United States District Court,
E.D. Texas, Marshall Division.

T-NETIX, INC,
v.
GLOBAL TEL*LINK CORPORATION.

No. 2:01-CV-189

Aug. 15, 2008.

MARKMAN ORDER CONSTRUING THE '956, '702 AND '533 PATENTS

DAVID FOLSOM**, District Judge.**

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I.

Background

T-Netix, Inc. ("T-Netix") has charged Global Tel*Link Corporation ("Global") with infringement of U.S. Patent No. 4,935,956, (the '956 patent), generally drawn to a system for making collect telephone calls

without human operators, U.S. Patent No. 5,319,702 (the '702 patent), generally drawn to an automated operator system for detecting an attempted three-way call by detecting a hook-flash and U.S. Patent No. 5,926,533 (the '533 patent), generally drawn to an automated operator system for detecting an attempted three-way call by detecting secondary ring-back. Specifically, T-Netix has charged Global with infringement of claims 16, 21, 22, 24, 32, 36 and 39 of the '956 patent, claims 1-3, 6-9, 12, 13, 18, 20, 32 and 48 of the '702 patent and claims 3, 4, 9, 10, 13, 14, 19 and 20 of the '533 patent.

II.

The Law of Claim Construction

A. Courts Are Required to Construe Patent Claims as a Matter of Law

A patent is a fully integrated written instrument. Markman v. Westview Instruments, Inc., 52 F.3d 967 (Fed.Cir.1995) (*en banc*), *aff'd,* 517 U.S. 370 (1996). A patent, by statute, must provide a written description of the invention, a disclosure that would enable one of ordinary skill in the art to make and use the invention, and a disclosure of the best mode known to the inventor for practicing the invention. 35 U.S.C. s. 112(1). FN1 A patent must also contain claims "particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention." 35 U.S.C. s. 112(2). FN2 The claims of a patent provide the measure of a patentee's right to exclude others from practicing the claimed invention. 35 U.S.C. s. 154.

FN1. 35 U.S.C. s. 112(1) provides: The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same, and shall set forth the best mode contemplated by the inventor of carrying out his invention.

FN2. 35 U.S.C. s. 112(2) provides: The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Patent claims, as properly interpreted in light of the specification and prosecution history, provide a public notice function. Merrill v. Yeomans, 94 U.S. 568, 573-574 (1876) ("It seems to us that nothing can be more just and fair, both to the patentee and to the public, than that the former should understand, and correctly describe, just what he has invented, and for what he claims a patent."). *See also* Tate Access Floors, Inc. v. Interface Architectural Resources, Inc., 279 F.3d 1357, 1367 (Fed.Cir.2002) ("Fairness and the public notice function of the patent law require courts to afford patentees the full breadth of clear claim language, and bind them to it as well."). Parties frequently disagree, though, on how specific terms or phrases in patent claims should be interpreted or construed.

Accordingly, the court is obliged to resolve such disputes and to "construe" the claims to determine their true meaning and scope. Markman, 52 F.3d at 976. That is typically referred to as "claim construction," and is a matter of law for the court on the rationale that "it is only fair (and statutorily required) that competitors be able to ascertain to a reasonable degree the scope of the patentee's right to exclude" and that "competitors

should rest assured, if infringement litigation occurs, that a judge, trained in the law, will similarly analyze the text of the patent and its associated public record and apply the established rules of construction, and in that way arrive at the true and consistent scope of the patent owner's rights to be given legal effect." Markman, 52 F.3d at 978-79.

"The role [of claim construction] is neither to limit nor to broaden the claims, but to define, as a matter of law, the invention that has been patented." Netword, LLC v. Centraal Corp., 242 F .3d 1347, 1352 (Fed.Cir.2001). In construing the claims, courts are not permitted to re-write the claims. *See* Becton Dickinson & Co. v. C.R. Bard Inc., 922 F.2d 792, 799 n.6 (Fed.Cir.1990) ("Nothing in any precedent permits judicial redrafting of claims."). Rather, " '[c]laim construction' is the judicial statement of what is and is not covered by the technical terms and other words of the claims." Netword, 242 F.3d at 1352.

Lastly, the court's interpretation or construction of disputed terms in patent claims applies equally to the issues of infringement and validity. That is, the interpretation given patent claims to determine infringement must be the same interpretation given those claims in deciding validity. *See* Bristol-Myers Squibb Co. v. Ben Venue Laboratories, Inc., 246 F.3d 1368, 1375-76 (Fed.Cir.2001); W.L. Gore & Assoc, Inc. v. Garlock, Inc., 842 F.2d 1275, 1279 (Fed.Cir.1988) ("Having construed the claims one way for determining their validity, it is axiomatic that the claims must be construed in the same way for infringement.").

B. The Claims

The Federal Circuit has instructed the courts that "[t]he actual words of the claim are the controlling focus." Digital Biometrics, Inc. v. Identix, Inc., 149 F.3d 1335, 1344 (Fed.Cir.1998). The actual words of the claims, however, are viewed in conjunction with the patent specification of which they are a part and the public record of the exchanges between patent applicants and the U.S. Patent and Trademark Office ("PTO"), namely the prosecution history: "It is well-settled that, in interpreting an asserted claim, the court should look first to the intrinsic evidence of record, *i.e.,* the patent itself, including the claims, the specification and, if in evidence, the prosecution history * * * Such intrinsic evidence is the most significant source of the legally operative meaning of disputed claim language." Bell Atlantic Network Services, Inc. v. Covad Communications Group, Inc., 262 F.3d 1258, 1267 (Fed.Cir.2001), quoting Vitronics Corp. v. Conceptronic, Inc., 90 F.3d 1576, 1582 (Fed.Cir.1996).

Procedurally, though, the Federal Circuit has instructed trial courts to look first to the claim language itself to define the scope of the patented invention, and, as a starting point, to give claim terms their ordinary and accustomed meaning as understood by one of ordinary skill in the art. *See* Texas Digital Systems, Inc. v. Telegenix, Inc., 308 F.3d 1193, 1202-3 (Fed.Cir.2002); Hockerson-Halberstadt, Inc. v. Avia Group Int'l, Inc., 222 F.3d 951, 955 (Fed.Cir.2000). That is, claims are construed through the "viewing glass" of a person skilled in the art. *See* Interactive Gift Express, Inc. v. CompuServe Inc., 256 F.3d 1323, 1332 (Fed.Cir.2001); Eastman Kodak Co. v. Goodyear Tire & Rubber Co., 114 F.3d 1547, 1554 (Fed.Cir.1997). Accordingly, a technical term used in a patent is interpreted as having the meaning a person of ordinary skill in the field of the invention would give such term in the relevant art at the time the application maturing into the subject patent was filed, unless the specification or prosecution history indicates that the inventor adopted or advocated a different meaning for such term. *See* National Recovery Technologies, Inc. v. Magnetic Separation, 166 F.3d 1190, 1195 (Fed.Cir.1999). "Absent a special and particular definition created by the patent applicant, terms in a claim are to be given their ordinary and accustomed meaning." Renishaw PLC v. Marposs Societa' Per Azioni, 158 F.3d 1243, 1249 (Fed.Cir.1998) ("Thus, when a claim term is expressed in general descriptive words, we will not ordinarily limit the term to a numerical range

that may appear in the written description or in other claims. * * * Nor may we, in the broader situation, add a narrowing modifier before an otherwise general term that stands unmodified in a claim. * * *.")

Although not "intrinsic evidence" *per se,* the Federal Circuit has held that dictionaries and technical treatises may be considered along with other intrinsic evidence in resolving the disputed meaning of claim terms. Vitronics, 90 F.3d at 1584 n.6. In Texas Digital, 308 F.3d at 1202-3, the Federal Circuit explained that "[d]ictionaries, encyclopedias and treatises * * * are objective resources that serve as reliable sources of information on the established meanings that would have been attributed to the terms of the claim by those of skill in the art," and that "such references are unbiased reflections of common understanding not influenced by expert testimony or events subsequent to the fixing of the intrinsic record by the grant of the patent, not colored by the motives of the parties, and not inspired by litigation." However, the Federal Circuit has also cautioned against the use of non-scientific dictionaries to define technical terms "lest dictionary definitions * * * be converted into technical terms of art having legal, not linguistic significance." Multiform Desiccants, Inc. v. Medzam, Ltd., 133 F.3d 1473, 1478 (Fed.Cir.1998). Non-technical dictionaries, of course, may be used as a guide to the intended or ordinary meaning of non-technical terms being used in a non-technical context, or even technical terms being used in an "ordinary way." *See* Dow Chemical Co. v. Sumitomo Chemical Co., Ltd., 257 F.3d 1364, 1373 (Fed.Cir.2001) ("technical terms often have an 'ordinary meaning' as understood by one of ordinary skill in the art, although these same terms may not be readily familiar to a judge, or may be familiar only in a different context."). In the event that the disputed term has "multiple dictionary definitions, some having no relation to the claimed invention," the Federal Circuit has instructed that the intrinsic record must "be consulted to identify which of the different possible dictionary meanings of the claim terms in issue is the most consistent with the use of the words by the inventor." Texas Digital, 308 F.3d at 1203. Of course, "[i]f more than one dictionary definition is consistent with the use of the words in the intrinsic record, the claim terms may be construed to encompass all such consistent meanings." *Id.*

In emphasizing a focus on the actual claim terms, the Federal Circuit "indulge [s] a heavy presumption that a claim term carries its ordinary and customary meaning" as understood by one of ordinary skill in the art. Amgen, Inc. v. Hoechst Marion Roussel, Inc., 314 F.3d 1313, 1327 (Fed.Cir.2003). *See also,* Johnson Worldwide Assocs., Inc. v. Zebco Corp., 175 F.3d 985, 989 (Fed.Cir.1999). In *Johnson Worldwide,* the Federal Circuit explained that "[i]n order to overcome [the] heavy presumption in favor of the ordinary meaning of claim language, it is clear that 'a party wishing to use statements in the written description to confine or otherwise affect a patent's scope must, at the very least, point to a term or terms in the claim with which to draw in those statements,' " that is, "claim terms cannot be narrowed by reference to the written description or prosecution history unless the language of the claims invites reference to those sources." 175 F.3d at 990. In CCS Fitness, Inc. v. Brunswick Corp., 288 F.3d 1359, 1367 (Fed.Cir.2002), the Federal Circuit further explained that such a presumption may be overcome: (1) where the patentee has chosen to be his own lexicographer, (2) if the intrinsic evidence indicates that the patentee expressly disclaimed subject matter or described a particular embodiment as being important to the invention, or (3) where a claim term deprives the claim of clarity such that there is no means by which the scope of the claim may be ascertained from the language used. *See also,* Texas Digital, 308 F.3d at 1204; Johnson Worldwide, 175 F.3d at 990. Thus, a patentee may choose to be his own lexicographer and use terms in a manner other than their ordinary meaning. Vitronics, 90 F.3d at 1582. Additionally, a patentee may expressly disclaim subject matter, or may describe a particular embodiment as being important to the invention, or may use a term that simply requires reference to the specification or prosecution history to determine the scope of the claim.

