

Means Plus Function Limitations**Overcoming Structural Indefiniteness for Means-Plus-Function Claims After *Telcordia v. Cisco* : Is the Bar for Structural Sufficiency a Moving Target?**

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The Legal Landscape of Functional Claiming and Structural Disclosure

Under 35 U.S.C. § 112, ¶6, patent drafters may express claim limitations functionally, i.e., without referencing the corresponding structure within the claim itself. ¹ However, for a means-plus-function claim to satisfy the definiteness requirement, the written description must clearly link the (disclosed) structure to the claimed function. ² In other words, the patent that employs functional claiming under 35 U.S.C. § 112, ¶6 should state in the claim the function, disclose elsewhere in the patent some structure for performing the claimed function, and then link the two together.

In *Biomedino*, the Federal Circuit observed that this disclosure requirement was "not a high bar," citing *Atmel Corp. v. Info. Storage Devices, Inc.* ³ Nonetheless, it concluded that the bar had not been met in that instance ⁴, because one of ordinary skill in the field of pharmacological immunization treatments would not be able to identify the structure corresponding to the claimed function of "automatically operating the valves." ⁵ Unfortunately, the *Biomedino* court declined to provide specific guidance as to how the patent drafter should have done so.

Similarly, when the Federal Circuit took up the issue again in *Finisar Corp. v. DirecTV Group, Inc.*, it reaffirmed how "[t]his court does not impose a lofty standard in its indefiniteness cases." ⁶ Once again, however, the Federal Circuit ultimately upheld the district court's determination that the means-plus-function claims were invalid for indefiniteness, because there the specification merely recited as the corresponding structure "software" without providing further detail. ⁷

These decisions leave us without a clear, instructive precedent that both identifies the standard and affirmatively finds a written description detailed enough to satisfy it.

The Advent of *Telcordia*

Recently, the Federal Circuit revisited the standard for a means-plus-function claim to satisfy the definiteness requirement in *Telcordia Technologies, Inc. v. Cisco Systems, Inc.* ⁸ Although the opinion does not expressly address just how high the bar should be set, the case and surrounding facts provide some helpful insight as to its lower bound.

In *Telcordia*, the patented invention (the '763 Patent) consisted of an improved node in a multiplexed node-to-node communication network, wherein the node contains a selector to select one of two lines containing an error-free signal, and a controller for inserting error signals on any line along which a fault (e.g., fiber cut or break) has been detected upstream. ⁹ The patent's figures illustrate the nodes and their controllers as black boxes.

Procedurally, the district court submitted the indefiniteness issue to the jury, which upheld the '763 Patent's validity. ¹⁰ Subsequently, the court denied defendant's renewed motion for judgment as a matter of law. ¹¹ The district court cited *Biomedino* for the proposition that adequate structural disclosure is "not a high bar" but reached the opposite conclusion by determining that the bar had been met. ¹²

The plaintiff's expert had admitted that the patent's specification did not describe the circuitry within the controller, and that the '763 patent did not actually mention the words "circuit" or "circuitry." ¹³ Nevertheless, the court held that *circuitry* for the black box labeled "controller" was the structure (rather than the "controller" itself). ¹⁴ As additional support, it pointed to the expert's testimony that "one could not describe all the details at every circuit in a patent that is describing an entire network and protection path." ¹⁵ This line of reasoning is reminiscent of that in *S3 Inc. v. Nvidia Corp.* ¹⁶ (observing that a patent specification need not "include a technical treatise for the unskilled reader.").

On appeal, the Federal Circuit affirmed the district court's decision and concluded that "the specification along with the figures showed sufficient structure to define the claim terms for an ordinary artisan in the relevant field." ¹⁷ The holding seems to suggest that even

where the figures show nothing but black boxes and the specification fails to mention, much less describe, the circuitry, a court may still find sufficient disclosure of the requisite structure, at least for this particular art (node-to-node multiplexed communications).

Specifically, the court found that the disclosed structure (circuitry of the controller) was clearly linked to the claimed function (monitoring and evaluating). Although criticized by the dissent, the majority of the three judge panel arrived at this conclusion based on inference and the process of elimination. The '763 Patent disclosed a node comprised of a controller and a selector. The specification ascribed the monitoring and evaluating functions to the node in general, rather than expressly to the controller. Nonetheless, the court assumed that there were no other relevant components within the node (limiting the possibilities of the performing structure down to two), and reasoned that because the selector could not perform the claimed functions, one of ordinary skill in the art would recognize that the only other remaining component, the controller, must do so.

In other words, because one of ordinary skill in the art could figure out what the structure must be, the disclosure was good enough.

