig. 2 and described at col. 14, lines 60-61)	*Structure:* (as shown in Fig. 2 and as described at col. 14 lines 50-68): summing element 74 and including all inputs and outputs of this element; and	[COMMENT-Additional construction of function not necessary once above terms are construed. The "responsive" modifiers refer to the means, not the function.]
			Structure: (as shown in Fig. 2 and as described at col. 14 lines 50-68): summing element 74 and including all inputs and outputs of this element [COMMENT-The parties dispute whether inputs and outputs of the summing element are required. Their inclusion is reasonable since the summing element itself would accomplish little without them.]

APPENDIX B (Chen '004 Patent) FN1

Claim 1 (language for which parties proposed a construction in **bold**):

In at least one **metaserver** at one level of management, each said metaserver having a processor and a memory, a method for assigning a plurality of **multimedia servers** configured to provide data streams for a plurality of **client computers,** each said client computer being coupled to each said metaserver at the same level of management and to each said multimedia server via a network, each said client computer including a video and audio display device, each said metaserver memory configured to store a **metaserver database** that includes **information about the data streams** stored in at least one of said multimedia servers, said method comprising:

receiving a request for a multimedia stream from one of said client computers;

monitoring the status of each said multimedia server and the status of said network;

selecting from the metaserver database at least one eligible multimedia server storing the requested mutimedia stream using a **selection algorithm;** and

communicating a **name** of said at least one eligible multimedia server to said client computer.

Claim Language	**Lucent /Alcatel-Lucent**	**Microsoft**	**Court's Construction**
"metaserver"	a computer system comprising a processor and a memory that manages and is separate from a set of multimedia servers and hosts a metaserver database	computer system that manages at least one multimedia server and maintains a database of information about the multimedia content	computer system that manages at least one multimedia server, that is logically (or conceptually) separate from at least one multimedia server, and that maintains a metaserver database
			[COMMENT-The language added since the tentative construction i s taken from suggestions made at oral argument that would reconcile descriptions suggesting that the metaserver and are multimedia servers are separate (1:44-49, Figs.3-4) with other language indicating that a multimedia server may include a metaserver (4:15-19).]
"multimedia server"	shared entity for storing multimedia (e.g., audio and video data) for servicing clients	shared entity for storing multimedia (e.g. audio and	shared entity for storing multimedia (e.g. audio and video data) for servicing clients video data)
"client computer"	an individual user's computer with display device(s) receiving audio/video content and displaying it to the user	No construction necessary. Alternatively: "on a local area network or the Internet, a computer that accesses shared network resources provided by another computer (called a server)."	a computer that accesses shared network resources provided by another computer (called a server)
			[COMMENT-The audio/video display limitation is already present in the claim language, so it would be redundant to read this into the definition of "client computer."]
"metaserver database"	database, hosted on a metaserver, with	a repository for stored data accessible by a metaserver	a database maintained by a metaserver

	information about the data streams		
			[COMMENT-For construction of "database," see discussion of Claim 25 below.]
"information about the data streams"	information that includes at least identification numbers, multimedia server names and multimedia content, where multimedia content includes video content, audio content, data content and multimedia server's status such as live or on demand	no construction necessary	information used in managing a multimedia server or servers
			[COMMENT-Here, Lucent points out that the specification states that "the basic idea of the present invention is to use at least one metaserver at the same level of management to store in the metaserver database all information about the multimedia content of all of the servers ...." 6:18-25. The types of data they go on to cite, however, are merely from a particular embodiment. 6:31-37. It is not necessary to include the examples from the embodiment at 6:31-37. This does not necessarily reconcile the description of the invention at 6:18-25 (referring to "all information about ... all of the servers") with the claim language ("information about ... at least one of said multimedia servers"). Lucent does not appear to have argued, however, that a limitation on "all information about ... all of the claims" is present in the claims.]
"monitoring the status of each said multimedia server and the status of said network"	systematic checking of conditions of multimedia server to determine how busy each multimedia server is and how close a particular client is to each multimedia server with the proper	the process of communicating with each multimedia server to receive from each multimedia server its status information (such as: number of current connections and multimedia content), and	the pro cess of communicating with each multimedia server to receive from each multimedia server its status information, and determining the status of the network

	content	determining the status of the network (such as congestion)	
"selection algorithm"	algorithm (a sequence of well defined mathematical operations) used to select a list of eligible multimedia servers based on a cost to the system of providing the requested service	No construction necessary. Alternatively: "algorithm (a sequence of well defined mathematical operations) used to select a list of eligible multimedia servers based on a cost to the system of providing the requested service"	algorithm (a sequence of well defined mathematical operations) used to select a list of eligible multimedia servers based on a cost to the system of providing the requested service
			[COMMENT-Lucent conceded Microsoft's alternative construction in its opening brief at 24 n. 8.]
"name"	string of symbols with at least one alphabetic character	No construction necessary. Alternatively: "identifier."	no construction necessary

Claim 2 (language for which parties proposed a construction in **bold**):

The method of claim 1, wherein selecting further includes:

using a **minimum cost algorithm** as said selection algorithm;

choosing a set of parameters including multimedia content, **current load, geographic location,** and a network distance from said at least one multimedia server to said client computer; and

applying said minimum cost algorithm to said set of parameters.

Claim Language	**Lucent /Alcatel-Lucent**	**Microsoft**	**Court's Construction**
"minimum cost algorithm"	selection algorithm (a sequence of well defined mathematical operations) that is a function of a list of parameters, including multimedia content, current load, geographic location, and network distance, to	No construction necessary. Alternatively: "algorithm (a sequence of well defined mathematical operations) for determining the cost to the system for a particular multimedia server to provide a data stream to a particular	a sequence of well defined mathematical operations for determining the cost to the system for a particular multimedia server or servers to provide a data stream to a particular client and for selecting the

	determine the cost to the system for a particular multimedia server to provide a data stream to a particular client computer	client computer or to allow a particular client to upload a data stream to a particular multimedia server	multimedia server that can provide the data stream at minimum cost
			[COMMENT-Both proposed constructions only describe algorithms for determining cost, not for minimizing cost. Microsoft does not provide support for including uploads. Context of patent is avoiding bottlenecks in the download process.]
"current load"	*Agreed:* a measure of the amount of processing a computer system is currently performing in servicing client requests		a measure of the amount of processing a computer system is currently performing in servicing client requests
"geographic location"	*Agreed:* no construction necessary		no construction necessary

Claim 25 (language for which parties proposed a construction in **bold**):

A method comprising:

receiving a request for a multimedia stream from one of a number of client computers;

monitoring the status of each of a number of multimedia servers and the status of a network coupling the number of client computers and the number of multimedia servers;

selecting from a **database** having information about data streams stored in at least one of the multimedia servers at least one eligible multimedia server storing the requested multimedia stream using a selection algorithm; and

communicating a name of said at least one eligible multimedia server to the one of the number of client computers.

Claim Language	**Lucent /Alcatel-Lucent**	**Microsoft**	**Court's Construction**
"monitoring"	See discussion for claim 1 above.		No construction necessary
"database"	repository for shared data that is both integrated and shared, such that redundancy between data streams is partially or wholly eliminated	No construction necessary. Alternatively: "a repository for stored data."	a repository of shared data that is both integrated and shared, where "integrated" means that the database is a unification of several otherwise distinct data streams such that redundancy among those streams is partially or wholly eliminated, and "shared" means that different users may each have access to the same piece of data [COMMENT-Patentee acted as own lexicographer.

This constructio n is taken from specification text defining database at 5:55-67.]

Note on Claims 26 and 29: Though these claims are at issue and were included in the claim construction charts, neither party proposed constructions of particular terms within these claims. To the extent that the above terms recur in these claims, the Court construes them in accordance with the above construction.

APPENDIX C (Huna '217 Patent)

Claim 1 (language for which parties proposed a construction in **bold**):

An apparatus for sending a message to a receiving device, the receiving device coupled to either a **data-centric network** or a **telephony-centric network,** the apparatus comprising:

a **message server,** configured to **translate** the message into a format compatible with the receiving device, and to initiate **delivery** of the message at a delivery time;

a **data-centric network server,** coupled to said message server, configured to transmit the message over the data-centric network, wherein, if the receiving device is **addressable** over the data-centric network, then said data-centric network server delivers the message to the receiving device;

and a **telephony-centric network server,** coupled to said data-centric network server, configured to interface said data-centric network server to the telephony-centric network, wherein, if the receiving device is addressable by the telephony-centric network, then said telephony-centric network server receives the message from said data-centric network server and delivers the message to the receiving device over the telephony-centric network.