Consequently, the trial court must examine the intrinsic evidence to determine whether the patentees have

indeed, *inter alia,* given a claim term an unconventional meaning, Hockerson, 222 F.3d at 955, or otherwise restricted the *prima facie* meaning of a claim term. "The written description is considered, in particular to determine if the patentee acted as his own lexicographer, as our law permits, and ascribed a certain meaning to those claim terms." Digital Biometrics, 149 F.3d at 1344. In that sense, the specification functions more or less as a dictionary "when it expressly defines terms used in the claims or when it defines terms by implication." Vitronics, 90 F.3d at 1582. Indeed, the Federal Circuit has noted that "the specification is always highly relevant to the claim construction analysis. Usually, it is dispositive; it is the single best guide to the meaning of a disputed term." *Id*. Claims, for that reason, are construed in light of the specification. *See* ATD Corp. v. Lydall, Inc., 159 F.3d 534, 540 (Fed.Cir.1999).

On the other hand, the Federal Circuit has observed that if the meaning of a particular claim term is asserted as something other than the ordinary meaning, the intrinsic evidence must "clearly set forth" or "clearly redefine" a claim term so as to put one reasonably skilled in the art on notice that the patentee intended to so redefine the claim term. Elektra Instr. v. O.U.R. Scientific Int'l, 214 F.3d 1302, 1307 (Fed.Cir.2000); *N*. Telecom v. Samsung, 215 F.3d 1281, 1287 (Fed.Cir.2000). That is to say, the court has explained that the specification must "express [an] intent to impart a novel meaning" to claim terms. Schering v. Amgen, 222 F.3d 1347, 1353 (Fed.Cir.2000); Optical Disc v. Del Mar Avionics, 208 F.3d 1324, 1334 (Fed.Cir.2000). But, the court has also noted that a claim term may be clearly redefined without an express statement of redefinition. For example, the court has held that the written description of preferred embodiments "can provide guidance as to the meaning of the claims, thereby dictating the manner in which the claims are to be construed, even if the guidance is not provided in explicit definitional format." Scimed Life Sys., Inc. v. Advanced Cardiovascular Sys., Inc., 242 F.3d 1337, 1344 (Fed.Cir.2001). In other words, the specification may define claim terms "by implication" such that the meaning may be "found in or ascertained by a reading of the patent documents." Bell Atlantic, 262 F.3d at 1268, quoting Vitronics, 90 F.3d at 1582, 1584 n. 6.

The trial court, in construing disputed terms and phrases may, and perhaps must, consider other unasserted claims as well. Vitronics, 90 F.3d at 1582. "The fact that we must look to other claims using the same term when interpreting a term in an asserted claim mandates that the term be interpreted consistently in all claims," Southwall Technologies, Inc. v. Cardinal IG Co., 54 F.3d 1570, 1579 (Fed.Cir.1995), *cert. denied,* 516 U.S. 987 (1995), unless "the language of the written description is sufficient to put a reader on notice of the different uses of a term, and where those uses are further apparent from publicly-available documents referenced in the patent file." In such a case "it is appropriate to depart from the normal rule of construing seemingly identical terms in the same manner." Pitney Bowes, Inc. v. Hewlett-Packard Co., 182 F.3d 1298, 1311 (Fed.Cir.1999). Dependent claims may aid in interpreting the scope of the claims from which they depend, Laitram Corp. v. NEC Corp., 62 F.3d 1388, 1392 (Fed.Cir.1995), because the court should "not interpret an independent claim in a way that is inconsistent with a claim which depends from it." Wright Medical Technology, Inc. v. Osteonics Corp., 122 F.3d 1440, 1445 (Fed.Cir.1997). Lastly, a court must give meaning to all of the words in a claim, Ethicon Endo-Surgery, Inc. v. United States Surgical Corp., 93 F.3d 1572, 1577 (Fed.Cir.1996), and is not free to read any limitations out of a claim. Exxon Chemical Patents, Inc. v. Lubrizol Corp., 64 F.3d 1553, 1555 (Fed.Cir.1995), *cert. denied,* 518 U.S. 1020 (1996).

C. Prosecution History

In similar fashion, "[t]he prosecution history is relevant because it may contain contemporaneous exchanges between the patent applicant and the PTO about what the claims mean." Digital Biometrics, 149 F.3d at 1344. The prosecution history is the record of the proceedings in the PTO that involved the examination and ultimate issuance of the subject patent. "[A]rguments made during prosecution shed light on what the

applicant meant by its various terms." Laitram Corp. v. Morehouse Industries, Inc., 143 F.3d 1456, 1462 (Fed.Cir.1998). *See also* Vitronics, 90 F.3d at 1582. Thus, the trial court may be required to examine the prosecution history, when it is of record, to determine whether the patentee has relinquished a potential claim construction in an amendment to the claim or in an argument to overcome or distinguish a reference. Southwall, 54 F.3d at 1576; Interactive Gift, 256 F.3d at 1331.

D. Construction In Light of the Specification

Although the specification may and should be used to guide the meaning of the claims, courts must also guard against improperly reading limitations from the specification into the claims. A familiar pair of claim construction canons are: "(a) one may not read a limitation into a claim from the written description, but (b) one may look to the written description to define a term already in a claim limitation, for a claim must be read in view of the specification of which it is a part. These two rules lay out the general relationship between the claims and the written description. * * * As rules at the core of claim construction methodology, they provide guideposts for a spectrum of claim construction problems." Renishaw, 158 F.3d at 1248. The Federal Circuit has recognized, though, "that there is sometimes a fine line between reading a claim in light of the specification, and reading a limitation into a claim from the specification." Comark Communications, Inc. v. Harris Corp., 156 F.3d 1182, 48 U.S.P.Q.2d 1001 (Fed.Cir.1998). Nevertheless, the Federal Circuit has made clear that "[i]t is improper for a court to add 'extraneous' limitations to a claim, that is, limitations added wholly apart from any need to interpret what the patentee meant by particular words or phrases in the claim." Hoganas AB v. Dresser Industries, Inc., 9 F.3d 948, 950 (Fed.Cir.1993). "The danger of improperly importing a limitation is even greater when the purported limitation is based upon a term not appearing in the claim. 'If we once begin to include elements not mentioned in the claim in order to limit such claim * * *, we should never know where to stop.' " Amgen, 314 F.3d at 1326 (citing Johnson Worldwide Assocs., Inc. v. Zebco Corp., 175 F.3d 985, 990 (Fed.Cir.1999)). If the court does not need to rely on a limitation to interpret what a patentee meant by a particular term or phrase in a claim, "that limitation is 'extraneous' and cannot constrain the claim." Renishaw, 158 F.3d at 1249.

The Federal Circuit has also cautioned that a "preferred embodiment" disclosed in a specification "is just that, and the scope of a patentee's claims is not necessarily or automatically limited to the preferred embodiment." Amhil Enterprises Ltd. v. Wawa, Inc., 81 F.3d 1554, 1559 (Fed.Cir.1996). Indeed, "the number of embodiments disclosed in the specification is not determinative of the meaning of disputed claim terms." Teleflex, Inc. v. Ficosa N. America Corp., 299 F.3d 1313, 1327 (Fed.Cir.2002). On the other hand, though, in some instances, the written description requirement of 35 U.S.C. s. 112(1) warrants a claim construction that encompasses only the disclosed embodiment. *See* Laitram, 143 F.3d at 1463; North American Vaccine, Inc. v. American Cyanamid Co., 7 F.3d 1571, 1576-77 (Fed.Cir.1993). "Ultimately, the interpretation to be given a term can only be determined and confirmed with a full understanding of what the inventors actually invented and intended to envelop with the claim. * * * The construction that stays true to the claim language and most naturally aligns with the patent's description of the invention will be, in the end, the correct construction." Renishaw, 158 F.3d at 1250.

E. Extrinsic Evidence

The Federal Circuit has advised that "[i]n most situations, an analysis of the intrinsic evidence alone will resolve any ambiguity in a disputed claim term. In such circumstances, it is improper to rely on extrinsic evidence." Vitronics, 90 F.3d at 1583. However, the court has also recognized that "the testimony of one skilled in the art about the meaning of claims terms at the time of invention will almost always qualify as relevant evidence." Eastman Kodak Co. v. Goodyear Tire & Rubber Co., 114 F.3d 1547, 1555

(Fed.Cir.1997). Thus, a court may admit and accept testimony by the parties' expert witnesses as background in the technical area at issue, Mantech Environmental Corp. v. Hudson Environmental Systems, Inc., 152 F.3d 1368, 1372-1373 (Fed.Cir.1998), and "it is entirely appropriate, perhaps even preferable, for a court to consult trustworthy extrinsic evidence to ensure that the claim construction it is tending to from the patent file is not inconsistent with clearly expressed, plainly apposite, and widely held understandings in the pertinent technical field." Pitney Bowes, 182 F.3d at 1309. "But testimony on the technology is far different from other expert testimony, whether it be of an attorney, a technical expert, or the inventor, on the proper construction of a disputed claim term * * *. The later type of testimony may only be relied upon if the patent documents, taken as a whole, are insufficient to enable the court to construe disputed claim terms." Id. at 1308-1309. Thus, extrinsic evidence may be used by the court to assist in the proper understanding of a disputed limitation. But, such evidence may not be used to vary, contradict, expand, or limit the claim language from how it is defined in the specification or file history. Vitronic, 90 F.3d at 1584-85.

