A PRACTICAL SOLUTION TO CLAIM CONSTRUCTION: STOPGAP MEASURES WHILE WAITING FOR REFORM

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INTRODUCTION

In *Markman v. Westview Instruments, Inc.*,[1] the Supreme Court held that claim construction was a matter for the judge rather than the jury. The reasoning was, in relevant part:[2]

> [T]he limits of a patent must be known for the protection of the patentee, the encouragement of the inventive genius of others and the assurance that the subject of the patent will be dedicated ultimately to the public. Otherwise, a zone of uncertainty which enterprise and experimentation may enter only at the risk of infringement claims would discourage invention only a little less than unequivocal foreclosure of the field, and the public would be deprived of rights supposed to belong to it, without being clearly told what it is that limits these rights.

While the purpose behind the Supreme Court's holding was laudable, the expected increase in predictability has not been realized.[3] Given the lack of predictability,[4] either the Supreme Court misjudged the ability of judges to more accurately construe claims or improper methodology has been used in the attempt to carry out the Supreme Court's intent. This Comment assumes that the Supreme Court correctly assessed the abilities of District Court judges and that the problem lies in the methodology.

To address the issue of unpredictable claim construction, this comment reviews the policies behind a patent grant and looks at how claim construction is currently done. Next, this comment develops criteria and uses the criteria to analyze the current and suggested methods for claim construction. Finally, this comment proposes a change in the methodology that 1) addresses some of the shortcomings of the existing alternatives and 2) is relatively simple to implement.

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1 517 U.S. 370, 390 (1996).

2 *Markman*, 517 U.S. at 390.

3 *See* Cybor Corp. v. Fas Tech., Inc., 138 F.3d 1448, 1476 (Fed. Cir. 1998) (en banc) (Rader, J., dissenting) (arguing that current handling of the patent claims has resulted in an overturning of almost 40 percent of claims); Christian Chu, *Empirical Analysis of the Federal Circuit's Claim Construction Trends*, 16 BERKELEY TECH. L.J. 1075, 1104-05 (2001) (arguing that the reversal rate of claim construction has increased over time since the decision in *Cybor Corp.*, 138 F.3d 1448).

4 *Cybor Corp.*, 138 F.3d at 1476; Chu, *supra* note 3, at 1104. Of the 179 cases that involved expressed claim construction review, the CAFC modified the claim construction 44% of the time. Chu, *supra* note 3, at 1104.

BACKGROUND

A. Patent Basics

A patent gives the inventor or assignee the right to exclude all other from using, selling or making the invention.[5] The patent, at a basic level, consists of a subject matter claim and sufficient disclosure to enable one skilled in the art to practice the invention.[6] To obtain a patent, the invention must be new[7], novel[8] and non-obvious.[9] The right to exclusivity is territorial; the owner of the patent can only exclude others from using the invention within the United States.[10] The right of exclusivity is for a limited period of 20 years.[11]

1. The Purpose Of Patents

A patent serves two basic functions: granting an exclusive right to the inventor, as previously mentioned, and providing the public with a disclosure sufficient to allow one skilled in the art to practice the invention.[12] From the inventor's perspective, the grant of a patent allows and encourages an inventor to research and discover a widget that is valuable with the hope of a net gain for the inventor.[13] From a public perspective, the monopoly-like grant of a patent is given with the expectation that the long-term value of the advancement in the art will

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5 35 U.S.C. § 154(a) (1994 & Supp. 1999). The right to exclusivity also relates to processes and grants the owner the right to prevent products made by the process from being used or sold in the US. *Id.*

6 *Cf.* 35 U.S.C. § 112 (1994) (requiring both a written description and the claims, which together make up the specification).

7 35 U.S.C. § 101 (1994). The invention can be for "any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement." *Id.*

8 35 U.S.C. § 102 (1994 & Supp. 1999). Section 102 can be logically split into two types of conditions, a statutory bar and a requirement of novelty. *Id.*

9 35 U.S.C. § 103(a) (1994). "A patent may not be obtained . . . if the differences between the subject matter sought to be patented and the prior art . . . would have been obvious . . . to a person having ordinary skill in the art . . . ." *Id.*

10 35 U.S.C. § 154.

11 *Id.*

12 *See* U.S. CONST art. I, § 8, cl. 8. The patent is granted "[t]o promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries." *Id.*

13 *See* RICHARD A. POSNER, ECONOMIC ANALYSIS OF LAW 43 (5th ed. Aspen Law & Business 1998). An individual might spend $50 million to invent a new blender. *Id.* This research would only be done if the inventor could expect to make a profit greater than $50 million. *Id.* Without the patent protection, there would be no way to exclude other manufactures from making an identical blender and selling it at a lower cost. *Id.* The other manufactures would not need to recoup the investment costs and thus could sell the blender for a lower price and still make a profit, effectively driving the original inventor out of business. *Id.* Knowing this, the original inventor would not spend the money on research that he could not recover. *Id.* Regarding why the blender invention is an increase in value, it might be more useful to the consumer or it might be cheaper to manufacture, both scenarios would improve the value of the blender.

outweigh the dead-weight loss due to the monopoly-like protection a patent gives to its owner.[14]

2. The Importance Of The Patent System To The United States Economy

The United States economy is the largest in the world.[15] Currently, the United States imports more than it exports; therefore, the economy of the United States is important to much of the world.[16] Thus, any factor important to the growth of United States economy needs to be carefully designed so as to ensure there are no unnecessary complications or restrictions to growth.[17]

One important factor to the United States economy is technology. Economist Robert M. Solow has argued that as much as 90% of the growth in the United States' GDP is related to technology gains.[18] In addition, economist Paul M. Romer has suggested that research and development is one place where increased investments do not suffer from diminishing returns.[19] Because patents, at least to some degree, help promote technology gains, an argument can be made that a well-functioning patent system is important to the United States economy.[20]

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14 DONALD S. CHISUM ET AL., PRINCIPLES OF PATENT LAW 5 (2d ed. 2001). The dead weight loss is the sum of the loss of consumer and producer surplus less the producer surplus gained. *Id.* at 63-65. If there are sufficient substitutes for a product the monopoly-like protection will provide no aid to the producer because consumers will purchase substitutes if the price of the good rises above the market price for that type of good. *Id.* at 65-66.

15 *World Gross Domestic Product at Market Exchange Rates, 1991-2000*, ENERGY INFORMATION ADMINISTRATION, *available at* http://http://www.eia.doe.gov/emeu/iea/popgdp.html (last visited Oct. 14, 2002) (showing that the United States GDP, at nine trillion dollars, is almost twice the size of Japan's economy and more than three times the size of the German economy). For a more complete look at the U.S. economy, see Virginia H. Mannering & Kenneth A. Petrick, *Gross Domestic Product: Second Quarter 2002 (Final)*, *at* http://www.bea.doc.gov/bea/newsrel/gdpnewsrelease.htm/ (last visited Oct. 14, 2002).

16 *See* Final Report of "The U.S. Trade Deficit Causes, Consequences and Recommendations for Action", *at* http://www.ustdrc.gov/reports/finalrept-contents.html (last visited Nov. 2, 2001) (stating that the trade deficit in the year 2000 was about 450 billion dollars).

17 *Cf.* Alan Greenspan, *Economy and Change Investing in an Educated Future*, STUDYOVERSEAS.COM (Oct. 14, 2002), *at* http://www.studyoverseas.com/business/greenspna.htm (suggesting that the bulk of the recent increases in GDP represents insights into how to transform raw materials into finished goods and that the education system is crucial to promoting future improvements in technology). Just like education is crucial to discover the advances, patents are crucial to encouraging companies to invest in research with a hope of return.

18 Robert M. Solow, *Technical Change and the Aggregate Production Function*, 39 REV. ECON. & STAT. 312, 320 (1957). The article introduced a way to separate the variations in output per head between technology and capital investment. *Id.* at 312. This separation allows one to look at the how technology increases have impacted the United States economy.

19 Paul M. Romer, *Increasing Return and Long-Run Growth*, 94 J. POL. ECON. 1002 (1986). Assuming "forward-looking, profit-maximzing agents", the long-run growth is driven primarily by accumulation of knowledge. *Id.* at 1003. More importantly, knowledge exhibits increasing rates of return, and therefore there is no optimal level of technology. *Id.* This means that increasing levels of knowledge bring increasing levels of productivity, no matter how much knowledge already exists.