Claim Language	**Lucent**	**Microsoft**	**Court's Construction**
"data-centric network"	*Agreed Construction:* A network that carries digital data, primarily to facilitate information exchange among computers and computer peripherals. Examples include distributed computer networks such as the Internet.		A network that carries digital data, primarily to facilitate information exchange among computers and computer peripherals. Examples include distributed computer networks such as the Internet.
"telephony-centric network"	*Agreed Construction:* A network that carries telephony information such as voice, fax, page messages, and the like, primarily to facilitate information exchange among telephony devices.		A network that carries telephony information such as voice, fax, page messages, and the like, primarily to facilitate information exchange among telephony devices.
"message server"	a server at the operations center, that communicates message data packets with the data-centric network through the data-centric network server, which includes translation logic and software.	a computer that provides services for processing messages	a computer that both provides services for processing messages and contains translation logic and software
			[COMMENT-Presence of translation logic/software in the server is described in the specification as important to the invention and used to distinguish other systems. (See

			14:1-10.) Location at operations center is merely a preferred embodiment. The need for the message server to communicate with a data-centric network server is clarified by other claim language.
"translate"	*Agreed:* no construction necessary		no construction necessary
			[COMMENT-Conceded in Lucent's opening brief at 11 n. 4.]
"delivery"	actual delivery of the message, rather than notification of receipt of message, which could be at a later time by the message originator	transmission	transmission
			[COMMENT-As Microsoft notes, delivery and transmission are use d almost interchangeably at certain points in the specification.]
"data-centric network server"	server located at the operations center connected to the data-centric network that provides data packet transmission and reception to the message server	a computer connected to a data-centric network that provides services over the data-centric network	a computer connected to a data-centric network that provides services over the data-centric network
			[COMMENT-W hen used in connection with agreed definition of data-centric network above, this does not suffer from the ambiguity suggested by Lucent. The only term not defined above is "server," but Lucent's proposal does not offer a definition for this term.]
"addressable"	*Agreed:* an identification for a data source		capable of being identified
			[COMMENT-Conceded in Lucent's opening brief at 11 n. 4. Propose d construction merely shifts parties' version from a noun to an adjective to match claim language.]
"telephony-centric network server"	server connected to the telephony-centric network and data-centric network that converts signals to allow for reception and transmission of signals between the telephony-centric network and data-centric network	a computer connected to a telephony-centric network that provides services over the telephony-centric network	a computer connected to a telephony-centric network that provides services over the telephony-centric network
			[COMMENT-When used in connection with

agreed definition of telephony-centric network above, this does not suffer from the ambiguity suggested by Lucent. The only term not defined above is "server," but Lucent's proposal does not offer a definition for this term.]

Note on Claims 8 and 14: Though these claims are at issue and were included in the claim construction charts, neither party proposed constructions of particular terms within these claims. To the extent that the above terms recur in these claims, the Court construes them in accordance with the above construction.

Claim 37 (language for which parties proposed a construction in **bold**):

A system for sending a message at a specified delivery time to a receiving device, the system comprising:

a message scheduler, configured to initiate delivery of the message at the specified delivery time;

a message server, coupled to said **message scheduler,** configured to translate the message into a format that is compatible with the receiving device;

a data-centric network server, coupled to said message server, configured to transmit the message;

a data-centric network, coupled to said data-centric network server, configured to route the message from said data-centric network server to either the receiving device or a telephony-centric network server, wherein, if the receiving device is addressable over a telephony-centric network, then said data-centric network routes the message to said telephony-centric network server.

Claim Language	**Lucent**	**Microsoft**	**Court's Construction**
"message scheduler"	a function for determining when to send messages that have future delivery times performed within the message server	hardware or software that schedules messages for a future delivery time	hardware or software that resides on one or more of the servers and determines when to send messages with future delivery times [COMMENT-The Court's construction attempts to reconcile two aspects of the specification and claims. First, a message scheduler is described as being "coupled" to the message server, suggesting that it could be a separate entity (perhaps hardware or software). At 14:7-9, however, the specification makes clear that the invention (not just an embodiment) involves "message transmission scheduling logic ... resident in the servers." If scheduling logic resides on the servers as part of the invention, this indicates that the message scheduler must also reside on one of the

servers. The language at 14:7-9 does not state which server (or servers) must contain the scheduling logic, so the scheduler could conceivably be coupled to the message server while residing on one of the other server types. Microsoft expressed concern at oral argument that it may ultimately be a user, not the scheduler, that "determines" the delivery time. At this time, the Court does not see a potential for confusion over this distinction.]

APPENDIX D (Reifman '433 Patent)

Claim 1 (language for which parties proposed a construction in **bold**):

A method in a **facsimile machine** having a **display** and a **user input device,** for **storage and use of a facsimile cover page,** the method comprising the steps of:

maintaining at least one facsimile cover page in a **first storage location continuously** accessible by any of a plurality of users of the facsimile machine;

maintaining at least another facsimile cover page in a second storage location accessible by a selected one of said plurality of users, said selected user having a corresponding user identification;

sensing if a user inputs a user identification; and

enabling access to said, second storage location only if said sensed user identification corresponds to said user identification of said selected user, said first storage area being continuously enabled for any of said plurality of users and said **second storage area** being enabled only when said sensed user identification corresponds to said user identification of said selected user.

Claim Language	**Lucent**	**Microsoft**	**Court's Construction**
"facsimile machine"	a machine whose primary purpose is to send and receive copies of printed materials and images using fax protocols as defined by CCITT or ITU-T, distinct from a computer	an apparatus capable of sending or receiving a facsimile compliant with standard facsimile protocols established by the International Telegraph and Telephone Consultative Committee (CCITT)	an apparatus capable of sending and receiving copies using facsimile protocols established by the International Telegraph and Telephone Consultative Committee (CCITT)
			[COMMENT-See Notes 1 and 2 following this chart.]
"display"	low-resolution user interface with a limited number of pixels	No construction necessary. Alternatively: "a visual representation of data."	a visual representation of data
			[COMMENT-There is no indication that the specification intende d to deviate from ordinary meaning of this term. Also, the proposed use of "low-resolution" and "limited number" would likely add uncertainty rather than help clarify.]

"user input device"	touch-sensitive display or hardware numeric keypad on a facsimile machine proper	a device for generating an input for the machine	no construction necessary
			[COMMENT-Lucent's proposal would read additional limitations from the specification not warranted here. Microsoft's is too broad because it does not have any role for a "user" (i.e. it could refer to any input device, even if automatic). This term does not appear to require additional construction.]
"facsimile cover page"	a page containing information identifying a facsimile	No construction necessary. Alternatively: "a page containing information identifying a facsimile."	a page containing information identifying a facsimile
"storage and use of a facsimile cover page"	no construction necessary		no construction necessary
			[COMMENT-Lucent conceded this in its opening brief at 15 n. 5.]
"maintaining at least another facsimile cover page"	storing at least a second different facsimile cover page at the same time, in addition to the at least one cover page	no construction necessary	no construction necessary
			[COMMENT-Lucent clarified at oral argument that its proposed construction had been applied to the wrong language in the tentative order. With this correction mind, the Court still concludes that no construction is necessary.]
"first storage location"	a specific, distinct location in the fax machine memory	No construction necessary. Alternatively: "a memory location."	a memory location within the facsimile machine
			[COMMENT-Since the entire method is "in a facsimile machine,' ' this limitation is appropriate.]
"continuously"	without interruption, without user authentication or limited to a particular user group	no construction necessary. Alternatively: "without interruption"	without interruption
"second storage location"	storage location in facsimile machine, distinct from first storage location	no construction necessary	a memory location in the facsimile machine, distinct from the first storage location

"second storage area"	storage location in facsimile machine, distinct from first storage location	no construction necessary	a memory location in the facsimile machine, distinct from the first storage location [COMMENT-Claim language indicates that this is synonymous with "second storage location."]

NOTE 1

The gravamen of the parties' dispute is whether the a "facsimile machine" encompasses a general purpose computer programmed with appropriate FAX software or only hardware more closely resembling the "IFAX" described in the specification. The language of Claim 1 makes clear that a "facsimile machine," in general, might be something without a display or user interface, since these limitations are provided separately. This suggests that the meaning of "facsimile machine" in the claim language is broader than the IFAX disclosed in the specification, which has a display and user interface. The IFAX embodiment, as described in the specification, is a special purpose computer whose underlying hardware block diagram, shown in Fig. 1, is consistent with a personal computer ("PC") or server. The block diagram contains: a CPU, memory, a timer, a file storage unit, a LAN interface, a FAX modem coupled to a telephone line, a scan engine, a print engine, a data bus, and user interface elements. It would not be unusual to find all of these elements in a personal computer. Lucent correctly points out that the specification refers to the potential for the IFAX to be connected to a personal computer or other computer. *See, e.g.,* 38:48-51. While these statements indicate that an IFAX can be distinct from a PC, they neither conclusively disavow implementation of an IFAX on PC hardware, nor change the fact that the IFAX is offered only as an embodiment of the invention. The specification does not make clear that implementation on a PC is beyond the reach of the claims. *See* SciMed Life Sys., Inc. v. Advanced Cardiovascular Sys., Inc., 242 F.3d 1337, 1341 (Fed.Cir.2001) ("Where the specification makes clear that the invention does not include a particular feature, that feature is deemed to be outside the reach for the claims of the patent....") The Court concludes that neither the claim language nor the specification disavows implementation in a PC. The primary limitation on a "facsimile machine," as described in the standard, is compliance with CCITT standards, and the Court's construction reflects this fact. See 9:15-22.