The following report and recommendations concerning the claim terms in dispute are made with the foregoing principles in mind.

III.

Discussion

A. The '956 Patent (T-Netix)

1. Brief Description

The following brief description of the '956 patent is simply that, and should not be interpreted as adopting either of the parties' proposed claim constructions. The actual disclosure of the '956 patent is discussed in greater detail below in conjunction with deciding the construction of the several disputed terms and phrases.

In general terms, the '956 patent is drawn to a system for making collect telephone calls without human operators. The charge and collect-call functions of a public telephone are arranged automatically by a microcomputer system preferably connected on customer premises between the phone terminal instrument and the local loop. Almost all of the claim elements are in "means for" form, giving the patent the appearance of a method patent and providing a substantial summary of the entire patent. The microcomputer system controls the phone terminal instrument, network signaling and call placement voice prompting of the call parties, recognition of responses from the parties and the network, call detail records of numbers and timings. The electronic computing system for use in the automatic control of telephone instruments and networks includes:

means for electronic storage of data, for automatic execution of a computer program, and for input/output transfer of various electronic signals, said means comprising an automation computer,

means for connection of said automation computer to both a conventional telephone instrument and a switched network, means for generation and detection of conventional currents, pulses, and tones associated with the manual operation and dialing of said telephone instruments,

means for storage and selective regeneration of spoken voice utterances,

means for analysis and detection of selected voice utterances, including means for distinguishing selected voices utterances from other signals and voice utterances,

means for measuring the amplitudes and timings of the events and waveform characteristics of detected tones, pulse, and voice signals,

means for communicating with the calling party and the calling telephone instrument such that the destination party cannot participate in such communication,

means for communicating with the destination party and the destination telephone instrument such that the calling party cannot participate in such communication,

means for communicating with various conventional automatic equipment, and with parties other than the calling and destination parties, including means for the detection of current, pulse, tone, and voice signals returned in a responsive manner to said automation computer,

means to permit validly-charged calls to proceed and means to establish a conventional voice connection between the calling and destination parties,

means to prevent communication between the calling and destination parties and to terminate calls attempted to be charged to an invalid credit account, including means for originating telephonic calls to an alternative number stored in or created by said computer and other than those numbers supplied by the calling party,

means for transmitting credit account numbers to automatic equipment and to parties responding at any such called alternative number,

means for detection of tone and voice signals returned in a responsive manner to indicate the credit status and account number validity of said transmitted credit account numbers,

means to terminate said telephonic call made to an alternative number and to resume other processes to be carried out by said automation computer.

The electronic computing system can also include means for voice and tone communications with the calling party who has originated said call, means for detection of tone signals returned in a responsive manner from the calling party to indicate the type of telephonic call being originated and the method of call charging and billing being selected, and means for suspending further voice communications with the calling party while other processes are carried out by said automation computer.

The electronic computing system can also include means for originating a conventional telephonic call to the number of a called destination party supplied by the calling party, means for voice communications with the called party who responds to said call, including an announcement that charges for said call were being reversed for collection from said called party, means for regeneration of the stored voice name of the calling party as identification of the person who is trying to place a station-to-station call to be charged to the

number of said called party, and means for detection of pulse and tone signals returned in a responsive manner from the called party to indicate the acceptance or rejection of collect charges for said connection to said calling party. In some forms, the electronic computing system includes means for regeneration of the stored voice name of the called party as identification of the particular person who is sought to be called or means for detection of pulse and tone signals returned in a responsive manner from the third party and indicating the acceptance or rejection of assigned charges for said connection to a destination party.

The electronic computing system can also include means for either origination or answering of either a conventional telephonic call or a local direct connection that is placed to enable automatic data communications between said automation computer and another computer means, and means for transmitting and receiving data to and from said storage facility of said automation computer, including data describing the history and details of user calls, numbers, and charging arrangements.

2. Claim 16: "computer means" or "computer means at said site for enabling the use of said telephone instrument for the making of calls requiring the acceptance of charges for said call by another party at a location remote from said site, without the intervention of a human operator"

Claim 16 is the only independent claim of the asserted claims, and is reproduced in full below. The disputed language is in boldface:

16. An on-site telephone communications system, said system comprising, in combination, at least one telephone instrument at a given site, **computer means at said site for enabling the use of said telephone instrument for the making of calls requiring the acceptance of charges for said call by another party at a location remote from said site, without the intervention of a human operator,** means for connecting said telephone instrument to said computer means, and means for connecting said telephone instrument into an off-site switched telephone network through said computer means

a) The Parties' Proposed Construction and Arguments

T-Netix's Proposed Construction

A "computer means" is not a Section 112(6) clause. It means a standard computer and the word "computer" provides sufficient structure.

T-Netix's PowerPoint presentation at the *Markman* Hearing, Slide 10.

Global's Proposed Construction

A "computer means at said site for enabling the use of said telephone instrument for the making of calls requiring the acceptance of charges for said call by another party at a location remote from said site, without the intervention of a human operator" is a computer which functions to enable the use of an on-site telephone to make calls by another party at a location remote from the site, without the intervention of a human operator.

Global's PowerPoint presentation at the *Markman* Hearing, Slide 10.

T-Netix argues that a computer means in Claim 16 is not a means plus function clause under 35 U.S.C. Section 112(6), saying that the computer means is like the perforation means in Cole v. Kimberly-Clark, 102

F.3d 524 (Fed.Cir.1996). In that case, "perforation means extending from the leg band means to the waist band means through the outer impermeable layer means for tearing the outer impermeable layer means for removing the training brief in case of an accident by the user" was determined to not be a means plus function clause. A perforation describes sufficient structure to not be converted into a means plus function clause under Section 112(6) just because the words "means" and "for" were used in the clause.

b) Discussion

In the case of Claim 16, the word "computer" has sufficient structure by itself to describe the physical object, a physical object that needs no construction for the benefit of our modern juries, but the physical object, in this case, does not describe the computer means. In order to perform the functions described, the computer must have software to become a functioning computer means. That combined computer and software might be described by code or by a block diagram or merely by words. In *Cole v. Kimberly-Clark,* the perforation means simply performed the normal function of perforation, allowing something to be torn more easily than it could be torn in the absence of the perforation. In the present case, the word computer, by itself, does not tell us anything except that it is capable of computing something or controlling some process. A computer means is, however, a special case in that the function to a large extent describes the software. This still leaves the entire clause up for construction. The claim construction urged by Global makes the convoluted claim language more easily understood.

c) Construction

In view of the foregoing, the Court concludes that:

The term "computer means at said site for enabling the use of said telephone instrument for the making of calls requiring the acceptance of charges for said call by another party at a location remote from said site, without the intervention of a human operator" is a computer which functions to enable the use of an on-site telephone to make calls by another party at a location remote from the site, without the intervention of a human operator and its equivalents.

3. Claim 32: "automation computer means" or "automation computer means for modifying the operation of one or more telephone instruments at a given site to enable the usage of said telephone instrument for the making of calls requiring the acceptance of charges for said call by another party at a location remote from said site, without the intervention of a human operator"

a) The Parties' Proposed Construction and Arguments

In context, the disputed phrase appears as follows:

32. **Automation computer means for modifying the operation of one or more telephone instruments at a given site to enable the usage of said telephone instrument for the making of calls requiring the acceptance of charges for said call by another party at a location remote from said site, without the intervention of a human operator,** said computer means being adapted to make a preliminary connection to said other party at the remote location to solicit and conduct an acceptance signal from said remote location to said computer means, and to connect the calling party to the called party in response to the receipt of said acceptance signal, and said computer means including means for interconnecting said computer means between said one or more telephone instruments on said site and a switched telephone network off of said site.

T-Netix's Proposed Construction

An "automation computer means" is not a Section 112(6) clause. It means a standard computer and the word "computer" provides sufficient structure.

T-Netix's PowerPoint presentation at the *Markman* Hearing, Slide 10.

Global's Proposed Construction

An "Automation computer means for modifying the operation of one or more telephone instruments at a given site to enable the usage of said telephone instrument for the making of calls requiring the acceptance of charges for said call by another party at a location remote from said site, without the intervention of a human operator" functions to enable the usage of a telephone instrument to make calls requiring the acceptance of charges for the call by another party at a location remote from the site, without the intervention of a human operator.

Global's PowerPoint presentation at the *Markman* Hearing, Slide 10.

b) Discussion

The arguments are the same as for the construction of "computer means" in Claim 16 and with the same results.

c) Construction

In view of the foregoing, the Court concludes that:

The term "Automation computer means for modifying the operation of one or more telephone instruments at a given site to enable the usage of said telephone instrument for the making of calls requiring the acceptance of charges for said call by another party at a location remote from said site, without the intervention of a human operator" functions to enable the usage of a telephone instrument to make calls requiring the acceptance of charges for the call by another party at a location remote from the site, without the intervention of a human operator and its equivalents.

B. The '702 Patent **(T-Netix)**

1. Brief Description

The following brief description of the '702 patent is simply that, and should not be interpreted as adopting either of the parties' proposed claim constructions. The actual disclosure of the '702 patent is discussed in greater detail below in conjunction with deciding the construction of the several disputed terms and phrases.

In general terms, the '702 patent is directed to telephone systems for institutional use, especially for use by prisoners. An institutional caller can make certain outside telephone calls, such as to a family member. There is a problem with the called party then using three-way calling to add a non-permitted person on the line. Normally, when attempting a three-way call, the called party makes a hook flash. When a call is established between the local equipment/telephone and a remote telephone, the apparatus is capable of

indicating whether the remote party has performed a specific act causing the generation of a hook flash-type signal.

A low pass filter (or filter means) for passing energy having frequencies below about 500 Hz or below about 300 Hz to an energy detector (energy detection means) for detecting a specific electrical energy pulse having a predetermined minimum magnitude.

A software window analyzation means (or software window analyzer) which cooperates with the energy detector to detect a specific event occurring on the telephone line during a predetermined maximum time window following the detection of a specific pulse on the telephone line, i.e., when a telephone call is in progress between the local party/equipment and the remote party. The detection of a specific event on the line provides an indication as to whether the remote party has performed a specific act such as (1) attempting to initiate a three-way conference call, (2) accepting a call or the call charges, (3) terminating a call before the local equipment/party terminates the call, and (4) dialing a specific number on a remote rotary/pulse telephone.