20 *See* Robert P. Merges, *Uncertainty and the Standard of Patentability*, 7 HIGH TECH. L.J. 1, 8 (Spring 1992) (arguing that many of the critiques of the patent system are out of date because the patent system was significantly strengthened with the creation of the Federal Circuit). The value of

If the importance of patents is accepted, the need for a well-functioning patent system is obvious. While it is not clear where the ideal patent system would draw lines regarding the level of protection and the level of advancement to the art,[21] it is possible to say what an ideal system should not look like.[22] An ideal patent system would not allow vague claims that make it difficult to determine the scope of the claims,[23] it would not grant excessive gains to either the public or the patentee,[24] and it would not have excessive transactional costs.[25] More specifically, a properly functioning patent system would provide certainty to the patent holder and to the public regarding the right to exclude.[26]

Certainty is important to an inventor because a patent is only worthwhile if the right to exclude has a value greater than the cost to enforce that right.[27] Therefore, to encourage research, it makes sense to make the costs of the patent as clear as possible.[28] To ensure that the value of the patent is maximized requires that the patent first be valid, for any attempt to enforce the patent right against other

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patent damage awards has significantly increased since the creation of the Federal Circuit, thus suggesting that patents have become more valuable. *Id.*

21 *See generally* George M. Sirilla, Hon. Giles S. Rich, *35 U.S.C. § 103: From Hotchkiss to Hand to Rich, The Obvious Patent Law Hall-of-Famers*, 32 J. MARSHALL L. REV. 437 (Spring 1999) (tracing development of obviousness factor and how the strength of patents has changed through out the years). Because of the difficulty in determining just how strong the patent protection should be or just how difficult it should be to receive a patent, the task is best left to future historians, perhaps they may find it possible to determine where the line should have been drawn.

22 *See generally* 35 U.S.C. (laying out patent requirements).

23 *Cf.* 35 U.S.C. § 112 (requiring detailed enough specification so the patent is enabling and gives notice).

24 *See* CHISUM, *supra* note 14, at 5 (explaining that dead-weight loss is a result of monopolistic protection given to patent holder); *see also* Aronson v. Quick Point Pencil Co., 440 U.S. 257, 262 (1979) (holding that patents are a balance of reward for the inventor and knowledge for the public); Merges, *supra* note 20, at 18-19 (arguing that the purpose of a patent enablement doctrine is to ensure the property grant to the inventor is appropriate in light of the knowledge contribution to the inventor's field of research).

25 *Cf.* Mark Zandi, *The Why(s) of This Expansion, Part II*, THE DISMAL SCIENTIST (Feb. 3, 2000), *at* http://www.dismal.com/dismal/dsp/article.asp?aid=501 (arguing that part of the reason for the strength of the economy is the increased power of computers and the lower cost of doing business as a result) (last visited Oct. 14, 2001) (subscription required).

26 *See* Paul R. Michel, *A Review of Recent Decisions of United States Court of Appeals for the Federal Circuit*, 48 AM. U.L. REV. 1177, 1191 (1999) (arguing that a serious problem exists with the current patent system if seasoned practitioners are unable to predict the outcome based on a given set of facts).

27 *See* CHISUM, *supra* note 14, at 73. The value of a patent could be obtained through license agreements, manufacturing a desirable product or simply selling the patent. *Id.* The cost of the patent can include the cost to invent, the cost of actually obtaining the patent and the cost to enforce the patent. *See generally id.* at 66-76. In addition, an inventor has to evaluate the risk that a superior invention will be discovered, reducing the value of the inventor's patent or that someone will be able to design around the patent. *Id.* at 75.

28 *See* Merges, *supra* note 20, at 18-20 (arguing that firms might well try to patent riskier, i.e. more difficult to prefect, inventions if the rewards were known to be higher, thus compensating for the increased risk). Unfortunately, the cost of a patent can be quite high, for in addition to the attorney fees and the filing fees and maintenance fees there are the litigation fees. Samson Vermont, *The Economics of Patent Litigation, Part 1, available at* http://www.hunton.com/pdfs/article/Risk_Reward.pdf (last visited Oct. 14, 2002); *see also,* AMERICAN INTELLECTUAL PROPERTY LAW ASSOCIATION, REPORT OF ECONOMIC SURVEY 1999, at 72 (showing that in California the typical cost of a patent infringement case is almost 2.5 million dollars).

individuals may result in a counter-claim that the patent is invalid.[29] Assuming the patent is valid[30], the real question then becomes whether the patent has been infringed.[31] If infringement were clear, then the infringer would want to settle out of court because the cost of litigation would be added to the inevitable cost of infringing that would be charged to the infringer.[32] Unfortunately, infringement is not always clear because what the patent covers is sometimes ambiguous and it is possible, while not literally infringing the patent, to infringe the patent under the doctrine of equivalents.[33]

3. The Function Of Patent Claims.

An important factor in determining the patent holder's right to exclude is the patent claim.[34] The claim gives the public fair notice as to what is being claimed.[35] The claim covers a product or a process but not a function or result or scientific explanation of the operation.[36] The claim defines the right to exclude both things that are perfect copies of the invention and things that reach "the heart of the

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29 *See, e.g.,* Amtel Corp. v. Info. Storage Devices, Inc., 198 F.3d 1374 (Fed. Cir. 1999); Georgia-Pacific Corp. v. United States Gypsum Co., 195 F.3d 1322 (Fed. Cir. 1999). Another common tactic is for a potential patent infringer to sue seeking a declaratory judgment that the patent is invalid or not infringed. *E.g.,* Dow Chemical Co. v. Astro-Valcour, Inc., 267 F.3d 1334, 1336 (Fed. Cir. 2001); Vivid Technologies, Inc. v. Am. Sci. & Eng'g, Inc., 200 F.3d 795, 799 (Fed. Cir. 1999).

30 *See* 35 U.S.C. § 282 (1994 & Supp. 1999) (presuming that a patent is valid); *Robotic Vision Sys. v. View Eng'g, Inc.,* 189 F.3d 1370, 1377 (Fed. Cir. 1999) (holding that, given the strong presumption that a patent is valid, an invalidity claim must be proven by clear and convincing evidence). To ensure that the value of the patent is maximized requires that the patent first be valid, for any attempt to enforce the patent right against other individuals may result in a counter-claim that the patent is invalid. *E.g., Amtel Corp.*, 198 F.3d at 1376; *Georgia-Pacific Corp.*, 195 F.3d at 1326.

31 *See* 35 U.S.C. § 154(a) (granting the right to exclude other from practicing the invention). Logically, if the accused device does not infringe (or practice) the invention then the patent owner has no right to control the accused device.

32 *Cf.* Merges, *supra* note 20, at 43-44 (arguing that a risk-adverse person would demand a higher reward if the outcome was less certain). The analogy relates to infringement in a straightforward manner, if chance of a showing infringement approaches zero than a risk-adverse person would not spend money in an attempt to show infringement.

33 *See Markman*, 517 U.S. at 373-74 (holding that patents also protect against products that "go to the heart of the invention"); *but see* Festo Corp. v. Shoketsu Kinzoko Kogyo Kabushiki Co., Ltd., 122 S. Ct. 1831 (2002) (vacating and remanding but holding that doctrine of equivalents is not available for a particular limitation if the scope of the limitation was narrowed and the limitation originally covered the alleged equivalent). When *Festo* is combined with the recent decision in *Johnson & Johnston Associates Inc., v. R.E. Service Co., Inc.,* 285 F.3d 1046 (Fed. Cir. 2002), there is not much left to the doctrine of equivalents.

34 *Markman*, 517 U.S. at 373. The patent must have one or more claims that "particularly point out and distinctly claim the subject matter which the applicant regards as his invention." *Id.* (citing 35 U.S.C. § 112).

35 *See* 35 U.S.C. § 112 (requiring the specification to set forth a claim with supporting disclosure); *Markman*, 517 U.S. at 373 (holding that one side of the bargain for a patent is a public disclosure so that other inventors will know what is still available); Merges, *supra* note 20, at 18-19.