NOTE 2

At oral argument, there was some discussion of whether "sending *and* receiving" should be replaced with "sending *or* receiving," though this point was not addressed in detail by the briefs. The specification, taken as a whole, suggests that "facsimile machine" encompasses a machine capable of both sending and receiving, and Microsoft has not offered adequate support for a contrary construction.

Claim 4 (language for which parties proposed a construction in **bold**):

A method in a facsimile machine having a user input device for the storage and use of a facsimile cover page, the method comprising the steps of:

maintaining at least one facsimile cover page in a first storage location continuously accessible by any of a plurality of users of the facsimile machine;

maintaining at least another facsimile cover page in a second storage location accessible by a selected one of said plurality of users, said selected user having a corresponding user identification;

sensing if a user inputs a user identification; and

enabling access to said second storage location only if said sensed user identification corresponds to said user identification of said selected user, said first storage area being continuously enabled for any of said plurality of users and said second storage area being enabled only when said second user identification corresponds to said user identification of said selected user;

sensing a user input on the user input device to select a particular one of **said stored cover pages** from said first storage location or said second storage location if said user identification data corresponds to said selected one of said plurality of users;

selecting said particular cover page in response to said user input; and

transmitting said particular cover page as a **cover page for a facsimile message.**

Claim Language	**Lucent**	**Microsoft**	**Court's Construction**
"said stored cover pages"	Agreed: no construction necessary		no construction necessary
			[COMMENT-Lucent conceded this in its opening brief at 15 n. 5.]
"cover page for a facsimile message"	a page containing information identifying a facsimile	No construction necessary. Alternatively: "a page containing information identifying a facsimile."	a page containing information identifying a facsimile [COMMENT-Lucent concedes Microsoft's alternative in its openin g brief at 15 n. 5.]

Note on Claim 7: The parties submitted errata removing Claim 7 from their joint chart and worksheet. At oral argument, the parties clarified that they do not seek construction of this claim.

APPENDIX E (Jancke '499 Patent)

Claim 13 (language for which parties proposed a construction in **bold**):

A method for displaying an **interactive graph,** said method comprising:

storing a sequence of present values in a memory **as they occur in real time** for each of plurality of **display elements;**

generating at least one **graph primitive** on a display wherein said at least one graph primitive is comprised of said plurality of display elements;

dynamically updating said plurality of display elements in said display in real time independent of any intervention by a human user;

generating a **superimposed display of at least one level of display element detail** for any one of said plurality of display elements in response to a user input command; and

overlaying at least two display elements within said at least one graph primitive wherein each of said at least two display elements are distinguishable by a unique display characteristic.

Claim Language	Lucent	Microsoft	Court's Construction
"interactive graph"	*Agreed:*		No construction necessary no construction necessary
			[COMMENT-Conceded in Lucent's opening brief at 21 n. 7.]
"in real time"	simultaneously as the values for the display elements are actually generated	no construction necessary	when new information becomes available
			[COMMENT-Though not in the claim construction worksheet, "rea l time" is discussed separately in the parties' briefs. This version, which is in the middle ground between the proposals, is taken from Col 4:57-65 which states that "[u]pdating display element information is typically performed in real time to a live graph primitive being displayed, when new information becomes available for at least one of the display elements within the graph." This language suggests equivalence between "in real time" and "when new information becomes available."]
"as they occur in real time"	occurs simultaneously as the values for the display elements are actually generated	no construction necessary	no construction necessary (aside from the construction of "in real time" above)
			[COMMENT-The Court has updated this since the tentative construction to address the concern that "as they occur" could have a separate meaning from "in real time." Nevertheless, the Court concludes that "as they occur" does not require construction .]
"display element"	*Agreed:* an individual data entity capable of being displayed as a self contained piece of information in a graph primitive		an individual data entity capable of being displayed as a self contained piece of information in a graph primitive
			[COMMENT-Conceded in Lucent's opening brief at 21 n. 7.]
"graph primitive"	*Agreed:* no construction necessary		no construction necessary
			[COMMENT-Conceded in Lucent's opening brief at 21 n. 7.]
"dynamically updating said plurality of display elements in said display"	changing the displayed graph without any user intervention as the underlying display element	No construction necessary. Alternatively: "updating the display	updating the display elements in the display without user intervention

	information changes	elements in the display without user intervention	
			[COMMENT-The additional restriction Lucent requests is better addressed through construction of the next phrase: "in real time ..."]
"in real time independent of any intervention by a human user"	occurring simultaneously as the values for the display elements are actually generated regardless of any human intervention	no construction necessary	"in real time": See above construction
			"independent of any intervention by a human user": no construction necessary
"superimposed"	on top of as part of the same graph	No construction necessary. Alternatively: "added[ing] as a distinct feature, element, or quality."	no construction necessary
"superimposed display of at least one level of display element detail"	two or more related data series within a list-box or pop-up overlaid on top of a display element to provide additional, detailed information related to the display element	no construction necessary	no construction necessary
"overlaying at least two display elements"	displaying at least two additional, related, but distinct, data series laid on top of another	no construction necessary	no construction necessary

Claim 18 (language for which parties proposed a construction in **bold**):

An interactive graph display system comprising:

means for storing a sequence of present values in a memory as they occur in real time for each of a plurality of display elements;

means for generating at least one graph primitive on a display wherein said at least one graph

primitive is comprised of said plurality of display elements;

means for dynamically updating said plurality of display elements in said display in real time independent of any intervention by a human user;

means for generating a superimposed display of at least one additional level of display element detail for any one of said plurality of display elements in response to a user input command; and

means for overlaying at least two display elements within said at least one graph primitive wherein each of said at least two display elements are distinguishable by a unique display characteristic.

Claim Language	Lucent	Microsoft	Court's Construction
"means for storing a sequence of present values in a memory as they occur in real time for each of a plurality of display elements"	Function (Agreed): storing a sequence of present values in a memory as they occur in real time for each of a plurality of display elements *Structure:* a processor 102 and memory (at least one of RAM 110 and RAM 108 and nonvolatile memory device 112) and bus (at least one of memory bus 152 and bus 150) (as shown in Figure 1 and described at 3: 5-10), and associated hardware programmed to function as an Element Storage Manager (Fig.2, elem.205) driven by the Control Manager (Fig.2, elem.202) according to Figs. 1-3 and the accompanying text	Function (Agreed): storing a sequence of present values in a memory as they occur in real time for each of a plurality of display elements *Structure:* a processor 102 and memory (at least one of RAM 110 and RAM 108 and non-volatile memory device 112) and bus (at least one of memory bus 152 and bus 150) (as shown in Figure 1 and described at 3:5-10). The processor is programmed with an algorithm to perform the stated function as shown in element 312 of Figure 3 and described at 4:45-46 and 4:53-56	*Function:* storing a sequence of present values in a memory as they occur in real time for each of a plurality of display elements *Structure:* a processor 102 and memory (at least one of RAM 110 and ROM 108 and non-volatile memory device 112) and bus (at least one of memory bus 152 and bus 150) (as shown in Figure 1 and described at 3:5-10). The processor is programmed to perform the operational step shown in element 312 of Figure 3, further described at 4:45-46 and 4:53-56, using the display system processes shown in Fig. 2, including the Control Manager (Fig. 2 elem. 202) and Element Storage Manager (Fig. 2 elem. 225). The display system processes are further described at 3:20-4:31.
			[COMMENT-The parties agree that separately construed terms should have same meaning given in other claims. Where a function is implemented in a microprocessor, the structure is limited to the disclosed algorithm. Elem. 312 of Fig. 3 merely describes the function (i.e. particular step in the overall

			process). One must turn to the description of the display system processes to get a sense of this algorithm. The Court replaced "RAM 108" with "ROM 108" due to an apparent typographical error in the proposed constructions.]
"means for generating at least one graph primitive on a display wherein said at least one graph primitive is comprised of said plurality of display elements" *Structure:* a microprocessor (Fig 1, elem. 102) and memory (at least one of RAM 110 and RAM 108 and nonvolatile memory device 112) and bus (at least one of memory bus 152 and bus 150) (as shown in Figure 1 and described at 3:5-10), and associated hardware programmed to function as a Graph Primitive Manager (Fig.2, elem.208) driven by the Control Manager (Fig.2, elem.202) and controlled by the Primitive Event Manager (Fig.2, elem.210), and generated by the Primitive Drawing System (Fig.2, elem.218) according to Figs. 1-3 and the accompanying text	*Function (Agreed):* generating at least one graph primitive on a display wherein said at least one graph primitive is comprised of said plurality of display elements. *Structure:* a processor 102 and memory (at least one of RAM 110 and RAM 108 and non-volatile memory device 112) and bus (at least one of memory bus 152 and bus 150) (as shown in Figure 1 and described at 3:5-10). The processor is programmed with an algorithm to perform the stated function as shown in element 320 of Figure 3 and described at 5:5-7	*Function (Agreed):* generating at least one graph primitive on a display wherein said at least one graph primitive is comprised of said plurality of display elements. *Structure:* a processor 102 and memory (at least one of RAM 110 and ROM 108 and non-volatile memory device 112) and bus (at least one of memory bus 152 and bus 150) (as shown in Figure 1 and described at 3:5-10) and associated display 114. The processor is programmed to perform the operational steps shown in elements 312, 315, and 320 of Figure 3 using the display system processes shown in Fig. 2. The display system processes are further described at 3:20-4:31. The operational steps are further described at 4:32-5:31.	*Function:* generating at least one graph primitive on a display wherein said at least one graph primitive is comprised of said plurality of display elements.
			[COMMENT-The parties agree that separately construed terms should have same meaning given in other claims. Where a function