The energy detector detects when a called party has answered a call initiated by the computer operated telephone and dialed a pulse/dial telephone or activated (flashed) the hookswitch. The energy detector does this by measuring incoming electrical signal energy in the frequency band of less than 500 Hz, preferably between about 100 to 300 Hz. The software window analyzer cooperates with the energy detector to provide detection of a called party's pulse dialing of a digit (usually a "zero") to verify the called party's acceptance of a call or a collect call or the called party's attempt to activate three-way calling by flashing the called party's telephone hookswitch. The apparatus also includes means for preventing the calling party's signal energy from interfering with such detection which is accomplished by lower limiting the calling party's transmitting band width to about 300 Hz with a high pass filter (HPF). In addition, an adjustable gain amplifier is optionally provided to compensate for expected line losses of signal energy in the 100 to 300 Hz band of frequency used by the energy detector circuit. A telephone controller sets the gain of the adjustable amplifier at the time the call is placed. The gain is set lower for local calls and higher for long distance calls. The gain must be set higher for long distance calls since long distance calls usually pass through more amplification stages which may selectively amplify the 300 to 3,500 Hz frequency band, thereby reducing the signal in the 100 to 300 Hz frequency band.

The low pass filter (LPF) limits frequency input to an energy detector to frequencies below either 300 Hz or 500 Hz. The energy detector includes an absolute value level detector circuit that determines when an energy pulse having passed through the low pass filter is above a predetermined level. If above the predetermined level, the information is transmitted by the energy detector to the apparatus' controlling computer. The window analyzer cooperates with the energy detector to detect specific event(s) occurring on the telephone line during a predetermined maximum time window following a detection of the specific pulse.

In the situation where the apparatus is designed or programmed to detect a remote party's attempt to initiate a three-way conference call, the software window analyzer includes a timer or timer means for cooperating with the energy detector so that the timer begins running for a first predetermined period (about 1.4 seconds) when a specific energy pulse is detected by the energy detector. The software window analyzer also includes sound detection means for detecting sound on a telephone line and for cooperating with the timer so that the sound detection means is activated at the end of the first predetermined period for a second predetermined maximum time period (up to about 1.3 seconds). If sound is not detected during the second predetermined

time period, such indicates that the remote party has attempted to initiate a three-way conference call.

A response means implements a predetermined response when a three-way call is indicated. Some of the responses which can be programmed into the software include call termination, playing a prerecorded message, generating a tone which may be heard by one or more parties to the call, muting the microphone of the local telephone and recording the date and time of the remote party's attempt to initiate the three-way call.

A signal interference prevention means prevents signals originating at the local party's telephone from interfering with signals originating at the remote party's telephone. Signal interference prevention may be provided by an echo cancellation unit or by muting the microphone of the local party's telephone when a specific pulse, which is detected by the energy detector. Means for unmuting the local party's telephone operates if sound is detected during the second predetermined period, permitting the local and remote party's to converse.

When the apparatus is designed or programmed to indicate whether the remote party has accepted a telephone call or the charges therefore, the software window analyzer includes a counter (counting means) for counting specific energy pulses detected by the energy detector. In addition, a timer (timer means) is provided for cooperating with the energy detector so that the timer begins running for a predetermined period (about 1.2 seconds) when the energy detector detects a specific pulse. The timer also cooperates with the counter to determine if a predetermined number of specific pulses has been counted during the predetermined time period. If the predetermined number of pulses is counted (usually a number greater than 3, preferably about 8) such indicates that the remote party has accepted the call or the charges therefor.

The apparatus for indicating call acceptance also includes signal interference prevention means such as echo cancellation means or means for muting the microphone of a local party's telephone when or before the remote party answers a call placed by the local party. Also provided is means for unmuting the local party's microphone when the predetermined number of specific pulses is counted by the counter during the predetermined period, permitting the local and remote party to converse.

As previously mentioned, the apparatus can also be designed for use with equipment or a telephone in telecommunication with a remote party having a rotary/pulse telephone. In this embodiment, the apparatus enables the equipment, such as an answering machine (even a VCR), to receive information from the remote party. The information is transmitted from the remote party to the equipment by dialing numbers (or equivalent letters) on the remote party's rotary/pulse telephone. This embodiment of the invention also includes an energy detector for detecting a specific electrical energy pulse on the telephone line having a predetermined minimum magnitude and a predetermined maximum frequency, usually about 300 Hz. The software window analyzer for this embodiment includes a timer, which cooperates with the energy detector to begin running for a predetermined period of time (usually about 1.2 seconds) when a specific pulse is detected. A counter is also provided for counting specific pulses detected during the predetermined period of time. The number of pulses counted provides an indication as to which number was dialed by the remote party using a rotary/pulse telephone. For example, if three specific pulses were detected during the predetermined period of time, this would indicate that the remote party dialed the number 3. This embodiment of the invention also includes transmitting means for transmitting the indicated dialed number to the equipment/telephone prompting the remote party for such information. Those skilled in the art will appreciate that this embodiment of the invention provides users of rotary/pulse dialing telephones with the capability of communicating with equipment connected to the public switch network (PSN) in a manner

similar to that available to users of touch-tone (DTMF) dialing telephones.

The apparatus can also be programmed to detect the situation where the remote party terminates a telephone call before the local party/equipment terminates the call. It is important for many pay telephone systems to have this capability, which is sometimes referred to as "End-of-Call-Supervision." Again, this embodiment includes a low pass filter for passing energy having frequencies below about 500 Hz and an energy detector for detecting a specific electrical energy pulse having been filtered by said filter and having a predetermined minimum magnitude. In addition, this apparatus uses software that includes a timer for cooperating with the energy detector to begin running for a first predetermined period of time (usually about 1.4 seconds) when a specific pulse is detected. In addition, the software (window analyzer) includes sound detection means for detecting sound on the telephone line and for cooperating with the timer so that the sound detector is activated at the end of the first predetermined period for a second predetermined time period, preferably about 10 seconds. If sound is not detected during the second predetermined time period such provides an indication that the remote party has terminated the call before the local party or calling party has terminated the call. Where call termination is indicated, the apparatus will terminate the call and, if desired, the apparatus can be programmed to record the time and date of the call termination so that the party being charged for the call will be accurately charged, i.e., charged only for the actual length of the call. If sound is detected during the second predetermined period, this indicates that the remote party has not terminated the call. In this situation, the call is continued, thereby permitting the local and remote party to converse. This embodiment of the invention also includes signal interference prevention means that mutes the microphone of the local party when a specific pulse is detected. In addition, means are provided for unmuting the microphone of the local party's telephone if sound is detected by the sound detector during the second predetermined time period. As previously mentioned, the call is continued if sound is detected during the second predetermined period. Echo cancellation as previously discussed can also be used to prevent signal interference.

The system also provides an apparatus for use on a calling (local) party's telephone to detect a called (remote) party's answering of a call. This embodiment also includes signal interference prevention means for preventing signals originating at the calling party's telephone from interfering with signals originating at the called party's telephone. Again, signal interference can be prevented by muting the calling party's microphone or with echo cancellation. In addition, a ringback detector (ringback detection means) is provided for detecting the called party's ringback signal energy level. Also provided is a low pass filter for passing energy having frequencies below about 500 Hz and energy detection means for detecting a specific electrical energy pulse having been filtered by said filter means and having a predetermined minimum magnitude which is caused when a called (remote) party goes off-hook, i.e., removes the telephone's handset from the telephone's hookswitch. In addition, this apparatus includes means for activating the energy detector when the ringback signal is detected.

2. Claims 20, 32 and 48: "hook flash signal"

a) The Parties' Proposed Construction and Arguments

Claims 20, 32 and 48 are asserted independent claims, and are reproduced in full below. The disputed language is in boldface:

20. An apparatus for use in conjunction with local telephone equipment in telecommunication with a remote telephone, wherein said remote telephone has a three-way calling service which is not associated with the apparatus, which apparatus is capable of determining whether a remote party using the remote telephone has

performed a specific act that is consistent with an attempt to initiate a three-way call utilizing a **hook-flash signal** comprising:

means for the detection of an energy pulse received by the local telephone equipment having a **frequency characteristic of the hook-flash signal;** and

response means for implementing a predetermined response when said energy pulse is detected.

32. An apparatus for use in conjunction with local telephone equipment in telecommunication with a remote telephone, wherein said remote telephone has a three-way calling service which is not associated with the apparatus, which apparatus is capable of determining whether a remote party using the remote telephone has performed a specific act that is consistent with an attempt to initiate a three-way call utilizing a **hook-flash signal** comprising:

means for the detection of an energy pulse received by the local telephone equipment having a **frequency characteristic of the hook-flash signal;**

window analyzation means for cooperating with said energy detection means to detect a specific event(s) occurring during a predetermined time window following the detection of the energy pulse, the detection of the specific event(s) confirming whether the remote party has performed a specific act that is consistent with an attempt to initiate a three-way call; and response means for implementing a predetermined response when the remote party's performance of a specific act that is consistent with an attempt to initiate a three-way call has been confirmed.

48. A method for determining whether a remote party using a remote telephone in telecommunication with local telephone equipment, wherein said remote telephone has a three-way calling service which is not associated with the apparatus, has performed a specific act that is consistent with an attempt to initiate a three-way call utilizing a **hook-flash signal** comprising:

detecting an energy pulse received by the local telephone equipment having a **frequency characteristic of the hook-flash signal;** and

responding in a predetermined manner when said energy pulse is detected.

The term "hook-flash signal," of course, appears in the claim preambles and the term "frequency characteristic of the hook flash signal" appears in the body of the patents. Global has also argued that the preamble is limiting.

T-Netix's Proposed Construction

A "hook flash signal" means a temporary interruption of loop current at the remote telephone, for example, caused by briefly depressing and releasing the hook switch or rotary dial, consistent with an attempt to initiate a three-way call.

T-Netix's PowerPoint presentation at the *Markman* Hearing, Slide 53.

