



UNITED STATES DISTRICT COURT  
NORTHERN DISTRICT OF ILLINOIS  
EASTERN DIVISION

NEUTRAL TANDEM, INC., )

Plaintiff, )

v. )

PEERLESS NETWORK, LLC; PEERLESS NETWORK )  
of ILLINOIS, LLC; and JOHN BARNICLE, )

Defendants. )

No. 08 C 3402

Judge John W. Darrah

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PEERLESS NETWORK, LLC; PEERLESS NETWORK )  
of ILLINOIS, LLC; and JOHN BARNICLE, )

Counterclaim Plaintiffs, )

v. )

NEUTRAL TANDEM, INC., )

Counterclaim Defendant. )

**MEMORANDUM OPINION AND ORDER**

Plaintiff, Neutral Tandem, Inc. ("NT"), brought suit against Defendants, Peerless Network, LLC; Peerless Network of Illinois, LLC; and John Barnicle (collectively "Peerless"), alleging infringement of NT's U.S. Patent No. 7,123,708 ("the '708 Patent"). On November 19, 2009, the Court held a claims construction hearing, which included the testimony of expert witnesses for each party and the submission of written summations by each party. The Court has also considered the various exhibits submitted by the parties, including the written opinions of the experts.

## BACKGROUND

In 1982, the AT&T telecommunications monopoly was broken up, resulting in the formation of seven Regional Bell Operating Companies, also known as "RBOCs." Each RBOC maintains a number of telecommunications switches in its area that allow the RBOC to provide local exchange service, connecting its end-user customers with other end users in a local region. Some of these switches, "end office switches," connect the RBOC to its end users, while other switches, "tandem switches" or "Class 5 switches"<sup>1</sup> connect to other switches to handle large volumes of telecommunications traffic.

Since the divestiture of AT&T, many different "competitive carriers" have emerged to compete with the RBOCs for various telecommunications services, including local exchange service. To do so, competitive carriers must establish connections that allow their phone customers to connect to customers of every other phone company operating in the local region. This includes not just the customers of the RBOC but also the customers of every other competitive carrier operating in the region. Rather than establishing connection to every other competitive carrier, carriers instead interconnect through the RBOC tandem switches, using the RBOC as an intermediary. This type of traffic, in which a third party routes traffic between two other carriers, is called transit traffic.

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<sup>1</sup>Under the AT&T system, phone traffic was routed through a hierarchy of switches, with Class 5 switches being relatively low on the hierarchy, close to the end users. Class 4 switches, discussed below, were one step above the Class 5 switches on the hierarchy. Thus a call from an end user might be routed through a Class 5, up the hierarchy to a Class 4 switch, and then down the hierarchy again through a different Class 5 switch, and, from there, on to a different end user.

NT asserts that the use of the RBOC tandem system is complex and inefficient since the system was not designed to interconnect competitive carriers. Each competitive carrier was required to make multiple interconnections to the RBOC tandems. Furthermore, because competitive carriers compete with RBOCs for customers, reliance on the RBOC system forces competitive carriers to depend on a competitor's system to complete calls. The '708 Patent describes a network providing competitive telecommunications carriers the capability to interconnect with one another to serve customers in a local calling area. According to NT, the '708 Patent replaces the inefficient system in which the RBOCs route all calls between carriers, with a network specifically designed to allow carriers to bypass the RBOC system and connect in a simpler, efficient way.

#### LEGAL STANDARD

Claim construction is a question of law. *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 970 (Fed. Cir. 1995) (*Markman*). Claim construction involves "determining the meaning and scope of the patent claims asserted to be infringed." *Id.* at 976. In construing the claim, the court does not "rewrite claims" but, rather, "give[s] effect to the terms chosen by the patentee." *K-2 Corp. v. Salomon S.A.*, 191 F.3d 1356, 1364 (Fed. Cir. 1999). The words of a claim are "generally given their ordinary and customary meaning"; that is, "the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention." *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312-13 (Fed. Cir. 2005) (*Phillips*) (citations omitted.)

In interpreting claims, "the court should look first to the intrinsic evidence of record, i.e., the patent itself, including the claims, the specification and, if in evidence, the prosecution history." *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996). The

specification is “highly relevant to the claim construction analysis,” is “usually . . . dispositive” and is “the single best guide to the meaning of a disputed term.” *Id.* However, limitations from the specifications describing embodiments must not be imported into a claim that does not recite those limitations. *Phillips*, 415 F.3d at 1323 (Fed. Cir. 2005).