			is implemented in a microprocessor, the structure is limited to the disclosed algorithm. Lucent's "and associated hardware" is too broad, but at least the display 114 needs to be incorporated in addition to the agreed hardware. Descriptions of the implementation of this function are spread throughout various elements in Figs. 2-3. **The Court replaced "RAM 108" with "ROM 108" due to an apparent typographical error in the proposed constructions. The Court replaced "3:31" in the tentative construction with "4:31" due to a purely typographical error.]**
"means for dynamically updating said plurality of display elements in said display in real time independent of any intervention by a human user"	*Function (Agreed):* dynamically updating said plurality of display elements in said display in real time independent of any intervention by a human user *Structure:* Lucent contends that there is inadequate structure disclosed by the specification.	*Function (Agreed):* dynamically updating said plurality of display elements in said display in real time independent of any intervention by a human user *Structure:* The structure that performs this function is a processor 102 and memory (at least one of RAM 110 and RAM 108 and non-volatile memory device 112) and bus (at least one of memory bus 152 and bus 150) (as shown in Figure 1 and described at 3:5-10.) The processor is programmed with an algorithm to perform the stated function as shown in element 323 of Figure 3 and described at 5:8-12	*Function:* dynamically updating said plurality of display elements in said display in real time independent of any intervention by a human user *Structure:* a processor 102 and memory (at least one of RAM 110 and ROM 108 and non-volatile memory device 112) and bus (at least one of memory bus 152 and bus 150) (as shown in Figure 1 and described at 3:5-10) and associated display 114. The processor is programmed to perform the operational steps shown in elements 312, 315, 320, 323, 325, and 327 of Figure 3 using the display system processes shown in Fig. 2. The display system processes are further described at 3:20-4:31. The operational steps are further described at 4:32-5:31.
			[COMMENT-**By offering this**

			construction, the Court does not resolve Lucent's challenge to the adequacy of the disclosure. The parties agree that separately construed terms should have same meaning given in other claims. Lucent's "and associated hardware" is to broad, but at least the display 114 needs to be incorporated in addition to the agreed hardware. Where a function is implemented in a microprocessor, the structure is limited to the disclosed algorithm. Descriptions of the implementation of this function are spread throughout various elements in Figs. 2-3. The Court replaced "RAM 108" with "ROM 108" due to an apparent typographical error in the proposed constructions. **The Court replaced "3:31" in the tentative construction with "4:31" due to a purely typographical error.]**
"means for generating a superimposed display of at least one additional level of display element detail for any one of said plurality of display elements in response to a user input command"	*Function (Agreed):* generating a superimposed display of at least one additional level of display element detail for any one of said plurality of display elements in response to a user input command *Structure:* a microprocessor 102 and memory (at least one of RAM 110 and RAM 108 and nonvolatile memory device 112) and bus (at least one of memory bus 152 and bus 150) (as shown in Figure 1 and described at 3:5-10), and associated hardware programmed to	*Function (Agreed):* generating a superimposed display of at least one additional level of display element detail for any one of said plurality of display elements in response to a user input command *Structure:* a processor 102 and memory (at least one of RAM 110 and RAM 108 and non-volatile memory device 112) and bus (at least one of memory bus 152 and bus 150) (as shown in Figure 1 and described at 3:5-10). The processor is programmed with an algorithm to perform	*Function:* generating a superimposed display of at least one additional level of display element detail for any one of said plurality of display elements in response to a user input command *Structure:* a processor 102 and memory (at least one of RAM 110 and ROM 108 and non-volatile memory device 112) and bus (at least one of memory bus 152 and bus 150) (as shown in Figure 1 and described at 3:5-10), display 114, and user input device (at least one of keyboard 104 or pointing device 106). The processor is programmed to perform the operational steps shown in elements 312, 315, 320, and 325 of Figure 3 using the display system processes shown

	function as a Graph Primitive Manager (Fig.2, elem.208) driven by the Control Manager (Fig.2, elem.202) and controlled by the Primitive Event Manager (Fig.2, elem.210), and generated by the Primitive Drawing System (Fig.2, elem.218), according to Figs. 1-3 and the accompanying text	the stated function as shown in element 325 of Figure 3 and described at 5:15-32	in Fig. 2. The display system processes are further described at 3:20-4:31. The operational steps are further described at 4:32-5:31.
			[COMMENT-The parties agree that separately construed terms should have same meaning given in other claims. Lucent's "and associated hardware" is to broad, but at least the display 114 and a user input device (104 or 106) needs to be incorporated in addition to the agreed hardware. Where a function is implemented in a microprocessor, the structure is limited to the disclosed algorithm. Description of the implementation of this function are spread throughout various elements in Figs. 2-3. The Court replaced "RAM 108" with "ROM 108" due to an apparent typographical error in the proposed constructions. **The Court replaced "3:31" in the tentative construction with "4:31" due to a purely typographical error.]**
"means for overlaying at least two display elements within said at least one graph primitive wherein each of said at least two display elements are distinguishable by a unique display characteristic"	*Function (Agreed):* overlaying at least two display elements within said at least one graph primitive wherein each of said at least two display elements are distinguishable by a unique display characteristic *Structure:* a	*Function (Agreed):* overlaying at least two display elements within said at least one graph primitive wherein each of said at least two display elements are distinguishable by a unique display characteristic *Structure:* a	*Function:* overlaying at least two display elements within said at least one graph primitive wherein each of said at least two display elements are distinguishable by a unique display characteristic *Structure:* a processor 102 and

microprocessor 102 and memory (at least one of RAM 110 and RAM 108 and nonvolatile memory device 112) and bus (at least one of memory bus 152 and bus 150) (as shown in Figure 1 and described at 3:5-10), and associated hardware programmed to function as a Graph Primitive Manager (Fig.2, elem.208) driven by the Control Manager (Fig.2, elem.202) and controlled by the Primitive Event Manager (Fig.2, elem.210), and generated by the Primitive Drawing System (Fig.2, elem.218), according to Figs. 1-3 and the accompanying text	processor 102 and memory (at least one of RAM 110 and RAM 108 and non-volatile memory device 112) and bus (at least one of memory bus 152 and bus 150) (as shown in Figure 1 and described at 3:5-10). The processor is programmed with an algorithm to perform the stated function as shown in element 315 and 320 of Figure 3 and described at 4:66 - 5:5-7 and 2:31-37	memory (at least one of RAM 110 and ROM 108 and non-volatile memory device 112) and bus (at least one of memory bus 152 and bus 150) (as shown in Figure 1 and described at 3:5-10) and associated display 114. The processor is programmed to perform the operational steps shown in elements 312, 315, and 320 of Figure 3 using the display system processes shown in Fig. 2. The display system processes are further described at 3:20-4:31. The operational steps are further described at 4:32-5:31.
		[COMMENT-The parties agree that separately construed terms should have same meaning given in other claims. Lucent's "and associated hardware" is to broad, but at least the display 114 needs to be incorporated in addition to the agreed hardware. Where a function is implemented in a microprocessor, the structure is limited to the disclosed algorithm. Description of the implementation of this function are spread throughout various elements in Figs. 2-3. **The Court replaced "RAM 108" with "ROM 108" due to an apparent typographical error in the proposed constructions. The Court replaced "3:31" in the tentative construction with "4:31" due to a purely**

typographical error.]

Claim 23 (language for which parties proposed a construction in **bold**):

A program storage device readable by a computer, said program storage device tangibly embodying instructions executable by said computer to perform method steps for displaying an **interactive graph,** said method comprising:

storing a sequence of present values in a memory **as they occur in real time** for each of plurality of **display elements;**

generating at least one graph primitive on a display wherein said at least one graph primitive is comprised of said plurality of display elements;

dynamically updating said plurality of display elements in said display in real time independent of any intervention by a human user;

and generating a **superimposed display of at least one additional level of display element detail** for any one of said plurality of display elements in response to a user input command.

Note on Claim 23: All terms but the one identified below are considered with Claim 13 above, and there is no indication that they should be given a different construction in this claim.

Claim Language	Lucent /Alcatel-Lucent	Microsoft	Court's Construction
"superimposed display of at least one additional level of display element detail"	two or more related data series within a list-box or pop-up overlaid on top of a display element to provide additional, detailed information related to the display element	no construction necessary	no construction necessary [COMMENT-This is identical to one of the disputed phrases from Claim 13 except for the inclusion of the word "additional" here.]

Note on Claim 29: This claim is also at issue, but it does not contain disputed terms other than those already discussed above, and there is no indication that they should be given a different construction in this claim. To the extent that the above terms recur in this claim, the Court construes them in accordance with the above construction.