Global's Proposed Construction

A "hook flash signal" means:

1. An electrical energy pulse having a frequency of about 270 Hz, but not more than 300 Hz, on the caller's end of the telephone line;

2. No additional sounds from the called party telephone; and

3. A return hook flash with similar sound at about 270 Hz but at a lower intensity. Global's PowerPoint presentation at the *Markman* Hearing, Slide 24.

b) Discussion

Whether elements recited in a preamble should be construed as limiting the scope of the claim is an issue the U.S. Court of Appeals for the Federal Circuit (CAFC) has visited on numerous occasions. One CAFC test requires a limiting construction for the preamble if it is "necessary to give life, meaning, and vitality" to the claim. The CAFC has stated, "When the claim drafter chooses to use both the preamble and the body to define the subject matter of the claimed invention, the invention so defined, and not some other, is the one the patent protects." Conversely if the "body of the claim sets out the complete invention," then the language of the preamble is "superfluous." These guidelines leave a number of unanswered questions, which we must now look for answers:

1. Can a preamble "give life, meaning and vitality" to a claim if no term in the preamble is referenced in the body of the claim? The Court answers this question in the negative.

2. If only a single term from the preamble is used in the body of a claim, then do all of the terms in the entire preamble become incorporated as limitations? The Court also answers this question in the negative.

3. If a term from the preamble is referenced in the body of the claim, is that term limited to the actual disclosure in a manner similar to a means plus function, a "means for," clause or is it given broader definition and equivalence? The Court answers this question in the negative, but would look to the disclosure for a definition of such a term.

4. Although infringement is not an issue in claim interpretation, it is still relevant to ask, "Does a term from the preamble, which has been determined to be limiting, become a claim element, or does it remain simply part of the claim environment?" In other words, does a plaintiff have to prove that the term from the preamble is included in a defendant's apparatus or method or does the plaintiff merely have to prove that the term is present when defendant's apparatus or method is in use? In the present case, since many claims of the '702 patent include "a remote telephone," in the preamble, and no defendant is likely to also make a particular remote telephone, would all defendants automatically be excluded from being direct infringers?

Under Reasons for Allowance for the '702 patent, the Patent Examiner stated "The following is an Examiner's Statement of Reasons for Allowance: the preamble of the claims was given patentable weight." The Examiner did not state any specifics, but just referred to the preamble generally. We must, therefore, apply normal rules of claim construction in order to determine what makes the preamble of each claim of patentable weight by determining which terms in the preamble of each claim are used in the body of that claim. We will consider the phrase "of patentable weight" to mean that at least some term of the preamble acts as a limitation on the claim.

Within the '702 patent, the term "hook flash" is used as a single word, as two words and as a hyphenated term. All of these will be considered equivalent. When actually quoting from the patent, the words will be quoted as actually used in the quotation and considered correct for our purposes. Otherwise, the term will be used as two words. Claims 20, 32 and 48 all use the term "hook flash" in the preamble and in the body of the claim. The term "hook flash" is, therefore, at least part of what makes the preamble for those claims of patentable weight, functioning as a limitation of those claims. The term "hook flash" does not appear in the body of Claims 1, 2, 3, 6, 7, 8, 9, 12 or 13. Moreover, the body of claims 20, 32 and 48 include the expression "an energy pulse received by the local telephone equipment having *a frequency characteristic of* the hook-flash signal." Emphasis added.

The term "local telephone equipment" appears in the preamble and the body of the claim in claims 1, 7, 13, 20, 32 and 48. Although the Court has not been asked to interpret that term, it does explain the Examiner's remarks with respect to the preamble of claims 1 and 7 and their dependent claims, as well as adds to the reasoning for claims 20, 32 and 48. Finally, with respect to Claim 18, the terms "limited access telephone" and "called party's telephone" appear in both the preamble and the body of the claim. The Court is thus in agreement with the Examiner with respect to the preamble of all claims being of patentable weight.

It is the position of Global that the disclosure of the term "hook flash" in the specification should be read into the term as used in the claims in which the term acts as a limitation. This would make a term from a preamble interpreted in a manner similar to that of a "means for" clause. In particular, Global asks the Court to include a specific numerical value of frequency taken from the specification into the claims for the term "hook flash." Global cites no authority for this interpretation or any compelling logic for such an interpretation. Just because a term in a preamble is used in the body of a claim does not act to limit that term, but only to limit the claim to that term. Even the expression "a frequency characteristic of the hook-flash signal" can hardly be so limited since dependent claims 21, 22, 33, 34, 49 and 50 all have numerical frequency limitations, which are less restrictive than "about 270 Hz." These are unasserted claims, claims no longer in the case, but they are still part of the patent. Claims 21, 33 and 49 include "wherein the frequency to be detected is between 100 and 300 Hz." Claims 22, 34 and 50 include "wherein the frequency to be detected is between 200 and 300 Hz." Claims 21 and 22 are dependent on Claim 20, claims 33 and 34 on Claim 32 and claims 49 and 50 on Claim 48.

Finally, there is "a heavy presumption that a claim term carries its ordinary and customary meaning."

c) Construction

In view of the foregoing, the Court concludes that:

The term "hook flash signal" means a temporary interruption of loop current at the remote telephone, for example, caused by briefly depressing and releasing the hook switch or rotary dial, consistent with an attempt to initiate a three-way call.

3. Claims 1-3,6 and 18: "low pass filter means"

a) The Parties' Proposed Construction and Arguments

Claims 1 and 18 are asserted independent claims, and are reproduced in full below. The disputed language is in boldface:

1. An apparatus for use in conjunction with a local telephone equipment in telecommunication with a remote telephone, wherein said remote telephone has a three-way calling service which is not associated with the apparatus, to indicate whether a remote party using the remote telephone has performed a specific act that is consistent with an attempt to initiate a three-way call causing the generation of a hook flash signal, said apparatus comprising:

low pass filter means for passing energy received by the local telephone equipment having frequencies below about 500 Hz;

energy detection means for detecting a specific electrical energy pulse having been filtered by said filter means and having a predetermined minimum magnitude;

window analyzation means for cooperating with said energy detection means to detect a specific event(s) occurring during a predetermined maximum time window following the detection of a specific pulse occurring during a telephone call in progress between a local party and a remote party, the detection of the specific event(s) providing an indication as to whether the remote party has performed a specific act that is consistent with an attempt to initiate a three-way call;

said window analyzation means including

timer means for cooperating with said energy detection means so that said timer means begins running for a first predetermined time period when a specific energy pulse is detected and

sound detection means for detecting sound during the telecommunication and for cooperating with said timer means so that said sound detection means is activated at the end of the first predetermined period for a second predetermined maximum time period; and

handling means for implementing a predetermined response if sound is undetected during the second predetermined period, the undetection of which provides an indication that the remote party has performed a specific act that is consistent with an attempt to initiate a three-way call.

18. An apparatus for use in connection with a limited access telephone in telecommunication with a called party, wherein the called party's telephone has a three-way calling service which is not associated with the apparatus to detect and respond to the called party's performance of a specific act that is consistent with an attempt to initiate a three-way conference call, said apparatus comprising;

interference prevention means for preventing signals originating at the limited access telephone from interfering with signals originating at the called party's telephone;

low pass filter means for passing energy having frequencies below about 500 Hz;

energy detection means for detecting a specific electrical energy pulse having been filtered by said filter means and having a predetermined minimum magnitude;

timer means for cooperating with said detection means so that said timer means begins running for a first predetermined period of time when the specific pulse is detected;

sound detection means for detecting sound during the telecommunication and for cooperating with said timer means so that said sound detection means is activated at the end of the first predetermined period for a second predetermined maximum period of time; and

conference calling handling means for implementing a predetermined response if sound is undetected by said sound detecting means during the second predetermined period.

T-Netix's Proposed Construction

A "low pass filter means" means an analog or digital filter, including a digital signal processor, capable of passing frequencies below about 500 Hz, and equivalents thereof.

T-Netix's PowerPoint presentation at the *Markman* Hearing, Slide 30.

Global's Proposed Construction

A "low pass filter means" performs:

1. Filtering energy received by the local telephone equipment to pass energy having frequencies below about 500 Hz; and

2. The filtering must by carried out by analog components that significantly attenuate electrical energy having frequencies above 300 Hz.

Global's PowerPoint presentation at the *Markman* Hearing, Slide 65.

b) Discussion

The relevant text from the '702 patent is found in column 9, beginning with line 23:
"*Block 400 is a Low Pass Filter (LPF)*. LPF block 400 passes frequencies below 280 Hz while significantly attenuating signals above 300 Hz. LPF block 400 filters the signal received on line 256 and drives the absolute value detector on line 451. LPF block 400 normally has a gain of 0 Db (Gv=1). *The LPF block 400 may optionally be implemented as a 100-300 Hz Band Pass Filter (BPF) or as a discrete or monolithic component analog/digital filter or with a Digital Signal Processor (DSP) with appropriate software to implement the filter*." Emphasis added.

It is clear from this passage of the patent specification that the low pass filter was envisioned as including an analog or a digital filter or even a Digital Signal Processor controlled by software. In the specification, however, this quote refers to the low pass filter passing "frequencies below" a certain amount and not to passing "energy received ... having frequencies below" a certain amount.

Figure lb is directed specifically to a digital embodiment. The description of that embodiment in the specification is found in column 10, beginning with line 3:

"FIG. lb is a block diagram showing the general organization of the pulse-dial and hook-switch flash supervision architecture for implementing the system wherein echo cancellation, call progress tone detection, DTMF tone detection, *broadband energy detection,* low pass filtering and *energy threshold*

detection are implemented with an emphasis on digital techniques." Emphasis added.

The references here to "energy detection" and "energy threshold" are all implemented in block 880 after any such energy has been converted from analog to digital by analog-to-digital converters 872 and 874. Although it can be logically argued that such "energy" terms should be reserved for analog implementation, the drafter of the patent chose to use the analogous terms for a digital implementation. In this case, the patent drafter should be allowed to be his or her own lexicographer since the terms are used consistently throughout the patent. The obvious misspellings in block 880 of Figure lb are made clear in the portion of the specification quoted above.

The analog low pass filter is shown in Figure 13, which is not described in detail in the specification and is not claimed in detail, but it shows several amplifier stages. In such an arrangement, even in an analog embodiment, we could object to the use of the description "passing energy received" from somewhere else, since the energy received is amplified several times, thus retaining the essential shape and frequency characteristics of the energy received, but being an enhanced version of the energy received and no longer being that energy. In addition there is a rectifier/amplifier prior to the threshold level detection. The amplified and filtered energy then even loses its shape, being rectified and further amplified.

c) Construction

In view of the foregoing, the Court concludes that:

The term "low pass filter means" means an analog or digital filter, including a digital signal processor, capable of passing frequencies below about 500 Hz, and equivalents thereof.