The court may also consider extrinsic evidence, such as expert testimony, dictionaries and learned treatises. *Markman*, 52 F.3d at 980. However, “[e]xtrinsic evidence is to be used for the court’s understanding of the patent, not for the purpose of varying or contradicting the terms of the claims.” *Id.* at 981.

### ANALYSIS

The parties dispute the proper construction of several terms in independent claim 1, two terms found in independent claims 12 and 20, and two terms found in the dependent claims of the ‘708 Patent.

#### CLAIM 1

Claim 1 of the ‘708 Patent states:

A Neutral Tandem Network (“NTN”) that provides transit traffic amongst public and private wireline and wireless carrier networks, comprising:

at least one switch for cross-connecting each of a plurality of inputs to at least one of a plurality of outputs;

a plurality of tandem access points for connection to switches of a plurality of said public and private wireline and wireless carrier networks, said switches including tandem switches; and

a network connecting said tandem access points to said at least one switch and said network managing the efficient routing of transit traffic between said plurality of tandem access points and said switch.

*“Neutral Tandem Network”*

The parties first dispute the proper construction of the term “Neutral Tandem Network” or “NTN.” NT argues that Neutral Tandem Network is a preamble term, not a limitation of the claims and, therefore, does not require construction. Rather, NT argues, the term is a descriptive name for the invention as a whole. Peerless argues that the term should be construed to mean:

“one or more tandem switches and circuits overlaying ILEC<sup>2</sup> and competitive carrier switches which is both competitor neutral and technology neutral, not part of a proprietary network or a competitor network and is not reliant upon one particular technology platform, is without end users, and provides tandem switching and transport services.”

Peerless’s argument in favor of its proposed construction is based largely on the prosecution history. Peerless points out that the patent examiner initially rejected all claims in the application, stating “it is not understood what a Neutral Tandem Network [(]NTN) is.” According to Peerless, this rejection indicates that the examiner believed that the term Neutral Tandem Network had patentable weight. Peerless argues that NT reinforced this conclusion by extensively explaining what was meant by the term. Peerless points to PowerPoint slides created by NT and presented to the examiner that specify what was meant by Neutral Tandem Network and compare the invention to prior art. The first slide defines each word of Neutral Tandem Network; Neutral is defined as “Technically independent, not part of a proprietary network (i.e. with end users).” The second slide lists a number of features possessed by Neutral Tandem but not by prior art. One of the listed features is “Independent Network (not part of proprietary network or competitor).”

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<sup>2</sup>ILEC stands for Incumbent Local Exchange Carrier. For purposes of this opinion the term is interchangeable with RBOC.

Peerless argues further that NT told the Patent and Trademark Office (“PTO”) multiple times that Neutral Tandem Network was “claimed” and that the terms Neutral Tandem Network or NTN appear a total of 186 times in the ‘708 Patent. Therefore, Peerless argues, the preamble term Neutral Tandem Network must be limiting.

NT counters that the term Neutral Tandem Network is merely a descriptive name or convenient label for the invention as a whole. NT argues that its presentation to the PTO was not used to overcome prior art but, rather, to assist the examiner in his search for prior art. To the contrary, NT insists, at no point in the prosecution history did NT rely on the preamble term “Neutral Tandem Network” to distinguish any prior art cited by the examiner.

Furthermore, NT argues, even if the term Neutral Tandem Network was limiting, there is no basis for the construction Peerless has proposed. NT points out that the term “end user,” part of Peerless’s proposed definition, does not appear in the specification. NT asserts that Peerless’s proposed construction of Neutral Tandem Network cherry-picks terms from the prosecution history with an eye towards construing the claims to avoid infringement.

Based on the above-stated principles of claim construction, the Court finds that the term Neutral Tandem Network is descriptive and intended to refer to the invention as a whole and not a limitation on the claims. As noted above, the central thrust of Peerless’s argument is that NT’s representations to the PTO during the patent prosecution limited the scope of the claims.