APPENDIX F (Bolosky '794 Patent) FN2

Claim 30 (language for which parties proposed a construction in **bold**):

In a distributed system having a **media server** for storing files holding data of multiple media, a **client** for requesting service from the media server, a **control connection** between the media server and the client for passing control information between the media server and the client and a **data connection** for passing data between the media server and the client, a method comprising the steps of:

sending a **write request message** from the client to the media server over the control connection using a **first transport protocol,** said write request message requesting that data from the client be written into a file at the media server;

sending a **write request acknowledgment message** from the media server to the client over the control connection to acknowledge the write request message;

forwarding the data to be written from the client to the media server over the data connection using a second transport protocol distinct from the first transport protocol; and

writing the forwarded data into the file at the media server.

Claim Language	**Lucent /Alcatel-Lucent**	**Microsoft**	**Court's Construction**
"media server"	*Agreed:* shared entity for storing multimedia data for transport to and from clients		shared entity for storing multimedia data for transport to and from clients
"client"	end user's computer capable of consuming multimedia displayed on a "viewer" program	on a local area network or the Internet, a computer that accesses shared network resources provided by another computer (called a server)	entity on a computer hat is capable of both requesting service from a media server and consuming data from a media server
			[COMMENT-Both constructions, which suggest that the client is a computer, ignore language of specification in which a client is described as an entity "on a ... computer" (see, e.g., 1:29-30). Description of invention indicates that a client "consumes" data, so Lucent is correct to this extent, but existence of "viewer" is limited to an example embodiment involving consumption of video. Patent is not limited just to video, so "viewer" language may be misleading.]
"control connection"	connection established by client that is separate from the data connection for purposes of passing control information	connection that facilitates exchange of control information	
			[COMMENT-Other claim language that requires the

			use of separate transport protocols adequately describes the extent to which these connections must be "separate." Lucent's proposed construction is less precise, leading to possible confusion between physical and logical separation, for example.]
"data connection"	connection for purposes of transmitting multimedia data that is separate from control connection	No construction necessary. Alternatively: "connection for the purposes of transmitting data"	connection that facilitates the exchange of data between the media server and the client
			[COMMENT-See comment for "control connection" regarding th e issue of separateness. The Court accepts Microsoft's argument, made at the hearing, that certain limitations imposed in the tentative construction from 1:35-42 were merely "[i]n accordance with a first aspect of the present invention," 1:31, and therefore merely part of an embodiment. These limitations would also have conflicted with the structure of the claims. For example, imposing a "rate substantially equal" limitation here could render aspects of Claim 14 redundant.]
"write request message"	*Agreed:* a request message that requests that data from the client be written into a file on the media server		a request message that requests that data from the client be written into a file on the media server
"transport protocol"	*Agreed:* any standard protocol that is designed to operate in the fourth layer of the OSI reference model (and the second highest layer in the four and five layer TCP/IP reference models), for example, TCP, UDP, etc.		any standard protocol that is designed to operate in the fourth layer of the OSI reference model (and the second highest layer in the four and five layer TCP/IP reference models), for example, TCP, UDP, etc.
"write request acknowledgment message"	*Agreed:* message that acknowledges that the write request was received		message that acknowledges that the write request was received

Note on Claim 33: This claim is also at issue, but it does not contain disputed terms other than those already discussed above, and there is no indication that they should be given a different construction in this claim. To the extent that the above terms recur in this claim, the Court construes them in accordance with the above construction.

APPENDIX G (Jancke '913 Patent) FN3

Claim 1 (language for which parties proposed a construction in **bold**):

A status monitoring system for a **computer** network, said system comprising:

means for monitoring an operational state of each of a plurality of nodes in said computer network;

means for concurrently generating a display of a plurality of operational status icons each indicative of a lowest detail view of said operational state of a corresponding one of said plurality of nodes in said computer network, said means for concurrently generating being operational from any one of said plurality of nodes in said computer network;

means for superimposing at least one additional status indicator on said display of any one of said plurality of operational status icons such that compound operational status information for a single one of said plurality of nodes is available in a single viewable one of said plurality of operational status icons;

means for dynamically updating said display of said operational state for each of said plurality of nodes; and

means for generating a hierarchical list of objects available from a user selected one of said plurality of nodes.

Claim Language	Lucent /Alcatel-Lucent	Microsoft	Court's Construction
"computer"	*Agreed:* no construction necessary		no construction necessary
			[COMMENT-Alcatel-Lucent conceded this in its opening brief at 8 n. 4.]
"means for monitoring an operational state of each of a plurality of nodes in said computer network"	*Function (Agreed):* monitoring an operational state of each of a plurality of nodes in said computer network *Structure:* a microprocessor 102 and memory (at least one of RAM 110 and RAM 108 and nonvolatile memory device 112) and bus (at least one of memory bus 152 and bus 150) (as shown in Figure 1 and described at 2:28 33) and associated hardware programmed to function as a Network Node Manager (col. 2:42 47), according to Figs. 1, 5 and accompanying text.	*Function (Agreed):* monitoring an operational state of each of a plurality of nodes in said computer network *Structure:* a processor 102 and memory (at least one of RAM 110 and RAM 108 and non-volatile memory device 112) and bus (at least one of memory bus 152 and bus 150) (shown in Figure 1 and described at 2:28-33). The processor is programmed with an algorithm to perform the stated function as shown in element 507 of Figure 5 and as described at 4:8-10.	*Function:* monitoring an operational state of each of a plurality of nodes in said computer network *Structure:* a processor 102 and memory (at least one of RAM 110 and ROM 108 and non-volatile memory device 112) and bus150 (and bus 152 if RAM or ROM are used) and network connection (such as a connection to the Local Area Network shown in Figure 1 element 116). The processor is programmed with an algorithm to perform the stated function by establishing a communication link with each of a plurality of nodes and polling the nodes as shown in elements 503 and 507 of Figure 5, and as described at 1:60-65, 3:59-4:10. Elements of Figure 1 are further described at 2:21-40.

			[COMMENT-Where a function is implemented in a microprocessor, the structure is limited to the disclosed algorithm. Lucent's "and associated hardware" is too broad, but some additional hardware needs to be included, the connection to the network in particular. The Court expanded upon Microsoft's description of the algorithm to be consistent with text at 1:60-65 that describes "monitoring the plurality of nodes." The Court replaced "RAM 108" with "ROM 108" due to an apparent typographical error in the proposed constructions.]
means for concurrently generating a display of a plurality of operational status icons each indicative of a lowest detail view of said operational state of a corresponding one of said plurality of nodes in said computer network, said means for concurrently generating being operational from any one of said plurality of nodes in said computer network	*Function (Agreed):* concurrently generating a display of a plurality of operational status icons each indicative of a lowest detail view of said operational state of a corresponding one of said plurality of nodes in said computer network, said means for concurrently generating being operational from any one of said plurality of nodes in said computer network *Structure:* a microprocessor 102 and memory (at least one of RAM 110 and RAM 108 and nonvolatile memory device 112) and bus (at least one of memory bus 152 and bus 150) (as shown in Figure 1 and described at 2:28 33), and associated hardware	*Function (Agreed):* concurrently generating a display of a plurality of operational status icons each indicative of a lowest detail view of said operational state of a corresponding one of said plurality of nodes in said computer network, said means for concurrently generating being operational from any one of said plurality of nodes in said computer network *Structure:* a processor 102 and memory (at least one of RAM 110 and RAM 108 and non-volatile memory device 112) and bus (at least one of memory bus 152 and bus 150) (as shown in Figure 1 and described at 2:28-	*Function:* concurrently generating a display of a plurality of operational status icons each indicative of a lowest detail view of said operational state of a corresponding one of said plurality of nodes in said computer network, said means for concurrently generating being operational from any one of said plurality of nodes in said computer network *Structure:* a processor 102 and memory (at least one of RAM 110 and ROM108 and non-volatile memory device 112) and bus150 (and bus 152 if RAM or ROM are used) and network connection (such as a connection to the Local Area Network shown in Figure 1 element 116) and display 114. The processor is programmed with an algorithm to perform the stated function as shown in elements

	programmed to function as a Network Node Manager (col. 2:42 47) in every one of said plurality of nodes in the computer network according to Figs. 1, 5 and accompanying text	33). The processor is programmed with an algorithm to perform the stated function as shown in element 525 of Figure 5 and described at 4:21-22	505, 507, 516, 520, and 525 of Figure 5. Elements of Figure 1 are further described at 2:21 -40. Elements of Figure 5 are further described at 3:59-4:29.
			[COMMENT-Where a function is implemented in a microprocessor, the structure is limited to the disclosed algorithm. It does not appear that the Node Manager is part of an algorithm. "Concurrently generating" involves additional steps from Fig. 5 beyond that suggested by Microsoft. Lucent's "and associated hardware" is too broad, but some additional hardware needs to be included, the display in particular. The Court replaced "RAM 108" with "ROM 108" due to an apparent typographical error in the proposed constructions. See also "lowest detail level" below.]
means for superimposing at least one additional status indicator on said display of any one of said plurality of operational status icons such that compound operational status information for a single one of said plurality of nodes is available in a single viewable one of said plurality of operational status icons	*Function (Agreed):* superimposing at least one additional status indicator on said display of any one of said plurality of operational status icons such that compound operational status information for a single one of said plurality of nodes is available in a single viewable one of said plurality of operational status icons	*Function (Agreed):* superimposing at least one additional status indicator on said display of any one of said plurality of operational status icons such that compound operational status information for a single one of said plurality of nodes is available in a single viewable one of said plurality of operational status icons	*Function:* superimposing at least one additional status indicator on said display of any one of said plurality of operational status icons such that compound operational status information for a single one of said plurality of nodes is available in a single viewable one of said plurality of operational status icons
	Structure: a microprocessor 102 and memory (at least one of RAM 110 and RAM 108 and nonvolatile	*Structure:* a processor 102 and memory (at least one of RAM 110 and RAM 108 and non-	*Structure:* a processor 102 and memory (at least one of RAM 110 and ROM108 and non-volatile memory device 112) and bus (at least one of memory bus 152 and