4. Claims 1-3,6 and 18: "energy detection means" and "energy detection means for the detecting a specific electrical energy pulse having been filtered by said filter means and having a predetermined minimum magnitude"

a) The Parties' Proposed Construction and Arguments

Claims 1 and 18 are asserted independent claims, and are reproduced in full below. The disputed language is in boldface:

1. An apparatus for use in conjunction with a local telephone equipment in telecommunication with a remote telephone, wherein said remote telephone has a three-way calling service which is not associated with the apparatus, to indicate whether a remote party using the remote telephone has performed a specific act that is consistent with an attempt to initiate a three-way call causing the generation of a hook flash signal, said apparatus comprising:

low pass filter means for passing energy received by the local telephone equipment having frequencies below about 500 Hz;

energy detection means for detecting a specific electrical energy pulse having been filtered by said filter means and having a predetermined minimum magnitude;

window analyzation means for cooperating with **said energy detection means** to detect a specific event(s) occurring during a predetermined maximum time window following the detection of a specific pulse

occurring during a telephone call in progress between a local party and a remote party, the detection of the specific event(s) providing an indication as to whether the remote party has performed a specific act that is consistent with an attempt to initiate a three-way call;

said window analyzation means including

timer means for cooperating with said energy detection means so that said timer means begins running for a first predetermined time period when a specific energy pulse is detected and

sound detection means for detecting sound during the telecommunication and for cooperating with said timer means so that said sound detection means is activated at the end of the first predetermined period for a second predetermined maximum time period; and

handling means for implementing a predetermined response if sound is undetected during the second predetermined period, the undetection of which provides an indication that the remote party has performed a specific act that is consistent with an attempt to initiate a three-way call.

18. An apparatus for use in connection with a limited access telephone in telecommunication with a called party, wherein the called party's telephone has a three-way calling service which is not associated with the apparatus to detect and respond to the called party's performance of a specific act that is consistent with an attempt to initiate a three-way conference call, said apparatus comprising;

interference prevention means for preventing signals originating at the limited access telephone from interfering with signals originating at the called party's telephone;

low pass filter means for passing energy having frequencies below about 500 Hz;

energy detection means for detecting a specific electrical energy pulse having been filtered by said filter means and having a predetermined minimum magnitude;

timer means for cooperating with **said detection means** so that said timer means begins running for a first predetermined period of time when the specific pulse is detected;

sound detection means for detecting sound during the telecommunication and for cooperating with said timer means so that said sound detection means is activated at the end of the first predetermined period for a second predetermined maximum period of time; and

conference calling handling means for implementing a predetermined response if sound is undetected by said sound detecting means during the second predetermined period.

T-Netix's Proposed Construction

Global's Proposed Construction

An "energy detection means" means a threshold detector, digital signal processor, or a pattern matching subsystem, such as neural network or fuzzy logic, and equivalents thereof.

T-Netix's PowerPoint presentation at the *Markman* Hearing, Slide 10.

An "energy detection means for the detecting a specific electrical energy pulse having been filtered by said filter means and having a predetermined minimum magnitude" means an analog component that detects an electrical energy peak of at least a few volts having a frequency about 270 Hz, but not more than 300 Hz.

Global's PowerPoint presentation at the *Markman* Hearing, Slide 74.

b) Discussion

The parties agree that whether described as an "energy detection means" or "energy detection means for the detecting a specific electrical energy pulse having been filtered by said filter means and having a predetermined minimum magnitude," this element is a means plus function and is restricted to the disclosure and equivalents thereof. Global argues that the energy detection means must be analog because the low pass filter is analog. The Court has already determined that the low pass filter can be analog or digital, so that argument must fail.

Figure lb is directed specifically to a digital embodiment. The description of that embodiment in the specification is found in the '702 patent beginning in column 10 with line 2:

"FIG. lb is a block diagram showing the general organization of the pulse-dial and hook-switch flash supervision architecture for implementing the system wherein echo cancellation, call progress tone detection, DTMF tone detection, broadband energy detection, low pass filtering *and energy threshold detection are implemented with an emphasis on digital techniques*. In this implementation, audio Signal 131" is digitized for use by the Digital Signal Processing (DSP) subsystem, Block 880 and by CODEC or ADC, Block 872. If Signal 131" is in a digital form by nature of the specific implementation this step is not required. Likewise, audio Signal 132", if not in digital form by nature of the implementation, is digitized for use by the DSP subsystem, Block 880 and by CODEC or ADC, Block 874. Control Signal 875 provides the timing and synchronization required by the CODEC'S. Signal 881 provides the timing, synchronization and control for the DSP subsystem while Signal 882 provides the Controller, Block 800" with signals equivalent to the Signal 659 and Signal 472.

Either a Fast Fourier Transform (FFT) or sufficient filtering and level measurement technique may be implemented, for example, to also form a ratio of the level of the detected pulse to the level of the detected ringback signal. Examples of components to effectively implement Block 880 as a subsystem include the Motorola DSP 56001 available from Motorola, Inc., Schaumburg, Ill., and appropriate support circuitry." Emphasis added.

It is clear from this passage of the patent specification that the energy detection means was envisioned as including an analog or a digital embodiment. The description of Figure 1c, begins in column 10 with line 31:

"FIG. 1c is a block diagram which shows the general organization of the

pulse-dial and hook switch flash supervision architecture for implementing the system *wherein the pulse signal detection function provided by Block 400 and Block 450 is provided by a Pattern Matching or Pattern Comparator subsystem, Block 860*. In this implementation, audio Signal 256'" is digitized, by a CODEC or ADC, and successive brief sample sequences are compared to a set of previously stored reference sample

sequences. As a new sample sequence can be started with each new sample, the comparison process is essentially real-time. If a specific sample sequence of Signal 256'" closely matches one of the stored reference sample sequences, Signal 862 is used to inform the system controller, Block 800'" of such signal recognition. Emphasis added.

The comparison here is direct, that the "pulse signal detection" function provided by the threshold detector provided by "a pattern matching subsystem."

Block 860 would, for example, perform the functions of sampling the waveform on a periodic basis, storing the samples thus acquired in RAM. The samples would then be scaled such that the highest peak signal for the particular sample series would be set to a pre-determined or maximum level for the scale used. The sample series would then be compared with a reference sample set of signals. If any of the reference signals is a close match to the sample series currently being compared, a "match" flag would be set in the controller. Examples of components for implementing Block 860 as a subsystem include the American NeuraLogix NLXI10 available from American NeuraLogix, Inc., Stanford, Fla., and an ADC and appropriate support circuitry.

Note that effective combinations of portions of the above implementations of the system may also effectively implement the invention." Emphasis added.

The references here to "energy detection" and "energy threshold" are all implemented in block 880 after any such energy has been converted from analog to digital by analog-to-digital converters 872 and 874. Once again, although it can be logically argued that such "energy" terms should be reserved for analog implementation, the drafter of the patent chose to use the same terms in an analogous way for a digital implementation. In this case, the patent drafter should be allowed to be his or her own lexicographer since the terms are used consistently throughout the patent. The misspellings in block 880 of Figure lb are distracting, but the meanings are clear.

With regard to the wording suggested by T-Netix, "such as a neural network or fuzzy logic," the only disclosure is a parenthetical note in the brief description of Figure 1c, "(fuzzy or neural networks)" as examples of pattern matching subsystems. Nothing specific is disclosed with respect to these terms and they are used in reference to "a fourth embodiment of the system."

c) Construction

In view of the foregoing, the Court concludes that:

The term "energy detection means" means a threshold detector, digital signal processor or a pattern matching subsystem, and equivalents thereof.

5. Claims 1 and 32: "window analyzation means" and "timer means"

a) The Parties' Proposed Construction and Arguments

Claims 1 and 32 are asserted independent claims, and are reproduced in full below. The disputed language is in boldface:

1. An apparatus for use in conjunction with a local telephone equipment in telecommunication with a

remote telephone, wherein said remote telephone has a three-way calling service which is not associated with the apparatus, to indicate whether a remote party using the remote telephone has performed a specific act that is consistent with an attempt to initiate a three-way call causing the generation of a hook flash signal, said apparatus comprising:

low pass filter means for passing energy received by the local telephone equipment having frequencies below about 500 Hz;

energy detection means for detecting a specific electrical energy pulse having been filtered by said filter means and having a predetermined minimum magnitude;

window analyzation means for cooperating with said energy detection means to detect a specific event(s) occurring during a predetermined maximum time window following the detection of a specific pulse occurring during a telephone call in progress between a local party and a remote party, the detection of the specific event(s) providing an indication as to whether the remote party has performed a specific act that is consistent with an attempt to initiate a three-way call;

said window analyzation means including

timer means for cooperating with said energy detection means so that said timer means begins running for a first predetermined time period when a specific energy pulse is detected and

sound detection means for detecting sound during the telecommunication and for cooperating with **said timer means** so that said sound detection means is activated at the end of the first predetermined period for a second predetermined maximum time period; and

handling means for implementing a predetermined response if sound is undetected during the second predetermined period, the undetection of which provides an indication that the remote party has performed a specific act that is consistent with an attempt to initiate a three-way call.

32. An apparatus for use in conjunction with local telephone equipment in telecommunication with a remote telephone, wherein said remote telephone has a three-way calling service which is not associated with the apparatus, which apparatus is capable of determining whether a remote party using the remote telephone has performed a specific act that is consistent with an attempt to initiate a three-way call utilizing a hook-flash signal comprising:

means for the detection of an energy pulse received by the local telephone equipment having a frequency characteristic of the hook-flash signal;

window analyzation means for cooperating with said energy detection means to detect a specific event(s) occurring during a predetermined time window following the detection of the energy pulse, the detection of the specific event(s) confirming whether the remote party has performed a specific act that is consistent with an attempt to initiate a three-way call; and

response means for implementing a predetermined response when the remote party's performance of a specific act that is consistent with an attempt to initiate a three-way call has been confirmed.

T-Netix's Proposed Construction

A "window analyzation means" means a controller, a software timer, and optionally including a sound detector, and equivalents thereof.