Accordingly, neither the disclosure of structure nor the clear link to its function needs to be explicit for a patent to survive an indefiniteness challenge. "As noted, claim definiteness depends on the skill level of an ordinary artisan."¹⁸ Here, given the sophistication of the ordinarily skilled artisan, his familiarity with the relevant technology, and the state of the art, the artisan would recognize that the '763 Patent discloses and clearly links the circuitry of the controller to the monitoring means' claimed "evaluating" function, despite the lack of any explicit mention of the term "circuitry" or of its relation to the node's monitoring and evaluating features.

The holding suggests that to satisfy the "clearly linked" requirement, the drafter does not need to spell out exactly which one of a plurality of disclosed parts in the invention can perform a claimed function, so long as the ordinary artisan reading the written description can determine which of the remaining parts cannot perform the claimed function.¹⁹

The Aftermath: Recent District Court Cases Applying *Telcordia*

Given that the Federal Circuit only recently issued its opinion in *Telcordia*, few courts have tested the limits of its potentially broad holding. A district court in the Eastern District of Texas, for instance, followed *Telcordia*, but did not conduct an in-depth analysis of its indefiniteness standard or shed any light on potentially broader implications.²⁰

In *Eon Corp. IP Holdings*, the parties disputed whether the patent-at-issue (the '101 Patent) disclosed adequate structure corresponding to the claimed data processing means for "assembling and re-transmitting digital subscriber messages."²¹ The defendant took issue with the black box labeled "Assemble 43" in the relevant patent figure.²² However, the court found that the ordinary artisan would recognize "Assemble 43" and the other surrounding black boxes to refer to a packetiser, a device well known in that art.²³

Although the specification never mentioned a "packetiser," the court ruled that disclosed structure was capable of performing the claimed assembling function.²⁴ The court supported its reasoning by paraphrasing that *Telcordia* had found "black box disclosure adequate where defendant fails to prove an ordinary artisan would not understand the disclosure."²⁵

However, on a separate claim element for which the *Eon* Court did not rely on *Telcordia*, the court found against the patentee on the issue of whether the disclosed structure was clearly linked to the claimed "disassembling" function.²⁶ The dependent claim in which the "digital message organization means" element appears recites:

"[t]he base station configuration in claim 1 **wherein said local subscriber units comprise digital message organization means** that disassembles a variable length digital message for transmission on a sequence of fixed length transmission frames."

²⁷ (emphasis added). Accordingly, the court interpreted the claim language as requiring the structure for the means to be contained within the local subscriber units. However, the "cell site transmission system 40" that may have been able to perform the processing and disassembling was **not** a part of the local subscriber units.²⁸

In other words, unlike the clear choice between the controller and the selector within the improved node in *Telcordia*, there was no clear choice between the remaining subcomponents in the local subscriber units in *Eon*. Further, even though the patentee attempted to point out a sub-combination of four components within the local subscriber unit itself as being capable of performing the disassembling²⁹

there were too many components (ten) in the overall set, and nothing in the specification would have led the ordinary artisan to exclude the extraneous six components. Consequently, *Telcordia* was factually distinguishable and unavailing for this portion of the claim.³⁰

More recently, another district court has applied *Telcordia*

and found that the "means for selectively generating one or more cancellation signals" claimed in one of the patents-at-issue (the '017 Patent) was not indefinite. ³¹ To achieve the claimed functionality, a "controller unit" is necessary to select from among the generated signals, but besides mentioning that the "controller unit" is connected to another device (an upconverter), the patent specification does not describe the "controller unit" itself, nor do any of the '017 Patent's figures illustrate the "controller unit." ³² It is not shown anywhere in the patent, not even as a black box.

The defendant asserted that the structural disclosure was insufficient, because the specification failed to describe any details regarding the controller unit's structure. ³³ Nevertheless, the district court found the disclosure sufficient, and was able to construe the means-plus-function claim term. ³⁴ Similar to the district court opinion in *Telcordia*, the *Applied Signal* Court cited *Biomedino* for the proposition that overcoming indefiniteness was "not a high bar." ³⁵

Here, the court also placed some weight on the testimony of the plaintiff's expert, indicating that a controller unit was a known structure that could perform the claimed function. In doing so, the district court analogized its reasoning to that in *Telcordia*, which also relied on expert testimony regarding a "controller." ³⁶ Finally, the *Applied Signal* Court categorized as "additional structural detail[]" the specification's passing mention that the amorphous controller unit was "connected to" the upconverter. ³⁷

Implications of *Telcordia*

On October 6, 2010, the Federal Circuit declined to rehear *Telcordia* en banc. As a result, the *Telcordia* decision remains a valid precedent for this issue. So, does *Telcordia* signal a departure from the stringent black-letter disclosure and linkage requirements embraced in *Finisar* and *Biomedino*, or will this victory for a more generous standard be short-lived? Only time, and additional Federal Circuit opinions, will tell whether this new standard will control or whether the Federal Circuit will shift the means-plus-function pendulum back to the more exacting, draconian standard requiring explicit structural disclosure and linking to the claimed function.