	memory device 1 12) and bus (at least one of memory bus 152 and bus 150) (as shown in Figure 1 and described at 2:28 33) and associated hardware programmed to function as a Network Node Manager (col. 2:42 47), according to Figs. 1, 4, 5 and accompanying text	volatile memory device 112) and bus (at least one of memory bus 152 and bus 150) (as shown in Figure 1 and described at 2:28-33). The processor is programmed with an algorithm to perform the stated function as shown in element 525 of Figure 525 and described at 4:21-22 and 3:37-40	bus 150) (as shown in Figure 1 and described at 2:28 33) and display 114. The processor is programmed with an algorithm to perform the stated function using the process described at 3:37-46. Fig. 4 shows an example of the algorithm's output. Elements of Figure 1 are further described at 2:21-40.
			[COMMENT-Where a function is implemented in a microprocessor, the structure is limited to the disclosed algorithm. Neither Fig. 5 nor the description of the Node manager described in relation to Fig. 2 provide any description of an algorithm for "superimposing." This leaves only some description related to the examples in Fig. 4. Lucent's "and associated hardware" is too broad, but some additional hardware needs to be included, the display in particular. The Court replaced "RAM 108" with "ROM 108" due to an apparent typographical error in the proposed constructions.]
means for dynamically updating said display of said operational state for each of said plurality of nodes	*Function (Agreed):* dynamically updating said display of said operational state for each of said plurality of nodes *Structure:* a microprocessor 102 and memory (at least one of RAM 110 and RAM 108 and nonvolatile memory device 112) and bus (at least one of memory bus 152 and bus 150) (as shown in Figure 1 and described at 2:28 33) and associated hardware	*Function (Agreed):* dynamically updating said display of said operational state for each of said plurality of nodes *Structure:* a processor 102 and memory (at least one of RAM 110 and RAM 108 and non-volatile memory device 112) and bus (at least one of memory bus 152 and bus 150) (as shown in Figure 1 and described at 2:28-	*Function:* dynamically updating said display of said operational state for each of said plurality of nodes *Structure:* a processor 102 and memory (at least one of RAM 110 and ROM108 and non-volatile memory device 112) and bus150 (and bus 152 if RAM or ROM are used) and network connection (such as a connection to the Local Area Network shown in Figure 1 element 116) and display 114. The processor is programmed with an algorithm to perform the stated function as shown in elements

	programmed to function as a Network Node Manager (col. 2:42 47), according to Figs. 1, 5 and accompanying text	33). The processor is programmed with an algorithm to perform the stated function as shown in element 525 of Figure 5 and described at 4:21-23 and 2:57-59	507, 516, 520, and 525 of Figure 5. Elements of Figure 1 are further described at 2:21 -40. Elements of Figure 5 are further described at 3:59-4:29.
			[COMMENT-Where a function is implemented in a microprocessor, the structure is limited to the disclosed algorithm. "Dynamically updating" seems to involve more steps from Fig. 5 than that suggested by Microsoft. Lucent's "and associated hardware" is too broad, but some additional hardware needs to be included, the display and network connection in particular. The Court replaced "RAM 108" with "ROM 108" due to an apparent typographical error in the proposed constructions.]
means for generating a hierarchical list of objects available from a user selected one of said plurality of nodes	*Function (Agreed):* generating a hierarchical list of objects available from a user selected one of said plurality of nodes	*Function (Agreed):* generating a hierarchical list of objects available from a user selected one of said plurality of nodes	*Function:* generating a hierarchical list of objects available from a user selected one of said plurality of nodes
	Structure: a microprocessor 102 and memory (at least one of RAM 110 and RAM 108 and nonvolatile memory device 112) and bus (at least one of memory bus 152 and bus 150) (as shown in Figure 1 and described at 2:28 33) and associated hardware programmed to function as a Network Node Manager (col. 2:42 47), according to Figs. 1, 5 and accompanying text	*Structure:* a [processor] 102 and memory (at least one of RAM 110 and RAM 108 and non-volatile memory device 112) and bus (at least one of memory bus 152 and bus 150) (as shown in Figure 1 and described at 2:28-33). The processor is programmed with an algorithm to perform the stated function as shown in element 525 of Figure 5 and described at 4:21-22 and 2:60-63	*Structure:* a processor 102 and memory (at least one of RAM 110 and ROM108 and non-volatile memory device 112) and bus (at least one of memory bus 152 and bus 150) (as shown in Figure 1 and described at 2:28 33) and display 114 and user input device (at least one of keyboard 104 or mouse 106). The processor is programmed with an algorithm to perform the stated function as described at 2:47-50, 2:60-3:6.
			[COMMENT-Where a function is

			implemented in a microprocessor, the structure is limited to the disclosed algorithm. Lucent's "and associated hardware" is too broad, but some additional hardware needs to be included, such as the display and user input. The Court expanded upon Microsoft's description of the algorithm to be consistent with text at 1:60-65 that describes "monitoring the plurality of nodes." The Court replaced "RAM 108" with "ROM 108" due to an apparent typographical error in the proposed constructions.]
"lowest detail view"	view for which no additional details exist	view at level with lowest detail	view at the lowest level of detail available, where no lower level view of status is necessary [COMMENT-Lucent seeks a limitation based on statements made during prosecution history. They go too far, however, by saying that no addition details "exist," while the limitation only said that they were not "necessary." The Court's construction is adapted from the prosecution history.]

Claim 6 (language for which parties proposed a construction in **bold**):

A method for monitoring and displaying **status** of a plurality of **nodes** in a computer network, said method comprising:

monitoring an operational **state** of **each of said plurality of nodes** in said computer network;

concurrently generating a display of a plurality of operational status icons each indicative of a lowest detail view of said operational state of a corresponding one of said plurality of nodes in said computer network, said step of concurrently generating being operational from any one of said plurality of nodes in said computer network;

superimposing at least one additional status indicator on said display of any one of said plurality of **operational status icons** such that compound operational status information for a single one of said plurality of nodes is available in a single viewable one of said plurality of operational status icons;

dynamically updating said display of said operational state for each of said plurality of nodes; and generating a hierarchical list of **objects** available from a user selected one of said plurality of nodes.

Claim Language	**Lucent /Alcatel-Lucent**	**Microsoft**	**Court's Construction**
"status"	*Agreed:* no construction necessary		no construction necessary

			[COMMENT-Conceded in Alcatel-Lucent's opening brief at 8 n. 4]
"node"	a network element containing a node manager, a status collecting object, and a status reporting object or no construction necessary	individual computer or an	element of a computer network, including an individual computer or an entire network, connected by some communications link entire network itself
			[COMMENT-Alcatel-Lucent indicated in their opening brief at 8 n .4 that they were willing to agree upon "no construction necessary." Microsoft, however, stays by its proposal. Here patentee provided own (partial) definition at 1:19-22. This definition uses that language.]
"state"	*Agreed:* no construction necessary		no construction necessary
			[COMMENT-Conceded in Alcatel-Lucent's opening brief at 8 n. 4]
"each of said plurality of nodes" and "any one of said plurality of nodes"	every node in the network	"each of said plurality of nodes:" no construction necessary. Alternatively: "each of the two or more nodes"	every node in the network
		"any one of said plurality of nodes:" no construction necessary. Alternatively: "any one of the two or more of nodes"	[COMMENT-During prosecution history, patentee distinguished the "Dev" reference saying that, unlike Dev, it claimed of "a means for concurrently displaying status for a plurality of nodes in a network by any one of the plurality of nodes in the network so that any user of the network can view the status of the entire network." For this to be possible, both of these references would need to be construed as "every node in the network," as Lucent suggests.]
"concurrently generating a display"	occurring during the monitoring of the network, displaying actual network status	No construction necessary. Alternatively: "pertaining to the occurrence of two or more [activities] within the same interval of time."	**no construction necessary**
"superimposing"	overlaid on top of the icon	No construction necessary.	**no construction necessary**

		Alternatively: "added[ing] as a distinct feature, element, or quality"	
"operational status icon"	a pictorial representation of a literal object that indicates the current operational condition of a node	No construction necessary. Alternatively: "pictorial representation of an operational status."	an icon that represents operational status using something other than, or in addition to, a color or set of colors
			[COMMENT-Though Alcatel-Lucent's proposed limitation went too far, in prosecution history patentee did recognize that prior art disclosed using color but did "nothing as literal as a traffic light and /or a superimposed lightening bolt ..."]
"dynamically updating said display"	simultaneously changing the display without any user intervention as the underlying status information changes	No construction necessary. Alternatively: "updating the display without any user intervention."	dynamically updating the display without any user intervention
			[COMMENT-At oral argument, it appeared that there little dispute over adding "dynamically" to the construction, though the Court notes that "without any user intervention" is intended to capture the meaning of "dynamically.".]
"object"	a status collecting object or a status reporting object	No construction necessary. Alternatively: "encapsulation that manipulates data."	no construction necessary [COMMENT-Although Alcatel-Lucent provided a proposed construction for this, they did not appear to address it in their briefs.]