T-Netix's PowerPoint presentation at the *Markman* Hearing, Slide 61.

Global's Proposed Construction

A "window analyzation means" and "timer means" means a controller, software timer including the function of measuring predetermined time intervals of 1.4 seconds and 1.3 seconds in which to check for network events indicative of attempts at three-way calling, and a sound detection means. The timer means cooperates with energy detector.

Global's Defendant's Response to Plaintiff's Markman Claim Construction Brief for the Kitchen '702 Patent, pages 27 and 28.

b) Discussion

The parties agree that the "window analyzation means" is a means plus function and is restricted to the disclosure and equivalents thereof. The Court agrees, at least with respect to Claim 32. In Claim 1, the window analyzation means includes at least two structural elements and needs no further restrictions read into it from the specification. The third element appears to be a separate element and not part of the window analyzation means, because of the structure of the claim. The problem is that the term "window analyzation means" does not appear in the detailed description of the '702 patent. It appears in the Summary of the Invention and in Claims 1 and 32. Window analyzation means is described in the Summary of the Invention in column 2, beginning with line 39:

"The apparatus further includes *software also referred to herein as window analyzation means (or software window analyzer) which cooperates with the energy detector to detect a specific event(s) occurring on the telephone line during a predetermined maximum time window following the detection of a specific pulse on the telephone line, i.e., when a telephone call is in progress between the local party/equipment and the remote party*. The detection of a specific event(s) on the line provides an indication as to whether the remote party has performed a specific act such as (1) attempting to initiate a three-way conference call, (2) accepting a call or the charges therefor, (3) terminating a call before the local equipment/party terminates the call, and (4) dialing a specific number on a remote rotary/pulse telephone." Emphasis added.

The description continues beginning with line 63:

"The software window analyzer cooperates with the energy detector to provide efficient and reliable protection of a called party's pulse dialing of a digit (usually a "zero") to verify the called party's acceptance of a call or a collect call or the called party's attempt to activate three-way calling by flashing the called party's telephone hookswitch."

The description finally adds some substance, beginning in column 3, line 26:

"As previously mentioned, the apparatus further includes software, i.e., the aforementioned window analyzer for cooperating with the energy detector to detect specific event(s) occurring on the telephone line

during a predetermined maximum time window following a detection of the specific pulse.

In the situation where the apparatus is designed or programmed to detect a remote party's attempt to initiate a three-way conference call, *the software window analyzer includes a timer or timer means* for cooperating with the energy detector so that the timer begins running for a first predetermined period (about 1.4 seconds) when a specific energy pulse is detected by the energy detector. *The software window analyzer also includes sound detection means* for detecting sound on a telephone line and for cooperating with the timer so that the sound detection means is activated at the end of the first predetermined period for a second predetermined maximum time period (up to about 1.3 seconds). If sound is not detected during the second predetermined time period, such indicates that the remote party has attempted to initiate a three-way conference call." Emphasis added.

A counter is included beginning with column 4, line 1:

"As previously mentioned, the apparatus can also be designed or programmed to indicate whether the remote party has accepted a telephone call or the charges therefor. *When so designed, the software window analyzer includes a counter (counting means)* for counting specific energy pulses detected by the energy detector. *In addition, a timer (timer means) is provided* for cooperating with the energy detector so that the timer begins running for a predetermined period (about 1.2 seconds) when the energy detector detects a specific pulse.

The timer also cooperates with the counter to determine if a predetermined number of specific pulses has been counted during the predetermined time period. If the predetermined number of pulses is counted (usually a number greater than 3, preferably about 8) such indicates that the remote party has accepted the call or the charges therefor." Emphasis added.

The term "controller" only appears with reference to the system controller, block 800. It is not specifically linked to the window analyzation means. Although the system controller may include the window analyzation function, the window analyzation means does not include the system controller.

c) Construction

In view of the foregoing, the Court concludes that:

The term "window analyzation means" means software run on a controller including a timer and a sound detector, and equivalents thereof.

C. The '533 Patent **(T-Netix)**

Again, it should be emphasized that the following general description is intended simply as an overview of the technology disclosed in the '533 patent, and should not be construed as adopting either of the parties' various proposed claim constructions.

The principal feature of the system is the implementation of a way to detect inmate or other regulated caller telephone calls to called parties, whereby said called parties act to bridge the inmate or regulated caller to some third party. Whereas regulated callers, by definition herein, are only permitted to communicate with certain called parties, the authority in charge of the caller or inmate's calls are afforded the ability of preventing called parties from bridging telephone calls from inmates or other regulated parties to

unauthorized or unknown third parties. Said authority has, at its option, the ability to prevent, terminate and/or track or monitor any of said attempts.

Broadly, the system takes the form of an apparatus and method for detecting and identifying disparate preselected signal sequences of spaced tone bursts. Such spaced tone bursts or tone signals may be originated by the called party in a called party's effort toward bridging the caller or inmate with a third party. Such tones are the tones often generated during such bridging attempts, such as the ringing of the third party's telephone, a busy signal during the attempted calling of a third party by the called party, a dial tone as the called party is dialing the number of the third party, SIT tones generated when the called party attempts a telephone call to a third party whose number has been, for example, disconnected, other call progress tones, such as those associated with telephone credit card usage, other DTMF tones, for example, those used by the third party to call the third party in the first place, and any other tones, thus obviating the need for any detection of hook flashes or other clicks and/or pops on the telephone line, that may unreliably be associated with attempts by called parties to place telephone calls to third parties.

Also, with the system, the third party call attempt may be stored, for present or future review by an institutional authority, and patterns may be monitored, so that prison officials may consider curtailing future inmate calls to particular called parties. Thus, third party call attempts can be tracked, both on a per inmate and on a per called party basis. Thus, if inmates A through G all know to call a certain called party X so that called party X can bridge them to their respective unauthorized third parties, then, the prison officials will know that future calls to party X are to be blocked, regardless of who is initiating such a call, because called party X is suspected of being an individual who facilitates unauthorized third parties. Importantly, certain called parties may even attempt to bridge a call from one inmate to another call from another inmate. In that instance, keeping track of such attempts, and terminating such calls, is particularly important, as inmates within the same institution may be conspiring to do crime, such as breaking out of prison.

A method of managing telephone activity in an institution includes the steps of: (1) identifying an institutional caller (the "calling party") who wishes to place an outside call to an outside recipient (the "called party"); (2) blocking the institutional caller and-while the institutional caller's line (earpiece and/or mouthpiece) remains blocked-(a) calling said outside recipient (called party), (b) providing the identity of said institutional caller to said outside recipient and C receiving a control code from said outside recipient; (3) determining, in response to said control code, whether to connect the institutional caller to the outside recipient, and optionally, whether to indicate any of a plurality of messages to the calling party, e.g., an inmate, and (4) terminating or otherwise tracking or accounting for calls to third parties whereby attempts are made by the called party to bridge or conference the calling party (the caller or inmate) with any third party.

An apparatus for managing telephone activity in an institution includes: a plurality of institutional telephones located within the institution; a trunk management unit (TMU) for selectively connecting the institutional telephones to one or more outside telephone lines, wherein the TMU includes means for decoding DTMF tones generated by the institutional telephones or received from the outside telephone lines; and a computer control unit (CCU), coupled to the TMU, for controlling the connection of the institutional telephones to the outside telephone lines based upon DTMF tone(s) received from the outside telephone lines. A database associated with the CCU contains information regarding the calling privileges of each person within the institution. In a preferred embodiment, the TMU-prior to connecting the call-plays an announcement to the called party identifying the institution and caller, along with the options available to the called party. In response, the called party may enter the announced DTMF tone sequence (preferably

GOTU), which modifies a record in the database, thereby prohibiting the caller (and/or other similarly situated prospective callers) from calling the called party in the future.

Other features of the TMU provide security and monitoring functions. The invention provides three levels of monitoring, any or all of which may be active for any given call. The first level is "live" call (voice) monitoring, where the prison officials actively listen to a live call. The second level is call recording. The TMU can be programmed to enable associated recording equipment to record telephone calls. The third level is "passive" line monitoring, where the TMU detects, for example, DTMF tones, off-hook conditions, voltage spikes and/or sudden line impedance changes, in order to thwart attempts at unauthorized three-way calling, call conferencing, call transferring, call forwarding or re-dialing via various alternate common carriers, many of whom now offer "1-800" or local telephone number (e.g., "950") access numbers. Also, care is taken to avoid disrupting calls that do not represent security breaches, by preventing false triggering of the above "passive" line monitoring features. For example, with respect to DTMF tone blocking, the TMU will look for any additional digits entered by an institutional caller, such as an inmate, to prevent the inmate from redialing to other telephone numbers that may not be authorized. However, to prevent "talkoff", whereby the normal telephone conversation can falsely trigger a disconnect signal (because the TMU may interpret the conversation as DTMF dialing), the TMU can be set to look at the number of digits dialed within a specified time period (e.g., six (6) digits within a fifteen (15) second time period, or any variation of the two parameters) and thereby, determine whether the audio information is indicative of unauthorized DTMF redialing or just a normal speech or voice pattern.

All calls are passively monitored and all calls that can be legally recorded-i.e., all but inmate-to-attorney calls-are recorded. At any time, prison officials can selectively invoke live monitoring to listen in on any call in progress, except an inmate-to-attorney call. System alarms, which trigger any time a particular inmate places a call or calls a certain person, allow officials to determine when live call monitoring is appropriate. Likewise, the telephone system of the system can be programmed to default in any manner. For example, the system can be set to place only those telephone calls that are among a pre-approved list of telephone numbers. Conversely, the system can be set to place all telephone calls except those that are among a list of restricted telephone numbers. Optionally, the telephone system of the system can include speed dialing, whereby upon entering a PIN, for example, an inmate can enter "11" followed by the "# " key. In that case, the prison administrator may have established that "11" is the speed-dialing sequence for that inmate's mother. Of course, the system could be configured so that the inmates themselves can program the telephone system with speed-dialing digits, however, a principal objective of speed-dialing is to save time at the telephone, thus making the telephones available to the largest number of inmates in the shortest possible time period.