36 *Markman*, 517 U.S. at 373; *see also*, 35 U.S.C. § 101 (listing what types of inventions or discoveries can be patented).

invention but avoid the literal language... by making a noncritical change."[37] Typically, patent lawsuits charge that the defendant made, used, or sold the invention without permission of the patent owner (i.e. the accused device or process is infringing on the patentee's exclusive right to the invention).[38] The determination of infringement requires the court 1) to construe what the patent claims mean and 2) to determine if the construed claim covers the alleged infringing device or process.[39]

B. The Effect of Markman On Claim Construction

Markman I[40] and *Markman II*[41] had no real effect on the logical analysis of infringement, first the claims are construed and then the construed claims are compared to the accused device to determine if there is infringement.[42] Before *Markman*, the issue of claim construction was sometimes considered to be a question of fact and sometimes considered to be a question of law.[43] Either the judge or the jury was free to decide the issue of claim construction, depending on whether it was a bench or jury trial.[44]

1. The Markman Holdings[45]

While *Markman* went to the Supreme Court, both *Markman I* and *Markman II* have holdings that are noteworthy.[46] *Markman* started in the Eastern District

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37 *Markman*, 517 U.S. at 373. *But see supra,* note 33 (suggesting that insubstantial changes may well escape infringement under the current doctrine of equivalents framework).

38 *Markman*, 517 U.S. at 374. Sometime a potential infringer will initiate the lawsuit against the patent holder, a common tactic is for the potential patent infringer to sue seeking a declaratory judgment that the patent is invalid or not infringed. *E.g., Dow-Chemical Co.*, 267 F.3d at 1336-37; *Vivid Technologies, Inc.*, 200 F.3d at 799.

39 *Vivid Technologies, Inc.*, 200 F.3d at 803; *Markman*, 52 F.3d at 976; Hormone Research Found, Inc. v. Genentech, Inc., 904 F.2d 1558, 1562 (Fed. Cir. 1990).

40 *Markman*, 52 F.3d 967.

41 *Markman,* 517 U.S. 370.

42 *Cybor Corp.,* 138 F.3d at 1466 (Mayer, J., concurring).

43 *See* Tol-O-Matic, Inc. v. Proma Produkt-Und Mktg. Gesellschaft m.b.H., 945 F.2d 1546, 1550-52 (Fed. Cir. 1991) (holding that claim construction can be a factual question); Palumbo v. Don-Joy Co., 762 F.2d 969, 974 (Fed. Cir. 1985) (holding that the meaning of a claim, when disputed, is a factual question and can be submitted to the jury or the judge). In fact, a significant line of cases existed stating that claim construction could be a question of fact. *Markman,* 52 F.3d. at 977 (citing cases). Somewhat confusingly, a second line of cases held that claim construction was a question of law. *Id.* (citing cases). While the Federal Circuit has apparently been inconsistent, the Supreme Court has consistently held that claim construction is a question of law. Hogg v. Emerson, 47 U.S. (6 How.) 437, 484 (1848); Silsby v. Foote, 55 U.S. (14 How.) 218, 225 (1853); Singer Mfg. Co. v. Cramer, 192 U.S. 265, 275 (1904).

44 *Palumbo*, 762 F.2d at 974.

45 In this note, the term "Markman" refers to both the Supreme Court and the CAFC decision collectively. Markman I and Markman II will used to refer to the CAFC decision and Supreme Court decision, respectively, where there is a need to differentiate between the two cases.

46 *See Cybor Corp.,* 138 F.3d at 1451 (holding that because the Supreme Court affirmed the CAFC in Markman II, the CAFC's holding in Markman I that claim construction is review *de novo* was fully supported).

Court of Pennsylvania, there the District Court granted judgment as a matter of law ("JMOL") because the court found that claims one and ten were not infringed as a matter of law.[47] In *Markman I*, an *en banc* Court of Appeals for the Federal Circuit ("CAFC") affirmed the decision and held that claim construction was a legal question to be resolved by the court.[48] The CAFC also held that the claim construction would be reviewed de novo on appeal.[49] The United States Supreme Court granted certiorari[50] and affirmed the judgment of the CAFC.[51] The Supreme Court held that claim interpretation was better left in the hands of a judge because the judge, when compared to a jury, was better suited to interpret complex patent language.[52]

2. The Affect Of Markman On Patent Litigation

Since the holding in *Markman*, the District Courts have held what are known as "Markman hearings."[53] The hearings typically take place after a substantial portion of the discovery process has occurred.[54] In the hearing the patent claims are construed by the District Court judge.[55] After the Markman hearing, both parties have the claim construction and then attempt to win on the infringement determination portion of the trial.[56] Both sides know, however, that the claim construction is reviewed de novo by the CAFC.[57]

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47 Markman v. Westview Instruments, Inc., 772 F.Supp. 1535, 1536 (E.D. Penn. 1991).

48 *Markman*, 52 F.3d at 970-71.

49 *Markman*, 52 F.3d at 975.

50 Markman v. Westview Instruments, Inc., 515 U.S. 1192 (1995).

51 *Markman*, 517 U.S. at 391.

52 *Markman*, 517 U.S. at 388-91. First, a judge in general is better suited to interpreting complex written instruments. *Id.* at 388. Therefore, a judge is more likely to correctly construe a technical patent claim. *Id.* at 388-89. Second, while a jury is good at deciding questions of credibility of expert testimony, most cases will not rest on expert testimony. *Id.* Third and finally, the importance of conformity indicates that judges should construe the claims because issue preclusion will promote "intrajurisdictional uniformity." *Id.* at 390-91.

53 *See, e.g.*, Ethicon Endo Surgery, Inc. v. United States Surgical Corp., 93 F.3d 1572, 1577 (Fed. Cir. 1996) (discussing how the District Court, after the Markman I decision, decided to hold a Markman hearing and interpret the claims).

54 *See* William F. Lee & Anita K. Krug, *Still Adjusting To Markman: A Prescription For The Timing Of Claim Construction Hearings*, 13 HARV. J. LAW & TEC 55 (1999) (arguing that the most appropriate time for a "Markman hearing" is after the needed discovery has been completed but before the trial starts).

55 *See Ethicon*, 93 F.3d at 1577 (reviewing District Court's decision). The District Court judge held a five-day hearing. *Id.* At the close of the hearing the judge construed the claims. *Id.* He determined that claims 6 and 24, in light of the prosecution history, had to be read narrowly and therefore United States Surgical Corp. did not literally infringe claims 6 or 24. *Id.*

56 *Ethicon*, 93 F.3d at 1577. In *Ethicon*, after narrowly construing the claims, the court granted JMOL on the issue of literal infringement and also granted JMOL on the issue of infringement under the doctrine of equivalents, effectively ending the case. *Id.*

57 *Cybor Corp.*, 138 F.3d at 1454. The trial court looks at the actual wording of the patent claim and the prosecution history. *Id.* The trial court then, using extrinsic evidence where helpful, resolves what the claim means as a matter of law. *Id.* The trial court's construction, enlightened though it may be by extrinsic evidence, is still just a decision of law and is subject to *de novo* review. *Id.*

The Markman hearing itself has several steps, for construing a complex patent claim is not a simple thing.[58] First, the judge examines the patent claim language in an attempt to determine the plain meaning.[59] Second, the judge compares the plain meaning of the claim to the written description and the prosecution history, for the proper meaning will make sense in light of the written description and the prosecution history.[60] Third, judges while construing the claim may take into account extrinsic evidence like "customs and usage in the relevant art," the "level of ordinary skill in the art," and numerous other factual components during the claim constructing process.[61] After considering all the relevant evidence, the judge determines the proper claim construction and the case continues.[62]

C. The Markman Problem And Proposed Solutions

The problem with the current rule of law regarding infringement rests with how the claim construction is reviewed on appeal.[63] The District Court construes the claims of the patent to determine the scope of the patent grant.[64] Claim construction is purely a legal matter, however, and the CAFC is free to modify the claim construction on appeal because the review is *de novo*.[65] As the Supreme Court stated, having the CAFC review claim construction does arguably promote consistency in how claims are construed because there is only one circuit court

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58 *Cf. Markman*, 517 U.S. at 390 (holding that, given the difficulty of interpreting patent claims, judges will construe claims rather then juries because judges are better suited to complex claim interpretation).