APPENDIX H (Fein '608 Patent) FN4

Claim 1 (language for which parties proposed a construction in **bold**):

A **computer**-implemented method for providing information regarding one of a plurality of **predetermined conditions** associated with operation of a program module on a computer, comprising the steps of:

detecting one of the predetermined conditions;

accessing an **information source** that maintains **custom content** in response to detecting one of the predetermined conditions, the custom content representing information defined by a party other than the manufacturer of the **program module;** and

presenting the custom content.

Claim Language	**Lucent /Alcatel-Lucent**	**Microsoft**	**Court's Construction**
"computer"	the computer on which the program module is executed	No construction necessary. Alternatively: "programmable electronic device that can store, retrieve and process data	no construction necessary
"predetermined condition"	a predefined error in the operation of the program module	No construction necessary. Alternatively: "predefined condition."	no construction necessary
"detecting one of the predetermined conditions"	detecting a predetermined condition, where the predetermined condition is detected by the program module itself	no construction necessary	no construction necessary
			[COMMENT-Throughout this and related terms, Alcatel-Lucent wants the terms to be limited so the method is implemented by the program module where the condition arises. This appears, however, to be merely one embodiment described in the specification.]
"information source"	a computer file in which the custom content is stored and that is not part of the program module	No construction necessary. Alternatively: "place where information is stored."	a computer file in which the custom content is stored and that is not part of the program module
"custom content"	information authored by someone other than the author of the source code for the program module, where the information is fully defined and stored in the information source prior to the detection of the predetermined condition	No construction necessary. Alternatively: "content adapted for a particular detected condition."	no construction necessary
			[COMMENT-See previous comment.]

"program module"	a routine, program, component, or data structure that performs particular tasks or implements particular abstract data types, and that is executable	No construction necessary. Alternatively: "part of a program."	computer code, including a routine, program, component, or data structure, that performs particular tasks or implements particular abstract data types [COMMENT-Patentee offered definition at 6:61-63. Only difference made from Alcatel-Lucent's proposal is to clarify that "routine, program ... etc." were given as examples, not exhaustive list; thus the general "computer code" language.]

Claim 2 (language for which parties proposed a construction in **bold**):

The computer-implemented method of claim 1 further comprising the step of displaying an **alert message** in response to detecting one of the predetermined conditions and prior to accessing the information source, the alert message comprising static content defined by the manufacturer of the program module.

Claim Language	Lucent /Alcatel-Lucent	Microsoft	Court's Construction
"alert message"	a message that is automatically displayed in a balloon or dialog box by the user interface when the predetermined condition is detected	No construction necessary. Alternatively: "message to alert a user."	message to advise a user about the occurrence of a condition [COMMENT-This construction tracks the specification language, such as that at 3:3-9. Lucent's additional requirement of "automatically" would be unclear. Furthermore, other claim language clarifying that the message is displayed "in response to ..." is sufficient in lieu of "automatically."]

Note on Claims 3 and 7: These claims are also at issue, but there are no additional terms requiring construction. The parties agree that terms in these claims should be construed consistently with the other claims in this patent. To the extent that the above terms recur in these claims, the Court construes them in accordance with the above construction.

Claim 5 (language for which parties proposed a construction in **bold**):

The computer-implemented method for providing custom content that supplements static content displayed in an alert message for a **software program module** running on a **local machine,** comprising the steps of:

detecting one of a plurality of predetermined conditions;

displaying the alert message in response to the detected predetermined condition, the alert message

comprising the static content and at least one control object;

responsive to selection of one of the control objects, accessing an information source that maintains the custom content, wherein the information source is **located separately from the local machine;** and

displaying the custom content to present supplemental information that is related to the detected predetermined condition.

Claim Language	**Lucent /Alcatel-Lucent**	**Microsoft**	**Court's Construction**
"software program module"	Proposals and recommendation are same as for "program module" in Claim 1 above.		
"local machine"	the computer on which the program module is executed	No construction necessary. Alternatively: "programmable electronic device that can store, retrieve and process data	computer present at its user's location
			[COMMENT-Microsoft's proposal does not clarify the difference between a "local" machine and a computer in general. The Specification states at 10:58-62 that "a report of an error condition is typically generated by a software program module, running on a user's local machine." This suggests that "local" is defined relative to the user's location.]
"detecting one of a plurality of predetermined conditions"	detecting a predetermined condition, where the predetermined condition is detected by the program module itself	no construction necessary	no construction necessary
			[COMMENT-Alcatel-Lucent's proposal would read a specific embodiment into the claim. The specification contemplates that error detection may come from other sources.]
"located separately from a local machine"	physically and logically separated from the local machine	no construction necessary	no construction necessary [COMMENT-While this language clearly limits the claim, Alcatel-Lucent's proposal, particularly with respect to the "logically separated" limitation, is not sufficiently supported the

intrinsic evidence and does not provide clarity beyond the ordinary meaning.]

Note on Claim 21: This claim is also at issue, but there are no additional terms requiring construction. The parties agree that terms in this claim should be construed consistently with the other claims in this patent. To the extent that the above terms recur in this claim, the Court construes them in accordance with the above construction.

Claim 25 (language for which parties proposed a construction in **bold**):

A computer-implemented method for providing custom content that supplements static content displayed in an alert message for a software program module running on a local machine, comprising the steps of:

detecting one of a plurality of predetermined conditions; displaying the alert message in response to the detected predetermined condition;

opening a hyperlink from the alert message to access an **external information source** that maintains the custom content, the external information source **operating in a location separate from the local machine;**

displaying the custom content to present supplemental information that is related to the detected predetermined condition.

Claim Language	**Lucent /Alcatel-Lucent**	**Microsoft**	**Court's Construction**
"external information source"	an information source that is located on a computer network that is separate from the network where the program module is stored	no construction necessary	no additional construction necessary (other than construction of "information source" discussed above)
			[COMMENT-Alcatel-Lucent's opening brief at 17 n. 6 concedes tha t this requires no construction beyond that for "information source."]
"operating in a location separate from the local machine"	physically and logically separated from the local machine	no construction necessary	no construction necessary [COMMENT-See discussion above of "located separately from a local machine"]

APPENDIX I (Brown "7 Patent) FN5

Claim 21 (language for which parties proposed a construction in **bold**):

A method of determining the **access rights of a user** of a **computer system** with respect to a **plurality** of **data entities** of the computer system, comprising the steps of:

identifying at least one user group of which said user is a member, said at least one user group being part of a predefined set of user groups; and

identifying at least one **data entity category** to which said user has access by virtue of being a member of said at least one user group, said at least one data entity category being part of a predefined set of data entity categories.

Claim Language	**Lucent /Alcatel-Lucent**	**Microsoft**	**Court's Construction**
"access rights of a user"	all of a user's access rights with respect to all data entities in the network	[None offered, though briefs oppose application to "all" access rights and data entities .]	no construction necessary
			[COMMENT-It is clear from the specification that "access rights," by itself, is not limited to "all" access rights. Also, limiting this to "all data entities" would contradict the p lain language of the claim which only relates to "a plurality of data entities." There is a somewhat closer question regarding whether "the access rights of a user" limits the claim to all access rights of a user. Since the claim only relates to a plurality of data entities, not necessarily all data entities in the system, adding this limitation could create confusion and result in an interpretation inconsistent with the specification language. The claim language, interpreted according to its ordinary meaning or the constructions provided here, is sufficient to indicate the extent of the rights involved. Limitations offered by Alcatel-Lucent are otherwise limited to a particular embodiment.]
"computer system"	a plurality of interconnected computers that includes a security server and a plurality of application servers	a plurality of interconnected computers	a plurality of interconnected computers
			[COMMENT-Lucent's limitation relates to preferred embodiment and would be inconsistent with overall structure of claims, which provide these limitations in later claims (esp. claims 42 and 45).]
"plurality"	*Agreed:* more than one		more than one
"data entity[ies]"	a data [file/object] stored on an application server that may be accessed by permissioned users	resources to which access may be controlled	a resource to which access may be controlled, where "resource" may refer to a system resource on a host computer, but not the host computer itself, viewed as a whole

			[COMMENT-In the parties' worksheet, Alcatel-Lucent used the term "file," but their briefs switched this to "object" instead. In the prosecution history, the patentee distinguished "data entities" from "hosts," as used in the Ankney prior art patent, found at McDavit Decl. Ex. 23. Since a "resource" could include a "host," based on its description in the Ankney patent, Microsoft's proposal is too broad. Claim 17 makes clear, however, that a data entity may be a "system resource." Recommended approach is to exclude only "hosts" as defined in the Ankney patent. At oral argument, Alcatel-Lucent suggested that "online resource" should also be excluded from a "resource." The Court concludes that this limitation would be inconsistent with specification language that contemplates data entities that are online resources. The exclusion of "hosts" is sufficient.]
"data entity categories"	a predefined group of data entities for which an access rights value may be assigned to a user group	No construction necessary. Alternatively: "a category of data entities."	no construction necessary [COMMENT-The specification does not require the construction suggested by Lucent.]