In addition, the system may include biometric voice verification features. The TMU, for example, may digitize a sample of the caller's voice. The CCU then compares the digitized sample with a stored voice print, to verify the identity of the caller. Such biometric monitoring may also be used in a passive call monitoring mode, wherein periodic samples of the caller's voice are provided to the CCU-and checked against a list of authorized voice prints-to ensure that no unauthorized callers are participating in a call, and to ensure that inmates are not sharing or selling relatively liberal calling privileges associated with a particular PIN or inmate account to other inmates that are subject to more limited calling privileges. The use of biometric voice verification (or "voice prints") can prevent PIN abuse in general. For example, if a particular inmate with restricted calling privileges, or no available funds, attempted to force (e.g., by threatening physical attack) another inmate with relatively non-restricted calling privileges (or available funds) to turn over his PIN, biometric voice verification would obviate this problem, as the voice would be

used to validate entry into any inmate account.

In some further specific aspects of the invention, logic circuitry comprises gates and registers. The latter is used to store durations of tone bursts and spaces which the gates compare for consistencies with a preselected signal sequence. Further gates are utilized to detect one of a plurality of preselected error conditions. Occurrence of an error condition is used to override indication of a valid signal sequence and to identify possible malfunctions in apparatus used to generate the preselected signal sequences. The storage of certain tones may be desired, for example, with ring or busy signals. As those tones are often associated with specific cadences (ring 2/3 on, 1/3 off, and busy 50% on, 50% off), the sensing of cadence in addition to tone frequency can improve system reliability. The detection of tones can be accomplished by certain integrated circuits, such as the Teltone brand series of chips, designed to detect and digitally decode DTMF and/or SIT tones. Typically, DTMF tones are the 12 conventional Touch Tones (1-9, 0, # and *), and SIT tones are generated by the local central office equipment when a call does not go through, for example, if a number is blocked from a particular telephone number, a number is no longer in use, a number has been disconnected, an area code has been changed, etc. With the system, such tones (DTMF or SIT), or other tones (dial, ringing, busy or call progress tones) are used to signal an inmate or other regulated telephone system that a called party (a party called by, e.g., an inmate) is attempting to bridge that telephone call together with some unknown and/or unauthorized third party. Upon the detection of such a tone (call progress tone or other tone), the system may either terminate the call between the inmate and the called party, or may evaluate what third party was called, to attempt to validate such a third party call.

The system relies on some of the same circuitry used by certain customer owned coin operated telephones (COCOTS) and other facility based PBX equipment. Some such pay telephone stations are provided with apparatus for detecting when a called party has answered a call (initiated at the coin telephone station) by tracking call progress tones, and sensing tone cadence. The apparatus of the system may also include circuitry for inhibiting the indication of called party answer when a sequence of three predetermined (such as SIT) tones are received; such tones generally precede an intercept message such as one that announces that a telephone number has been changed or disconnected. The apparatus further includes circuitry for inhibiting the indication of called party answer when call progress tones are detected. Finally, the system can sense DTMF tones themselves, often used in the completion of calls by Touch Tone telephones.

The system thus obviates the need to rely on sensing clicks or pops associated with attempts by called parties to bridge calls via conference call circuitry or call waiting. Such reliance is disadvantageous. First, depending upon the local exchange carrier switch, call waiting and call conferencing, as provided by the telephone companies, may not even generate any click or pop (or other suitable pulse that could activate the Kitchin circuitry). Also, the circuitry of Kitchin is susceptible to false triggering, as it senses impulses that can occur randomly. To the contrary, applicant contends that the invention set forth herein is simpler and more accurate, certainly insofar as false triggering is concerned. Applicant contends that the sensing of tones exclusively as a means to restrict third party calls will lead to far less false triggering as compared to the Kitchin proposal. As applicant's invention is not directed to sensing third party call attempts that do not involve tones, applicant senses only tones-not impulses associated with hook flashes, as Kitchin requires. To the contrary, applicant contends that the system obviates the need for that by sensing other criteria that may be indicative of an attempt by a called party to bridge one telephone caller with another.

1. Claims 3, 4, 9, 10, 13, 14, 19 and 20

In all, the '533 patent has 20 claims, but T-Netix is only asserting claims 3, 4, 9, 10, 13 14, 19 and 20. Of

these claims, Claims 3, 9, 13 and 19 are independent. Claim 3, 4, 9 and 10 are method claims, and claims 13, 14, 19 and 20 are apparatus claims.

In any case, all of the disputed terms (shown in boldface) appear in claim 1.

3. A method of managing telephone activity in an institution, comprising the steps of:

(1) providing *a first communication connection between an institutional caller and an outside recipient;*

(2) sensing ring tones present along *said first communication connection;* and

(3) comparing said ring tones with a set of predetermined tones to determine whether said outside recipient is attempting to bridge *said first communication connection* with a second communication connection.

4. The method according to claim 3 wherein the cadence of said ring tones is detected.

9. A method of managing telephone activity in an institution, comprising the steps of:

(1) providing *a first communication connection between an institutional caller and an outside recipient;*

(2) sensing call progress tones present along *said first communication connection;* and

(3) comparing said call progress tones with a set of predetermined tones to determine whether said outside recipient is attempting to bridge *said first communication connection* with a second communication connection.

10. The method according to claim 9 wherein the cadence of said call progress tones is detected.

13. An apparatus for managing telephone comprising:

(1) *a first communication connection between a caller and a called party;*

(2) a tone monitor for monitoring *said first communication connection,* wherein said monitor is responsive to the occurrence of ring tones, and wherein said ring tones correspond to attempts by said called party to connect *said first communication connection* with a second communication connection; and

(3) a call handler activated by said tone monitor for preventing said first and said *second communication connections* from being connected.

14. The apparatus of claim 13 wherein the cadence of said ring tones is detected.

19. An apparatus for managing telephone comprising:

(1) *a first communication connection between a caller and a called party;*

(2) a tone monitor for monitoring *said first communication connection,* wherein said monitor is responsive to the occurrence of call progress tones, and wherein said call progress tones corresponds to attempts by

said called party to connect *said first communication connection* with a second communication connection; and

(3) a call handler activated by said tone monitor for preventing said first and said *second communication connections* from being connected.

20. The apparatus of claim 19 wherein the cadence of said call progress tones is detected.

2. "a first communication connection," "a first communication connection between a caller and a called party" & "a first communication connection between an institutional caller and an outside recipient"

a) The Parties' Proposed Construction and Arguments

T-Netix's Proposed Construction

"A first communication connection" means a telephone connection between an institutional caller and an outside recipient.

"A second communication connection" means a telephone connection between the outside recipient and another party.

T-Netix's PowerPoint presentation at the *Markman* Hearing, Slides 4 and 10.

Global's Proposed Construction

"a first communication connection between a caller and a called party" or "a first communication connection between an institutional caller and an outside recipient" means:

1. the telephone instrument of the caller,

2. the telephone instrument of the called party, and

3. all apparatus for maintaining an ongoing communication connection between the caller and the called party. Global's PowerPoint presentation at the *Markman* Hearing, Slide 10.

b) Discussion

The '533 patent is little help in interpreting "communication connection." The term appears only in the claims and not in the specification. The problem with following the rule of using the plain meaning is that both uses of the word "connection" come within the plain meaning, since both meanings are common. According to *McGraw-Hill Dictionary of Scientific and Technical Terms,* Fifth Edition, the term "telephone circuit" means:
"The complete circuit over which audio and signaling currents travel in a telephone system between the telephone subscribers in communication with each other."

This does not prevent the use of another term as a synonym. As an example, *The IEEE* (Institute of Electrical and Electronic Engineers) *Standard Dictionary of Electrical and Electronic Terms,* 1972, defines "telephone connection" as:
"A two-way telephone channel completed between two points by means of a suitable switching apparatus and arranged for the transmission of telephone currents, together with the associated arrangements for its functioning with the other parts of a telephone system in switching and signaling operations."

Global also makes the argument based on the formatting of the claims affecting the scope of the claims. It is a valid point. It would have been possible to move certain elements to the preamble rather than including them as claim elements. The '533 patent includes numerous references such as "a trunk management unit, which *connects institutional telephones to outside telephone lines*" from the Abstract and "Referring now to FIG. 4, a block diagram of one channel of a multichannel TMU 2 is shown. Generally, TMU 2 includes circuitry to selectively connect *inmate phones with outside lines*" from column 12, beginning with line 28. Similar phrases appear throughout the patent where some form of the word "connect" is used with "outside lines" or "outside telephone lines." We cannot, however, rewrite the claims. To interpret the claims as Global urges, does, however, create a disclosure problem. The figures used by Global at the Markman hearing add to Figure 1 of the '533 patent. Figure 1 stops at showing outside telephone lines 8. Global added blocks for "local central office" and "remote central office" and shows the called party and a telephone as well as a person representing a third person and the second communication connection with a telephone. None of these items appear in Figure 1 or any figure of the patent. Figure 4 shows lines going to and coming from a central office, but that is all. There are, of course, reasons to not move some items to the preamble, such as patentability issues or measure of damages. Normally, however, we try to interpret ambiguous claims in a manner that supports validity. We can do that by either interpreting "communication connection" in a narrow sense, such as the dictionary definition put forward by T-Netix:

"3. anything that connects: connecting part; link; bond: *a pipe connection*."

In a normal landline connection between wired telephones, all of the wires, switches and telephones preexist before a "connection" takes place, so there is some logic to this claim construction. In the alternative, it could be said that the existence of telephones and telephone offices are so well known that no specific disclosure is needed for those features, in which case there is no disclosure problem. That seems to be the better logic in this case, since the construction urged by Global takes into account both the structure of the claims and the shift away from the more restricted language of the specification. Finally, it brings the term "communication connection" into agreement with the term "telephone connection" which is appropriate since the communication that the patent concerns is telephone communication.

c) Construction-"a first communication connection between a caller and a called party"

In view of the foregoing, the Court concludes that:

d) The term-"a first communication connection between a caller and a called party" and the term "a first communication connection between an institutional caller and an outside recipient" mean:

1. the telephone instrument of the caller,
2. the telephone instrument of the called party or outside recipient, and

3. all apparatus for maintaining an ongoing communication connection between the caller and the called party or outside recipient.

IV.

Conclusion

This is the Court's final *Markman* Order with respect to T-Netix's '956, ' 702 and '533 patents.

E.D.Tex.,2008.
T-Netix, Inc. v. Global Tel*Link Corp.