59 *Vivid*, 200 F.3d at 804 (citing Slimfold Mfg. Co. v. Kinkead Indus., Inc., 810 F.2d 1113, 1116 (Fed. Cir. 1987)); *Ethicon*, 93 F.3d at 1577; *Vitronics*, 90 F.3d at 1582. "First, we look to the words of the claims themselves, both asserted and nonasserted, to define the scope of the patented invention." 90 F.3d at 1582. Words are given their normal meaning unless the patentee uses the words in a different manner and the patentee makes the special definitions clear in the specification. *Id.*

60 *Vivid*, 200 F.3d at 804; *Ethicon*, 93 F.3d at 1577; *Vitronics*, 90 F.3d at 1582. In *Vitronics*, the plaintiff appealed the claim construction of the District Court. 90 F.3d at 1578. The CAFC held that the plaintiff's requested construction was correct, in light of the prosecution history. *Id.*

61 *Cybor Corp.*, 138 F.3d at 1477-78 (Rader, J., dissenting) (arguing that more deference should be given to the District Court judge's claim construction because of all the extrinsic evidence available to the trial judge).

62 *Cf. Vitronics*, 90 F.3d at 1580 (noting that sometimes the way a court construes the patent claim can be dispositive on the issue of infringement); *Vivid*, 200 F.3d at 803 (holding that claim construction is well recognized to "resolve some or all of the issues of infringement").

63 The overall approach to determining infringement is well settled and not in dispute. *E.g. Markman*, 517 U.S. at 384; *Markman*, 52 F.3d at 976; SSIH Equipment S.A. v. United States Int'l Trade Comm'n, 718 F.2d 365, 376 (Fed. Cir. 1983).

64 *Ethicon*, 93 F.3d at 1577.

65 *Cybor Corp.*, 138 F.3d at 1451; *see also Vivid*, 200 F.3d at 799 (affirming the District Court's claim construction because, based on the specifications and prosecution history, the CAFC construed the claim the same way); *Vitronics*, 90 F.3d at 1578 (reversing the District Court's claim construction based on the patent's specification). In *Vitronics*, the District Court appeared to construe the claims based on expert evidence. 90 F.3d at 1581. The CAFC reversed, holding that in most cases the intrinsic evidence will be enough to resolve any ambiguity and that in this case the District Court improperly considered expert evidence contrary to the patent specification. *Id.* at 1583-84.

reviewing all claim construction.[66] The flip side to the consistency of claim construction is that until the CAFC rules on claim construction no one really knows how the claims will be construed.[67] Thus, while it is arguably important to get a favorable claim construction during a trial,[68] the construction that counts is the construction that the CAFC determines to be accurate.[69]

This de novo review tends to delay early settlement of cases, thus increasing the transactional costs.[70] Often, as parties are only likely to try close cases, until the claim construction is determined by the CAFC there is little reason to settle.[71] In addition, the parties have already spent most of the cost associated with litigation by the time the claims are construed so there is often no significant financial reason not to appeal to the CAFC.[72]

Several ideas have been suggested to solve the dilemmas of uncertain claim construction. One of the most obvious and easiest to implement would be to give

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66 *Markman*, 517 U.S. at 391. Logically, given the small number of judges on the CAFC, one would expect an increase in consistency as compared to relying on a much larger number of District Court judges or even the various other circuit courts.

67 *Cf. Cybor Corp.*, 138 F.3d at 1473 (Rader, J., dissenting) (arguing that *de novo* review of claim construction improperly removes the decision making process from trial, contrary to the Supreme Court direction in Wainwright v. Sykes, 433 U.S. 72, 90 (1977) that suggests the trial should be the main event); *see also* Michel, supra note 26, at 1191 (arguing that until the claims have been construed by a the CAFC the trial results "will not be seen as acceptable").

68 *Cf. Cybor Corp.*, 138 F.3d at 1476, n. 16 (citing a survey of patent decision that indicated the CAFC reversed, in whole or in part, about 38% of the District Court's claim construction). Because the reversal rate is lower than 50% there is some advantage in having the District Court rule in your favor.

69 *See Vitronics*, 90 F.3d at 1578 (reversing the District Court's claim construction); *Amtel Corp.*, 198 F.3d 1374 (reversing the District Court's holding that the claim was invalid for indefiniteness because the District Court improperly construed the means-plus-function limitation).

70 *See* Michel, *supra* note 26, at 1191 (arguing that if parties cannot predict the outcome they will be less likely to settle early).

71 *See* RICHARD A. POSNER, THE FEDERAL COURTS: CHALLENGE AND REFORM 88-90 (Harvard University Press, 1996) (explaining the mathematics behind deciding to sue someone). Three variables allow a party to determine whether to settle: P - the probability of winning, J - the judgment value, and C - the cost of litigation. *Id.* When P times J is greater then C it makes sense to pursue litigation. *Id.* Unfortunately, inabilities by parties to accurately predict P tends to cause parties to overestimate P times J and thus sue when C will substantially outweigh any benefit. *Id.* at 90. It has been argued that this equation is incomplete when talking about patent cases because there is a possibility that the entire patent will be lost. *See* Gwendolyn Dawson, Note, *Matchmaking in the Realm of Patents: A Call for the Marriage of Theory and Claim Construction Procedure*, 79 TEX. L.REV. 1257, n. 125 (2001) (arguing that the issue of patent validity changes the calculus of determining whether to sue). One could argue, however, that a properly determined C (based on the work of knowledgeable counsel) would include the actual cost of litigation, the loss of good will and any other consequential damages such as the loss of the patent. In addition, the value of a patent is only realized through the right to exclude. In some cases, losing an infringement case can be the equivalent of not having a patent at all and the costs relating to the loss of a patent may be trivial.

72 *See* Michele Galen, *Guilty!*, BUS. WK., Apr. 13, 1992, at 60, 64 (arguing that almost 80% of the cost incurred happen during discovery). Assuming that courts and parties would be reluctant to construe claims before discovery is complete, the additional expense of going to trial is probably not enough of a deterrent to cause both parties to settle because the discovery costs are sunk.

more deference to the trial judge's claim construction.[73] Interlocutory appeal has also been suggested as a means of solving the problem.[74] Alternative Dispute Resolution ("ADR") has also been recommend as a solution to claim construction.[75] Finally, it has been suggested that a panel of experts in the art resolve claim construction.[76] While each of these methods has certain advantages, this comment will show that each method falls short in meeting the current needs of the patent system and an alternative is needed if the patent system is going to effectively meet business requirements.[77]

ANALYSIS OF METHODS

In this section some criteria are developed for examining proposed solutions to claim construction. The criteria are then used to compare the current and proposed solutions to claim construction. The results show how different methods of claim construction further the policies behind patent law.

A. The Criteria Of Comparison

In order to propose an alternative to the current method of claim construction, it helps to look objectively at the existing method and compare it to possible alternatives.[78] This requires some objective criteria so that each alternative can

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73 *See Cybor Corp.*, 138 F.3d at 1477-78 (Rader, J., dissenting) (arguing that CAFC should be more deferential to District Court's claim construction). A single en banc decision could modify the *de novo* standard into a clear error standard.

74 *Cf. Cybor Corp.*, 138 F.3d at 1479 (Newman, J., dissenting) (noting that, despite the attempts of District Courts to get interlocutory appeal of claim construction, not once has the Federal Circuit granted certification).

75 *See* Scott H. Blackmand, Rebecca M. McNeill, *Alternative Dispute Resolution in Commercial Intellectual Property Disputes*, 47 AM. U.L. REV. 1709 (1998) (arguing that ADR often has significant advantages compared to litigation when parties are faced with an intellectual property dispute).

76 *See* Craig Allen Nard, *Legitimacy and the Useful Arts*, 10 HARV. J.L. & TECH. 515 (1997) (arguing that the PTO should be used to interpret claims); John F. Duffy, *Patent Law and Policy Symposium: RE-Engineering Patent Law: The Challenge of Technologies: Part 1: Administrative Law Issues: On Improving The Legal Process Of Claim Interpretation: Administrative Alternatives*, 2 WASH. U. J.L. & POL'Y 109 (2000) (arguing that patent claims could be construed more efficiently by an administrative body); Gregg A. Paradise, Note, *Arbitration of Patent Infringement Disputes: Encouraging the Use of Arbitration Through Evidence Rules Reform*, 64 FORDHAM L. REV. 247 (1995) (arguing that one of the advantages of arbitration is that the arbitrators can be knowledgeable in subject matter).