Claim 22 (language for which parties proposed a construction in **bold**):

The method according to claim 21, wherein said steps of identifying at least one user group and identifying at least one data entity category each comprise accessing a **relational database** stored on a **server** of a computer network.

Claim Language	**Lucent /Alcatel-Lucent**	**Microsoft**	**Court's Construction**
'relational database'	a database in which the contents are organized as a set of three or more interrelated tables: a group-member table; a group-token table; and a user-specific access rights table	a database in which the contents are organized as a set of two or more interrelated tables	a database in which the contents are organized as a set of two or more interrelated tables
			[COMMENT-The Court notes that Alcatel-Lucent's proposal change d as between the original chart and its brief, bringing it closer to Microsoft's proposal. *See* Alcatel-Lucent's Opening Brief at 23 n. 8. Both seem to agree that patentee acted as own lexicographer for this

			term, but Lucent's additional limitations are related to a particular embodiment. Alcatel-Lucent's proposal would be inconsistent with Claim 59, where the three-table limitation is set out separately (see below).]
'server'	a computer that stores all user access rights with respect to all data entities in the network	a computer that provides services	a computer that provides services [COMMENT-Lucent's limitation is taken from specific embodiment, not invention itself.]

Note on Claim 24: This claim is also at issue, but there are no additional terms requiring construction. The parties agree that terms in this claims should be construed consistently with the other claims in this patent. To the extent that the above terms recur in this claim, the Court construes them in accordance with the above construction.

Claim 59 (language for which parties proposed a construction in **bold**):

A relational database for storing access rights data which specifies access rights of users with respect to a plurality of data entities of a computer network, said plurality of data entities subdivided into a plurality of categories, said database comprising:

a first **table** that maps users to user groups, at least one of said users being a member of multiple of said user groups;

a second table which contains, for each of said user groups, a group-based **access rights list** that specifies group-based access rights of members of a respective user group, said group-based access rights list stored in association with a plurality of **category identifiers** that identify said **categories of data entities;** and

a third table which contains, for a least one of said users, a user-specific access rights list that specifies special rights for a respective user, said **user-specific access rights list** stored in association with said plurality of category identifiers.

Claim Language	**Lucent /Alcatel-Lucent**	**Microsoft**	**Court's Construction**
'table'	a file in which data is arranged in rows and columns	a collection of data usually organized in rows and columns	a collection of data usually organized in rows and columns
			[COMMENT-[ ] The specification is consistent with tables being in something other than a 'file,' or with multiple being contained in a single file.]
'access rights list'	a list of all access rights with respect to all data entities in the network	a list containing access rights with respect to data entities of a computer network	no construction necessary
			[COMMENT-For substantially the same reasons as 'access rights of a user' in Claim 21 above.]

'category identifiers'	a number that identifies a data entity category	No construction necessary. Alternatively: "an identifier of a category."	identifiers of a category
			[COMMENT-The specification gives examples of both mnemonic, alphanumeric identifiers and numeric identifiers (called tokens). In the specification, the later are referred the 'content category identifiers.']
'categories of data entities'	Same as 'data entity categories' in Claim 21 above.		
'user-specific access rights list'	an access rights list for a specifically identified user of the network	an access rights list for a specific user	no construction necessary
			[COMMENT-see discussion of related 'access rights' terms above]
'stored in association with'	*Agreed:* no construction necessary		no construction necessary [COMMENT-Conceded in Alcatel-Lucent's opening brief at 25 n. 10.]

APPENDIX J (Guzak '319 and '971 Patents) FN6

NOTE on the Guzak Patents-Though issued separately, these derive from the same patent application. The disputed terms in the '971 Patent appear in the '319 Patent as well. There is no indication that these terms were intended to have separate meanings in the two patents. Therefore, it is only necessary to perform claim construction once for both patents.

Guzak '319 Patent Claim 11 (language for which parties proposed a construction in **bold**):

In a **computer system** having an output device and an input device, a method comprising the steps of:

displaying a hierarchical tree of items having at least two levels of items on the output device as part of a **window control;**

in response to a user using the input device, selecting one of the items displayed in the hierarchical tree of items; and

expanding the hierarchical tree of items independently of the selecting so that an additional level of items is displayed as part of the hierarchical tree of items on the output device such that the expanding occurs in response to a user action that does not result in another selection of one of the items.

Claim Language	**Lucent /Alcatel-Lucent**	**Microsoft**	**Court's Construction**
'computer system'	a system containing	No construction	a system containing one or more

	one or more computers, and including any application programs stored on the computers	necessary. Alternatively: "a system containing one or more computers."	computers
			[COMMENT-The Court's construction clarifies that the parties agree that 'one or more' is an appropriate construction. Alcatel-Lucent's additional limitation is inconsistent with the claim language. In particular, it would abolish the distinction between claims 11 and 12. Claim 12 is limited to 'where the computer system includes application programs,' indicating that this is not necessary to claim 11.]
'window control'	non-customized computer code available for use by any application program to display information in a window, and which sends notification messages to a parent window when events occur within the window	No construction necessary. Alternatively: "a graphical representation of a control object that resides within a parent window"	computer code, along with an accompanying graphical representation, that sends notification messages to a parent window when events, like user input, occur within the window control

[COMMENT-The Court notes that the parties apparently agree that 'window control' and 'child window control' are equivalent terms. With regards to notification messages, the patentee has acted as own lexicographer at 3:39-41, describing the nature of a 'child window control.' Similar statements were also made in the prosecution history. Alcatel-Lucent's other limitations, including 'non-customized' and 'for use by any application program,' do not appear to be supported by the evidence. Neither party offers a compelling approach to the meaning of 'control' itself. Microsoft suggests that it is 'a graphical representation of a control object' while Alcatel-Lucent suggests that it is 'computer code' with various other limitations. The Court's construction is closer to Alcatel-Lucent's since a 'graphical representation' would be unable to send notifications without more, while computer code can.]

Guzak '319 Patent Claim 12 (language for which parties proposed a construction in **bold**):

The method of claim 11 where the computer system includes application programs and wherein the **child window control** is a **system resource for use by the application programs.**

Claim Language	**Lucent /Alcatel-Lucent**	**Microsoft**	**Court's Construction**
'child window control'	Same as 'window control' in Claim 11 above.		
'application program'	a program that puts the resources and capabilities of a computer to use for some specific purpose or task	No construction necessary. Alternatively: "a program that puts the resources and capabilities of a computer to use."	a program that puts the resources and capabilities of a computer to use
			[COMMENT-The parties agree on the construction to this extent. Alcatel-Lucent's additional limitation is based only on extrinsic evidence.]
'system resource for use by the application programs'	a system-wide resource available for use by all application programs in the computer system, and which is not a dynamic linked library or part of the operating system	No construction necessary. Alternatively: "a resource accessible to application programs on a computer system ."	a system resource available for use by any application program in the computer system [COMMENT-The prosecution history supports a limitation 'for us e by any application program.'

Alcatel-Lucent's proposed limitation regarding DLLs, etc., is not supported by the text they cite.]

Note on other claims: Other claims in the '319 and '971 patents are also at issue, but there are no additional terms requiring construction. The parties agree that terms in these claims should be construed consistently with the other claims in this patent. To the extent that the above terms recur in these claims, the Court construes them in accordance with the above construction.

FN1. This patent is addressed by Lucent's briefs, but it is also asserted against Alcatel-Lucent. Alcatel-Lucent joins Lucent's brief with respect to this patent (*see* Alcatel's Opening Brief at 25).

FN2. This patent is addressed by Lucent's briefs, but it is also asserted against Alcatel-Lucent. Alcatel-Lucent joins Lucent's brief with respect to this patent (*see* Alcatel's Opening Brief at 25).

FN3. This patent is addressed by Alcatel-Lucent's briefs, but it is also asserted against Lucent. Lucent joins Alcatel-Lucent's brief with respect to this patent (*see* Lucent's Opening Brief at 24).

FN4. This patent is addressed by Alcatel-Lucent's briefs, but it is also asserted against Lucent. Lucent joins Alcatel-Lucent's brief with respect to this patent (*see* Lucent's Opening Brief at 24).

FN5. This patent is addressed by Alcatel-Lucent's briefs, but it is also asserted against Lucent. Lucent joins Alcatel-Lucent's brief with respect to this patent (*see* Lucent's Opening Brief at 24).

FN6. These patents are addressed by Alcatel-Lucent's briefs, but they are also asserted against Lucent. Lucent joins Alcatel-Lucent's brief with respect to these patents (*see* Lucent's Opening Brief at 24).