However, “vague and ambiguous” statements during the prosecution cannot be used to limit the scope of a claim; rather, the statements must be “both so clear as to show reasonable clarity and deliberateness and so unmistakable as to be unambiguous evidence of disclaimer.” *Omega Engineering, Inc. v. Raytek Corp.*, 334 F.3d 1314, 1326 (Fed. Cir. 2003) (citations omitted). As

NT points out, the prosecution statements cited by Peerless were made at the very beginning of the process and were not made to overcome any rejection based on prior art. Furthermore, NT argues that the second slide cited by Peerless merely offers a “non-exhaustive” list of possible “features” of the invention. According to NT, the list was not intended to define specific requirements for every embodiment of the invention. This is a reasonable interpretation of NT’s PowerPoint statement to the PTO. The statements must also be considered in the context of the then state of telecommunications regarding the dependence of other carriers on the RBOC tandem proprietary network mentioned above. Thus, NT’s statement was not a clear, unambiguous disclaimer as to the scope of the claims but, rather, clearly intended as descriptive of the overall invention.

Peerless’s argument that the sheer number of times that the terms Neutral Tandem Network and NTN appear in the ‘708 Patent means that the term must be limiting is also not persuasive. Peerless cites *Poly-America, L.P. v. GSE Lining Technology, Inc.*, 383 F.3d 1303 (Fed Cir 2004) (*Poly-America*), in support of its argument. In *Poly-America*, the court held the term “blown film,” which appeared frequently throughout the specification, to be limiting: “[o]ur analysis shows that the inventor considered that the ‘blown-film’ preamble language represented an important characteristic of the claimed invention.” *Id.* at 1310. *Poly-America* is distinguishable, however, in that the term at issue there was not used as a descriptive term for the invention as a whole. In this case, the frequency of use of Neutral Tandem Network and NTN is entirely consistent with a finding that the term Neutral Tandem Network is merely a descriptive

name for the invention. *Cf. Storage Technology Corp. v. Cisco Systems, Inc.*, 329 F.3d 823, 831 (Fed. Cir. 2003) (holding that terms “policy caching method” and “policy cache” referred to the invention as a whole and thus did not limit the scope of the claim).

Finally, regarding the testimony of Defendants’ expert Michael Starkey: while expert testimony may be useful in claims construction to explain or define accepted terms in the relevant field, the term “Neutral Tandem Network” here is not such a term. Rather, it is a term coined in the ‘708 Patent. Mr. Starkey admitted during his testimony that he was not familiar with the term before becoming involved in this case. Thus, Mr. Starkey’s expert opinion on the proper construction of the term is entitled to no weight.<sup>3</sup> *See Sinorgchem Co., Shandong v. International Trade Com’n*, 511 F.3d 1132, 1137 n.3 (Fed. Cir. 2007) (attributing no weight to expert testimony because there was no evidence that the disputed terms had any accepted meaning within the relevant scientific field); *Symantec Corp. v. Computer Associates Intern., Inc.*, 522 F.3d 1279, 1289 (Fed. Cir. 2008) (rejecting expert testimony that did not identify an accepted meaning in the field and giving it no weight “extent that the testimony merely gives the expert’s opinion as to claim construction”).

“Switch”

The parties next dispute the proper construction of the term “switch.” NT proposes the following construction:

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<sup>3</sup>The Court notes further that the portion of Mr. Starkey’s opinion regarding the “novelty” of the ‘708 Patent is entitled to no weight. Validity analysis is not a principal component of claims analysis but, rather, turned to only as a last resort. *See Phillips v. AWH Corp.*, 415 F.3d 1303, 1327 (Fed. Cir. 2005); *MBO Laboratories, Inc. v. Becton, Dickinson & Co.*, 474 F.3d 1323, 1332 (Fed. Cir. 2007).



“A device, including mechanical, electrical, electronic or optical devices, which opens or closes circuits, completes or breaks a path, or selects paths or circuits.”

Peerless would add the additional phrase “in ‘real time’ to set up calls based upon internal call control and service capabilities.” NT argues that the term switch is a standard term of art with a well-accepted, ordinary meaning, reflected in NT’s definition. Peerless offers nothing in support of its proposed additional elements of the definition, requiring the switch to operate “in real time” and “to set up calls based upon internal call control and service capabilities.” Nor is any evidence for Peerless’s proposed construction found in the patent itself, including the claims, specifications and prosecution history. Therefore, the Court construes the term “switch” as “a device, including mechanical, electrical, electronic or optical devices, which opens or closes circuits, completes or breaks a path, or selects paths or circuits.”

*“Tandem Access Points”*

NT proposes that the proper construction of the claim term “tandem access points” is “a point at which a carrier’s network is connected to the claimed network.” Peerless proposes the following construction:

“At least two remote switches within a metropolitan area, which each have switching intelligence enabling local switching among carriers interconnected at said switches without the need to transport or backhaul<sup>4</sup> traffic to a main switching center to make such connections.”