77 *See* Gwendolyn Dawson, *supra* note 71, at 1258 (arguing that the procedure used to protect patents is no longer properly aligned with the theory behind patents). This point is accepted as true for the purposes of this paper, indeed there would be little reason to suggest change if the patent system was working correctly. *C.f. Cybor Corp.*, 138 F.3d at 1476 (Rader, J., dissenting) (citing *CVI/Beta Ventures, Inc. v. Tura LP*, 112 F.3d 1146 (Fed. Cir. 1997), where the CAFC reversed its own previous claim construction). It is hard to argue that the system is working properly when faced with even a single case such as this.

78 *See* Duffy, *supra* note 76, at 111 (looking at patent law as if it were a technology and examining it as a technician looking for innovation would analyze an existing technology).

fairly be compared. Ideally, the criteria should be derived from our system of patent protection and be related to the policy behind patents.[79]

This comment will look at following factors: ease of implementation or compatibility with current system[80], efficiency for individual cases[81], quality and consistency in the outcome[82], and general patent policy implications.[83] Because this comment is looking at the issue of whether a better methodology exists, the legal fiction that claim construction is purely a question of law will be ignored.[84] For this comment, each factor will be weighted equally with the realization that a more perfectly designed weighting system would probably not ascribe equal weight to each factor.[85]

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79 *Cf. Markman*, 517 U.S. at 388 (holding that functional considerations should be used to determine what history and precedent could not answer).

80 *See* Duffy, *supra* note 76, at 113 (drawing an analogy between technology and legal methods and suggesting that practicality does matter). As a practical matter, a sweeping change is not desired because it is more difficult to overcome the inertia that naturally resists change. In addition, large changes have a tendency to bring about unexpected results and businesses do not need additional uncertainty to complicate the decision making process.

81 *Cf.* Wickard v. Filburn, 317 U.S. 111 (1942) (holding that an even an individual farmer is important in the national scope of the wheat industry). If one wheat farmer is important, then surely an individual patent is important. In addition, inefficiency in a case raises the transactional costs of the parties involved and, therefore, is contrary to the basic patent policy of encouraging innovation. *Markman*, 517 U.S. at 390.

82 *See Markman*, 517 U.S. at 390 (noting that the CAFC was created by Congress to increase the uniformity of decisions regarding patent law because such uniformity would "foster technological growth and industrial innovation"). While complete uniformity is impossible because of the different ways to frame a particular issue, increasing the current level of predictability will help promote the needs of businesses.

83 *See* Dawson, *supra* note 71, at 1259-60 (arguing that patent law should be designed so as to promote the balance between the incentive to invent and the limit on those incentives); *see also Markman*, 317 U.S. at 390 (explaining the reasons for why a patent grant needs to be clearly known); Duffy, *supra* note 76, at 111 (arguing that patent law should be studied as a technology with the intent to advance or improve the technology). It is probably fair to say that a patent system that fails to promote innovation has little value because the patent system was created for the purpose of promoting innovation. *Cf.* Hotchkiss v. Greenwood, 52 U.S. 248, 267 (1850). The Supreme Court affirmed a holding that a patent was invalid:

> unless more ingenuity and skill in applying the old method of fastening the shank and the knob were required in the application of it to the clay or porcelain knob than were possessed by an ordinary mechanic acquainted with the business, there was an absence of that degree of skill and ingenuity which constitute essential elements of every invention.

Id.

84 *See Cybor Corp.*, 138 F.3d at 1473 (Rader, J., dissenting) (arguing that claim construction was held to be a pure legal question to avoid the strictures of the Seventh Amendment); *c.f.* Lucas Aerospace, Ltd. v. Unison Industries, L.P., 890 F. Supp. 329,333, n. 7 (D. Del. 1995) (arguing that the CAFC "knowingly enters a land of sophistry and fiction" when it tells the District Court to ignore credibility of a party in the legal determination of a claim construction). As the Seventh Amendment only preserves the right to jury trial and the Supreme Court in Markman held there was no right to a jury trial for claim construction it is not necessary for the claim construction to be a pure legal issue. *Markman*, 517 U.S. at 384.

85 It is outside the scope of this comment to develop a weighting system that accurately depicts the importance of each factor to the United States economy and the legal system.

B. Methods Of Claim Construction

After developing the criteria for looking at claim construction methods, the next step is to apply the criteria. The order of comparison will start first with the existing method of claim construction and then look at possibilities that propose increasing levels of change. This sorting is based on the assumption that change, while needed, should be minimal to avoid unintended consequences where possible.[86]

1. The Current Method of Claim Construction

The current method of claim construction involves the District Court judge construing the patent claims.[87] Then, either party can appeal the claim construction to the CAFC which will construe the claims without deference to the District Court's claim construction.[88] After the equivalent of a second trial on the issue of claim construction, the parties, depending on the record, may either be told to retry the issue of infringement[89] or be told the outcome of the case based on CAFC's revision of the claim construction.[90]

The logical advantages are that this method should give consistent and high quality results because 1) the same 12 judges decide all patent claims, thus tending to minimize disagreements in claim construction,[91] and 2) these 12 judges regularly review claim construction and will develop a certain level of expertise because of their familiarity with patent claim construction issues.[92] In addition, compatibility with the current system is not an issue.

The disadvantage of the current method is its inefficiency for an individual case because the decision regarding claim construction is not final until the end of the

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86 *Cf.* Duffy, *supra* note 76, at 112 (arguing that it makes sense to target a discrete problem because most innovation are the culmination of many small improvements).

87 *Markman*, 517 U.S. at 391.

88 *Cybor Corp.*, 138 F.3d at 1451.

89 *See Vitronics Corp.*, 90 F.3d at 1578 (modifying the District Court's claim construction and remanding for further proceedings); *see also Amtel Corp.*, 198 F.3d 1374 (holding that District Court erred in the claim construction and remanding the case for further proceeding). In *Amtel Corp.*, the District Court granted summary judgment because the patent claim was indefinite but the holding rested on the finding that a means-plus-function limitation lacked sufficient disclosure and the lack of disclosure finding rested in the claim construction. 198 F.3d at 1375-78.

90 *See* Exxon Chem. Patents, Inc. v. Lubrizol Corp., 64 F.3d 1553, 1561-62 (Fed. Cir. 1995) (reversing the District Court's claim construction and holding that Lubrizol, based on the new claim construction, did not infringe as a matter of law). This holding effectively ended the case without giving Exxon a chance to argue the matter based on the new claim construction. *Id.*

91 *See* Michel, *supra* note 26, at 1191 (arguing that in 90% of the cases the results would be same regardless of whom composed the panel). This is similar to the statistic that 90% of the cases are unanimous. *Id.* Judge Michel's estimate could be based on the fact that it would take two judges to disagree with the outcome in order for the case to come out differently. The fact that three judges are deciding the claim construction is an added benefit. If only one judge were doing the claim construction, you could expect a higher level of unpredictability simply because the probability of an individual judge disagreeing is higher than the probability of having two judges disagree.

92 *See* Michel, *supra* note 26, at 1181 (noting that CAFC current had 374 patent cases pending in 1998 compared to about 250 cases in the early 1990's).

appeals process.[93] In addition, the current method does not support the policy requirement laid out in *Markman I* because there is a great deal of uncertainty in how a particular claim construction issue will turn out.[94] The lack of factual findings in a pure legal issue makes it difficult for either party to predict the end result.[95] The lack of deference given to the trial court tends to make each party look ahead to a possible appeal to the CAFC when arguing their preferred claim construction to the District Court judge.[96] It is fair to say that the current method leaves something to be desired.[97]

C. Existing Proposals for Improving the Predictability of Claim Construction

The following proposals have been suggested as possible methods for improving the methodology of the courts when it comes to claim construction. Each alternative will be analyzed separately, first looking at the positive aspects and then looking at the negative aspects.

1. Granting More Deference To The District Court Judge's Decision

One of the most obvious solutions to claim construction unpredictability is for the CAFC to give more deference to the District Court's claim construction.[98] The actual amount of deference that would be most advantageous is debatable.[99] However, any increased level of deference would tend to have some stabilizing effect on the claim construction issue.[100]

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93 *See Cybor Corp.*, 138 F.3d at 1476 (Rader, J., dissenting) (arguing that the current method does not provide finality until every step of federal litigation is complete (with the exception of an appeal to the Supreme Court), and that naturally there is finality once all the appeals in litigation process are exhausted).