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¹ 35 U.S.C. § 112, ¶6 .

² See , e.g. , *Biomedino, LLC v. Waters Technologies Corp.* , 490 F.3d 946 , 950 (Fed. Cir. 2007).

³ 198 F.3d 1374 , 1378-79 (Fed. Cir. 1999).

⁴ *Biomedino* 490 F.3d at 952-53 .

⁵ *Id.* at 951.

⁶ 523 F.3d 1323 , 1341 (Fed. Cir. 2008).

⁷ *Id.* at 1340-41 .

⁸ 612 F.3d 1365 (Fed. Cir. 2010).

⁹ 592 F. Supp. 2d 727 , 734 (D. Del. 2009).

¹⁰ *Telcordia* , 592 F. Supp. 2d at 739 .

¹¹ *Id.* at 751 .

¹² *Id.* at 739 .

¹³ *Id.* at 740 .

¹⁴ *Id.* at 739 .

¹⁵ *Id.* at 740 .

¹⁶ 259 F.3d 1364 , 1371 (Fed. Cir. 2001).

¹⁷ *Telcordia Technologies v. Cisco Systems, Inc.* , 612 F.3d 1365 , 1377 (Fed. Cir. 2010).

¹⁸ *Id.* at 1377 (citing *Intel Corp. v. VIA Technologies, Inc.* , 319 F.3d 1357 , 1365-66 (Fed. Cir. 2003)).

19 It is worth noting, however, that unlike the district court decisions in *Biomedino* and *Finisar*, the district court in *Telcordia* sided originally with the patentee. In *Telcordia*, the Federal Circuit merely affirmed the district court's decision of the '763 Patent's validity. Although the Federal Circuit has on occasion treated indefiniteness as a legal question to which it owes the district court's ruling no deference (but see *BJ Services Co. v. Halliburton Energy Services, Inc.*, 338 F.3d 1368, 1372 (Fed. Cir. 2003) ("Like enablement, definiteness, too, is amenable to resolution by the jury where the issues are factual in nature.")), the underlying factual findings by the lower court or jury about the ordinary artisan's level of skill and familiarity with the technology may nonetheless sway the appellate court's determination of whether the artisan could identify structure from the specification.

20 See *Eon Corp. IP Holdings, LLC v. Sensus USA Inc.*, No. 09-CV-00116, 2010 BL 185419, (E.D. Tex. Aug. 11, 2010).

21 *Eon Corp.*, 2010 BL 185419, at *5-6.

22 *Id.* at *5.

23 *Id.* at *6.

24 *Id.*

25 *Id.*

26 *Id.* at *4.

27 *Id.*

28 *Id.*

29 *Id.* at *4.

30 In another recent case, *Ergo Licensing LLP v. Carefusion 303, Inc.*, No. 08-CV-00259, Order at *5 (D. Me. Dec. 28, 2010), the district court merely cited *Telcordia* for the well established proposition that the question of indefiniteness is evaluated "from the perspective of a person skilled in the art," but did not apply the case in any of its reasoning.

31 *Applied Signal Technology, Inc. v. Emerging Markets Communications, Inc.*, No. 09-CV-02180, Order at 26-29 (N.D. Cal. Feb. 9, 2011).

32 *Id.* at 27-28.

33 *Id.*

34 *Id.* at 28-29.

35 *Id.* at 28.

36 *Id.*

37 *Id.* at 28-29. Interestingly, however, the court was unable to construe for another patent-at-issue (the '952 Patent) the structure corresponding to the claimed function of "estimating channel characteristics." *Applied Signal Technology*, Order at 17-18. Although the patentee pointed to an "interference canceller" that the '952 patent illustrated as a black box, and even though the same expert testified that one of ordinary skills in the art "would have understood what this interference canceller structure was," the district court likened the facts of the case to those in *Biomedino*, and held the means-plus-function claim term indefinite. *Id.* at 16-17. Significantly, the court observed that the drafter of the '952 Patent did not even go as far as to state in the specification that "known equipment could be used to implement the function." *Id.* at 17.

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