94 *See* Michel, *supra* note 26, at 1191 (arguing that complaints about panel dependency are probably more accurately directed towards the lack of predictability and admitting that if seasoned practitioners cannot predict the outcome there is a problem).

95 *See* OLIVER WENDELL HOLMES, JR., THE COMMON LAW, 1 (1949) (arguing that experience, not logic, has been the driving force in the law). In a legal world, logic is often not enough because both sides may be logically right. In such a case, the facts are what make the difference.

96 *See Cybor Corp.*, 138 F.3d at 1476 (Rader, J., dissenting) (arguing that the trial court's claim interpretation is just the start). Judge Newman also addressed the issue and noted that the *de novo* appeal has released the appellant's imagination and added a sporting element to the process. *Id.* at 1479.

97 *See generally* Luke L. Dauchet, *The Federal Circuit's De novo Review of Patent Claim Construction: A Need For a More Balanced Approach*, 18 No. 1 INTELL. PROP. L. NEWSL. 1 (1999).

98 *See* Duffy, *supra* note 76, at 121-24 (arguing that giving more deference to the trial court ruling on questions of mixed fact and law might be a better approach to how we address the claim construction issue).

99 *See* Dauchet, *supra* note 97, at 7 (arguing that factual findings relating to claim construction should only be reversed for clear error but that legal conclusions should be reviewed *de novo*); *Cybor Corp.*, 138 F.3d at 1473-76 (Rader, J., dissenting) (arguing that *de novo* review is hard to justify because claim construction is a mixture of fact and law and that, therefore, some deference should be given to District Court judges).

100 *See* Chu, *supra* note 3, 1113-14 (showing that statistically, different types of judgment with different levels of review do have different reversal rates). Logically, any other outcome would

The advantages of granting increased deference to a District Court's claim construction are straightforward. Such a change would be easy to implement and is compatible with our current legal system. A single decision by the CAFC or Congress is all that is need to change the level of deference.[101] In addition, there are other areas where the District Courts are given greater deference in a mixed facts and law issue.[102]

The impact on efficiency would be less clear. There would be an obvious gain in efficiency in any given case due to the decreased likelihood that the District Court decision would be overturned.[103] The overall efficiency of the patent system might not improve, however, because possible variations in how different District Courts and different District Court judges construe patent claims could lead to forum shopping.[104]

When analyzing the affect of increasing the deference given to District Court judges, it is difficult to predict effect on the quality or consistency of outcome. Given the current high rate of reversals,[105] one could argue that allowing an increased deference, with the goal of decreasing the number of reversals, would be simply masking the problem. If we assumed that claim construction is being reversed because the District Court was incorrect, then quality or consistency would not be improved by granting the District Court's decision greater deference. In addition, the underlying policy behind the *Markman* decision would not be supported.[106] Granting increased deference, without more, would simply make the inconsistent outcomes more stable.

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not make sense because as the level of deference goes up it becomes more difficult for the CAFC to reverse.

101 *Cf. Cybor Corp.*, 138 F.3d at 1451 (holding *en banc* that claim construction is a matter of law to be review *de novo*); *see also* Festo Corp. v. Shoketsu Kinzoko Kogyo Kabushiki Co., Ltd., 234 F.3d 558, 574-75 (Fed. Cir. 2000), *vacated and remanded by* 122 S. Ct. 1831 (2002) (holding that CAFC would, based on the experience of 20 years, would reverse previous case law and hold that any amendment for reasons of patentability acted as a complete bar for the purposes of the doctrine of equivalents).

102 *See, e.g.*, Cooter & Cell v. Hartmarx Corp., 469 U.S. 384 (1990) (holding that determinations of legal sufficiency for Rule 11 sanctions were to be review for abuse of discretion and noting the difficulty of determining the difference between law and fact). This author believes that a rational argument could be made to support the proposition that the legal sufficiency of a complaint is a legal question.

103 *See Cybor Corp.*, 138 F.3d at 1478 (Rader, J., dissenting) (arguing that increased deference will increase certainty and move patent law towards earlier settlements).

104 *Cf. Markman*, 517 U.S. at 390 (holding that Congress created the CAFC to increase uniformity in the United States' patent system). Reviewing District Court decision on claim construction for clear error might not provide the certainty and uniformity that Congress intended because if there are two plausible outcomes the claim construction could not be clear error. *See generally* Anderson v. Bessemer City, 470 U.S. 564 (1985)

105 *See* Chu, *supra* note 3, at 1103-07 (showing that CAFC modified claim construction about 44% of the time and reversed cases based on claim construction 30% of the time).

106 *C.f. Markman*, 517 U.S. at 388-90 (applying functional analysis and determining that juries should not construe claims because the purpose of a patent is to encourage innovation).

2. Granting Interlocutory Appeals To Review Claim Construction

Another possible method for improving the existing method of construing claims is to have the CAFC grant interlocutory appeals after the trial judge construes the claims.[107] Because the claims are construed de novo on appeal, it initially appears to make sense to have an earlier determination of how the CAFC will construe the claims. Given the CAFC preference for intrinsic evidence[108], an interlocutory appeal seems well suited to resolve the problem of claim construction.[109]

The benefits of interlocutory appeal are readily apparent. Each case could be resolved with increased efficiency because it would no longer be necessary for the parties to wait until the completion of the trial to determine what often is the dispositive issue in the case.[110] Earlier resolution would also serve to promote the policies behind the *Markman* decision;[111] an earlier decision would reduce the cost and better allow inventors to go about the business of selling the invention.[112]

The problem is that interlocutory appeal may have a negative effect on the quality and consistency of claim construction. The CAFC has stated that a fully developed record aids in the proper construction of claims so earlier review by the CAFC might well lead to less consistent and lower quality decisions.[113] On one hand, interlocutory appeal appears to be straightforward to implement because the federal rules already give the circuit court the discretion to grant the appeals.[114] The ease of implementation is misleading, however, because the CAFC is not currently suited to handling a significant increase in appeals.[115] Given the real possibility of a

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107 *See* Craig Allen Nard, *Intellectual Property Challenges In The Next Century: Process Considerations in the Age of Markman and Mantras*, 2001 U. ILL. L. REV. 355 (arguing that CAFC cannot both review claim construction *de novo* on appeal and not grant interlocutory appeals). Professor Nard argues that one way to fix the issue is to make Markman decisions appealable as a matter of right. *Id.* at 377.

108 *See Vitronics*, 90 F.3d at 1583 (holding that in most situations intrinsic evidence by itself will resolve the ambiguity in a patent claim); *but see* Pitney Bowes, Inc. v. Hewlett-Packard Co., 182 F.3d 1298, 1309 (Fed. Cir. 1999) (holding that it is appropriate for a court to consider extrinsic evidence to make sure the patent file does not indicate a meaning "inconsistent with clearly expressed, plainly apposite, and widely held understandings in the pertinent technical field").

109 *See* Nard, *supra* note 107, at 355 (arguing that interlocutory appeals would foster earlier settlements and promote certainty).

110 *Id.*

111 *Id.*

112 TM Patents, L.P. v. Int'l Bus. Machs. Corp., 72 F. Supp. 2d. 370, 377 n.1 (S.D.N.Y. 1999) (discussing how grants of interlocutory appeals after Markman hearings would save millions of dollars and promote earlier settlement).

113 *See Cybor Corp.*, 138 F.3d at 1479 (Newman, J., additional views) (discussing how the unwillingness of CAFC to grant interlocutory appeals was because often the record was not adequate prior to the completion of the trial).

114 *See* 28 U.S.C. § 1292(b) (1994) (allowing a circuit court the discretion to grant an appeal if the District Court certifies the interlocutory order).

115 *See* Nard, *supra* note 107, at 376 (arguing that interlocutory appeal will solve the problems with claim construction but admitting that the CAFC's caseload would increase with the granting of interlocutory appeals); Michel, *supra* note 26, at 1181 (discussing increase in caseload that CAFC has experienced as the number of patent cases have increased and arguing that the CAFC is operating at near capacity). There is little doubt that the cost of discovery is significant. Galen, *supra* note 72, at 64. If one assumes that the CAFC would grant interlocutory appeals after a Markman hearing, it is reasonable to predict, based on the sunk cost of discovery needed to get to

dramatically increased caseload,[116] the inevitable delays would probably negate any efficiency gains that might otherwise be obtained.[117]

3. Using Alternative Dispute Resolution To Settle The Dispute

Alternative Dispute Resolution ("ADR") is an important method for resolving patent issues and is currently used with great success in a majority of the patent cases.[118] Given the cost of a trial[119], only the close cases should make it to trial[120] and in a close case ADR is unlikely to resolve the dispute.[121] It is also unlikely the ADR can solve cases where neither party is willing to settle.[122] Therefore, while ADR certainly has an important place in the modern justice system, it is unlikely that ADR can provide the solution to claim construction.[123]

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a Markman hearing, a significant number of litigants would be interested in getting a second opinion. If one remembers Judge Prosser's formula of probability times expected value versus litigation cost, an appeal of the claim construction becomes an obvious choice for any valuable patent.

116 *Cf.* Galen, *supra* note 72, at 64 (arguing 80% of costs are spent during discovery). If one assumes that discovery is needed before the Markman hearing then there is significant incentive to appeal the claim construction just to see if the CAFC agrees with the District Court.

117 *See* Michel, *supra* note 26, at 1181 (arguing that even a slight increase in the caseload could erode the speed with which cases are handled and possible harm the quality of decisions). If Judge Michel is correct, the cure of interlocutory appeals might well be worse then the disease of uncertain claim construction.

118 *See* Kimberly A. Moore, *Forum Shopping in Patent Cases: Does Geographic Choice Affect Innovation?*, 79 N.C. L. REV. 889, 913 (2001) (showing that 76% of patent cases were resolved via settlement). Of the cases that settled, 34% were settled before any court action and 51% were settled during the litigation. *Id.* The remaining 15% were disposed of after the pre-trial conference. *Id.*

119 *See supra* text accompanying note 28.

120 *See* POSNER, *supra* note 71, at 88-90 (discussing when a party should consider litigation). Only if the probability of winning a case multiplied by the value of a winning judgment exceeds the cost of litigation should one consider litigation. *Id.*; *see also* Moore, *supra* note 118, at 913 (arguing that settlement is more likely to occur early in the process before the parties have invested significant resources in preparing for litigation).

121 *See* POSNER, *supra* note 71, at 88-90 (showing that if the uncertainty is high a person is more likely to litigate). For valuable patents it will probably make sense to litigate. For example, if the probability of the outcome is 50/50 and the value of the patent is twenty million dollars one can see that the excepted value of litigation is ten million dollars. Litigation, even at a cost of even two and one half million dollars, makes sense because the expected value is seven and one half million dollars. Unless a settlement can offer both parties more then seven and one half million there is little reason settle.

122 *See* Eugene R. Quinn, Jr., *Using Alternative Dispute Resolution to Resolve Patent Litigation: A Survey of Patent Litigators*, 3 MARQ. INTELL. PROP. L. REV. 77, 87 (arguing that ADR is being increasingly used but admitting that when the stakes are high enough neither party is likely to settle).

123 *Id.* at 81 (arguing that ADR and mediation in particular is responsible for the constant level of patent cases reaching trial despite the fact that there has been an increase in the number of patent suits filed). Just because the number of cases being settled by ADR has increased does not mean the issue is solved because the number of patent cases that the CAFC sees has increased. Michel, *supra* note 26, at 1181. It is likely that the increased use of ADR reflects the increasing cost of litigation. Only for highly valuable patents is litigation reasonable. In many cases it probably

4. Using A Panel Of Experts To Construe The Claims

One of the best ways to construe claims, from a theoretical standpoint, is through the use of a panel of people having ordinary skill in the art (PHOSITA).[124] For example, a panel of arbitrators could construe the patent claims and the panel's decision would be given the usual deference that arbitration decisions are due.[125] A possible method of using arbitration would be to use neutral patent attorneys in panels of three to construe claims. The patent attorneys would be required to be PHOSITA and they would use the Federal Rules of Evidence during the arbitration.[126]

This method would provide quick resolution[127], high quality and consistency of outcome,[128] and would be ideally suited towards implementing the policy that *Markman I* indicated should be considered when designing a patent system.[129] Although arbitration in some form is the obvious answer to claim construction, there is one significant problem that prevents arbitration from being the ideal solution, at least in the short term.

To implement binding arbitration of patent claims, or any other panel of expert method for that matter, requires a modification of existing statutory framework and the creation of a special set of rules for patent arbitration.[130] The delays and difficulties likely to be encountered in such a change are not trivial.[131] Therefore,

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makes sense to license the patent rather than spend several million dollars on litigation and, therefore, the parties settle.

124 *See* Paradise, *supra* note 76, at 248-49 (arguing that parties should resolve patent disputes by using binding arbitration with modified Federal Rules of Evidence because arbitration is cheaper and faster then litigation).

125 *Cf.* Nard, *supra* note 76, at 515 (arguing that the PTO should be used to resolve claims validity because the PTO is better suited institutionally to comprehend the patent claims). Naturally, this same argument could also apply to an appropriate panel of arbitrators because, if they were skilled in the necessary art, than the panel would also be better suited to understand the claims.

126 *See* Nard, *supra* note 76, at 521 (arguing that PTO is best suited to comprehend the metes and bounds of a patent claim). The author of this comment suggests that while the PTO might understand the patent claim, to avoid any possible bias it would probably be better to have neutral patent attorneys construe claims. This would also avoid any problems with diverting the PTO from their primary task of granting patents.

127 *See* Paradise, *supra* note 76, at 248 (noting that one of the many advantages arbitration has in speed). Logically, if the arbitrators were a person having ordinary skill in the art ("PHOSITA"), then they could often eliminate the need for extrinsic evidence and rapidly come to a decision.

128 *Id.* If the arbitrators were a PHOSITA, then they could consistently make the correct decision because of their knowledge in the technology.

129 *See Markman*, 517 U.S. at 388-90 (noting judges would be better than juries at interpreting claims and therefore using judges to construe claims would promote uniformity). Extending the Supreme Court's logic, patent attorneys would be better then judges at construing claims because they are both familiar with claim construction and also understand the technology. Therefore, using patent attorney would promote even greater uniformity.

130 *Cf. Festo*, 234 F.3d at 574-75 (holding that flexible bar approach will no longer be used based on nearly twenty years of experience). The fact that the CAFC took twenty years to make this decision speaks volumes for how difficult it is to make changes to the current legal system.

131 *See* Michel, *supra* note 26, at 1182 (noting that while Congress has experimented once by creating a CAFC to be responsible for patent appeals, it has not been eager to try additional

while such a change would help move the patent system forward and make it more responsive to increasingly complex technologies[132], the prospects of this type of reform are not high.

D. The Impact of the Analysis

Four different proposed solutions to claim construction have been analyzed and compared to the existing method of claim construction. The current method of claim construction is logically flawed because the initial trial only serves as a warm-up for arguing claim construction in the CAFC. The first three solutions, increase deference, interlocutory appeals and ADR, all have certain advantages but also have significant disadvantages that make each of these solutions unlikely to solve the problem. The fourth possible solution, panels of experts, would solve the problem on a policy level but is such a departure from current practices that it is likely to be difficult to implement.[133] Therefore, something else is needed.

A PROPOSAL FOR RESOLVING CLAIM CONSTRUCTION UNCERTAINTY

Earlier in this comment, the analysis found that merely granting increased deference to the trial judge's claim construction did not solve the issue of uncertain claim construction. Various writers have proposed a slightly more complicated granting of increased deference that might work,[134] however, and this comment will expound on this more complex solution.[135] One of the major problems with the current method is the legal fiction that claim construction is a purely a matter of law; this legal fiction prevents consistency in claim construction. This comment therefore proposes that three factors should be determined by the District Court as findings of fact.

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experiments). Judge Michel admits that dramatic changes may be required to solve to overly slow and expensive civil process we current have. *Id.* at 1203.

132 *Cf.* Nard, *supra* note 76, at 521 (explaining how persons skilled in the technology are better suited to properly determining the modalities of technical language).

133 *See* Duffy, *supra* note 76, at 113 (arguing that practicality is important when proposing a solution to existing legal problems).

134 *See, e.g.,* Matthew R. Hulse, *Article: I. Intellectual Property: B. Patent: 1. Claim Construction: a) Standard of Review: Cybor Corp v. FAS Technologies, Inc.*, 14 BERKELEY TECH. L.J. 87 (1999).

135 While many authors and some of the CAFC judges have argued that there are facts to be determined, little has been said about which facts should be granted additional deference. *See Cybor Corp.*, 138 F.3d at 1477-78 (Rader, J., dissenting) (listing facts that District Court judges consider during claim construction and suggesting additional deference should be given to the decision).

A. The Points Of Fact That Should Be Determined By The District Court Judge

Only a few of the many factors that go into construing a claim actually need to be matters of fact.[136] The first factor is what a PHOSITA is for the given patent.[137] The second factor is the plain meaning of the claim.[138] The third factor is what problem the patent is solving.[139] Once the PHOSITA, the plain meaning of the claim, and the problem are identified the District Court can then decide the legal question of claim construction based on a fundamental understanding. Granting deference to these three factors should make it possible to increase the consistency and the quality of claim construction by the District Court while preserving the ability of the CAFC to ensure that patent law remains uniform.

B. The Reasons Why District Court Judges Should Determine These Factors

There are two basic assumptions behind these three factors. The first assumption is that the CAFC was not implemented to decide facts.[140] In general, courts of appeal are never to be courts of first instance.[141] The purpose of a court of appeal is to review how the law was applied to the facts.[142] A well functioning court of appeals should apply the law to a given set of facts in a clear manner so that District Courts can correctly apply the same law to other sets of similar facts.[143]

The second assumption is that anything that needs to be determined in light of extrinsic evidence should be determined by the District Court. This is because extrinsic evidence is used to determine facts. Facts, in turn, are used to arrive at a

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136 *Cf.* Graham v. John Deere Co., 383 U.S. 1, (1966) (holding that the legal conclusion of obviousness would be determined based on findings of facts). While this comment is proposing three factors, it is possible that additional factors should be considered and that different weight should be given to each factor. Such an evolution is to be expected and desired.

137 While the holding in *Cybor Corp.*, 138 F.3d at 1454, appeared to make extrinsic evidence and the need to consider a PHOSITA unnecessary, the CAFC has recently shifted to a more reasonable approach regarding the perspective of one skilled in the art. *See* Pitney Bowes, Inc. v. Hewlett-Packard Co., 182 F.3d 1298, 1309 (Fed. Cir. 1999) (holding that it is appropriate for a District Court to consider extrinsic evidence to ensure the claim construction is in agreement with what one skilled in the art would understand the claim to mean).

138 *Pitney Bowes*, 182 F.3d at 1309. Given that most District Court judges will not be experts in the relevant patent art, it is expected and probably required for a judge to consider extrinsic evidence when determining the literal meaning of the claims. *Id.*

139 The European Patent Office analyzes patents based on the technical problem. *See generally* Biogen, Inc., O.J. E.P.O. T207/94 273, 281 (1997) (defining the technical problem before holding that prior art suggested the solution to the problem). The author of this comment believes this is because trying to discern the boundaries of an invention without understanding what problem the inventor was trying to solve is a difficult task indeed for someone not skilled in the art. As an analogy, an answer does not make much sense unless there is a question.

140 *See Markman*, 517 U.S. at 390-91 (noting that CAFC was created to provide uniformity and foster technological growth). While the CAFC was created to unify the legal differences of the various circuits there is little support for the argument that the CAFC was designed to making findings of fact.

141 "[F]act finding is the basic responsibility of District Courts, rather than appellate courts...." DeMarco v. United States, 415 U.S. 449, 450 (1974) (citing note).

142 *Id.*

143 *Id.*

legal conclusion. Using extrinsic evidence to make a legal conclusion necessarily ignores and/or obscures the facts that must be used to determine the legal conclusion. Obscuring the facts used in a legal conclusion makes it extremely difficult to develop a pattern that enables our legal system to work efficiently.[144]

1. How The Factors Are Determined

It is evident that the first factor, what a PHOSITA is, requires extrinsic evidence for determination. A PHOSITA is not made clear by the patent claims.[145] The introduction and the written description provide some help but more is needed. The District Court must look at the ordinary skill of a person in relevant industry. This typically requires expert testimony or at least some sort of understanding of the relevant industry.

The second factor, the plain meaning of the claim, also requires extrinsic evidence to be determined. The claims themselves are not sufficient to determine the plain meaning because words are defined by how they are used.[146] A "four corners"[147] rule can only make sense if the person interpreting the document is a PHOSITA. The word "anchor" might mean one thing to a sailor and another thing to a structural engineer. The District Court judge will normally need to use technical dictionaries, textbooks or expert witnesses to determine how the words would normally be understood by a PHOSITA.

The third factor, the purpose of the invention, also requires extrinsic evidence. Correct claim construction requires understanding what problem the inventor sought to solve.[148] Logically, understanding a solution to the problem requires knowing the problem. The only way to ensure an accurate understanding of the problem is to look at state of the art at the time of the invention.[149] Therefore, the District Court judge needs some extrinsic evidence.

2. Applying The Objective Criteria To The Proposed Claim Construction Method

The proposed claim construction method allows the District Court to make three findings of fact. Then, the District Court makes the various conclusions of law. This proposed procedure allows the CAFC to review the legal conclusions de novo and the factual findings for clear error.

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144 *See supra* text accompanying note 95.

145 *Pitney Bowes*, 182 F.3d at 1309.

146 *Id.*

147 *See* CHARLES L. KNAPP ET AL., PROBLEMS IN CONTRACT LAW (4th ed. 1999) 458-94 (discussing parol evidence, the "four corners" rule and the modern trend allowing extrinsic evidence to supplement a writing and noting that extrinsic evidence has always been used to explain the written document). One could easily argue that if a contract often requires extrinsic evidence to be explained, than it is even more probable that a patent will require extrinsic evidence to be explained.

148 *Biogen, Inc.*, O.J. E.P.O. T207/94 at 281.

149 *Pitney Bowes*, 182 F.3d at 1309.

There are three advantages to this revised method of claim construction. First, it is easy to implement such a change. The federal circuit needs only a single en banc holding to implement the revised procedure. In addition, the holding in *Markman II* made it clear that the Supreme Court felt that claim construction was a mixed question of facts and law so there is no barrier to making such a change.[150]

Second, the efficiency of individual cases would be improved. The superior ability of the District Court to make factual findings would be used. This would allow the CAFC to focus on the application of law to the facts rather than on the facts and speed up the appeal process.

Third, the consistency and quality of a particular decision would be improved. The District Courts would determine facts, thus taking advantage of the expertise of our District Courts. The three factors would allow the District Courts to better perceive a pattern regarding how the law should be applied. In addition, the CAFC could review the legal analysis to ensure that the law is correctly applied.

Finally, anything that increases the predictability of patent law while maintaining strong patent support aids the general policy behind patents.[151] As case law creates patterns it becomes possible for lawyers to better predict the outcome and provide better assistance to their clients.[152] Arguably, the policies that led the Supreme Court to the decision in *Markman II* will only be realized when the system is designed as the Court suggested.[153]

CONCLUSION

This comment started with the policies that support patents. Based on these policies, criteria were developed to analyze methods of claim construction. These criteria were then applied to the current method and several suggested methods of claim construction. The results suggested that the methods analyzed fail to solve the claim construction problem.

Therefore, a modified method of increased deference was suggested to improve the patent system's ability to meet the needs of business. This modified method would have the District Court determine three factors as matters of fact and these factors would help provide a basis for understanding patent claims at the District Court level. This proposal takes advantage of the abilities of both the district and appeals court and should improve predictability and efficiency, thus better supporting the needs of business while promoting the policies underlying the United States patent system.

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150 *Markman*, 517 U.S. at 388-89.

151 *See Markman*, 517 U.S. at 390 (holding that the limits of the patent must be known to avoid creating a zone of uncertainty surrounding the patents claims).

152 It will probably never be possible to predict infringement with certainty because of the numerous legal traps in claim construction. It is possible, however, to improve the current system so as to remove some of the uncertainty.

153 *See Markman*, 517 U.S. at 388-89 (holding that claim construction is a mixture of fact and law); *see also Cybor Corp*, 138 F.3d at 1473-75 (Rader, J., dissenting) (arguing the trial should be the main event and that *de novo* review will potentially undercut the benefits of Markman I).

FEDERAL INTELLECTUAL PROPERTY LAW V. STATE SOVEREIGNTY: CAN CONGRESS WIN?

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