NT argues that its straightforward construction of tandem access points can be found in the language of claim 1: “a plurality of *tandem access points for connection* to switches of a plurality of said public and private wireline and wireless carrier networks.” Peerless looks to the

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<sup>4</sup>The term “backhaul” is generally used to describe a situation wherein traffic is “hailed” (i.e., transported) in a manner that might be considered to provide a less-than-preferred level of efficiency.

specification for its proposed construction. Peerless notes that the '708 Patent states "the NTN 40 provides Tandem access points 41 for all carriers in the region." Thus, Peerless argues, descriptions of element 41 are "inextricably tied" to the construction to tandem access points. Peerless then notes that the '708 Patent states "[e]ach gateway or remote module 41 on the NTN metropolitan network 40 will have switching intelligence, thus enabling local switching among carriers interconnected at the remote site without the need to transport or backhaul traffic to the main switching center to make such connections."

NT counters that Peerless's proposed construction improperly excludes many of the explicit examples of tandem access points in the specification and limits the term to a preferred embodiment. And, further, that Figures 15 and 17, from which Peerless draws the "switching intelligence" and "backhaul" language, depict embodiments of the '708 Patent, not requirements. Moreover, that the part of the specification Peerless relies on speaks of a "gateway or remote module," not tandem access points. Had the language been intended to limit the meaning of tandem access points, that term would have been used.

NT's arguments are persuasive. The construction of a tandem access point as the point at which a carrier's network is connected to the claimed network is drawn directly from the language of the claims. By contrast, Peerless's construction includes terms that appear only in the specifications and are not clearly required elements of the term. *See Kara Tech. Inc. v. Stamps.com Inc.*, 582 F.3d 1341, (Fed. Cir. 2009) ("The claims, not specification embodiments, define the scope of patent protection. The patentee is entitled to the full scope of his claims, and we will not limit him to his preferred embodiment or import a limitation from the specification into the claims.").

Peerless further argues that NT's proposed construction of tandem access points is unworkable because it leads to an unending circular analysis: NT's proposed construction of tandem access points refers to "the claimed network," but a determination of what the claimed network is cannot be made until tandem access points are defined. This argument is not persuasive. It is not logically inconsistent for a tandem access point to be considered both part of the claimed network and the point at which that network connects to a carrier's network. A definition of tandem access points would reasonably refer to the network, and a definition of the network would likewise include tandem access points as a component. That the two terms are necessarily and obviously related to one another does not make the analysis impermissibly circular.

Therefore, the Court construes "tandem access points" as "a point at which a carrier's network is connected to the claimed network."

*"Managing the efficient routing of transit traffic between said plurality of tandem access points and said switch"*

NT proposes the following construction for the above term: "managing transit traffic into, out of and throughout the claimed network by reducing the customer carriers' reliance on the RBOC/ILEC network." Peerless does not propose its own construction of this term but raises two objections to NT's proposed construction. First, Peerless raises the same objection it did to NT's proposed construction of "tandem access points," arguing that by including the phrase "throughout the claimed network" in the construction, the interpretation becomes an endless loop of analysis. That argument was rejected with respect to tandem access points and is rejected here as well for the same reasons.

Second, Peerless argues that the '708 Patent and the prosecution history show that the term is intended to describe the efficient routing of transit traffic *within* the Neutral Tandem Network, not into or out of it. Peerless's objection is not convincing. The term "throughout" is sufficiently broad to include transit traffic coming into or going out of the claimed network. Indeed, as decided above, the tandem access points are the points at which a carrier's network is connected to the claimed network. Thus, transit traffic being routed to or from one of these points would be moving into or out of the network. Therefore, the Court construes the term as "managing transit traffic into, out of and throughout the claimed network by reducing the customer carriers' reliance on the RBOC/ILEC network."

*"Transit Traffic"*

Peerless proposes the following construction of "transit traffic": "Traffic between one telecommunications carrier and another such carrier, transmitted by a third carrier." NT agrees with this construction but would add to the end of the sentence "in a local region regardless of any other transport of the call." The key disagreement then, is whether "transit traffic" includes the long distance portion of the call. NT admits that the term as used in the industry has the broader definition proposed by Peerless. However, NT argues that the context of the '708 Patent makes clear that transit traffic means traffic within a local region.

When the phrase is considered in the context of the '708 Patent, "transit traffic" is intended to be limited to traffic within a local region. As NT points out, every relevant example and embodiment in the '708 Patent shows that the invention relates only to the segment of a call that occurs within a local region. Therefore, the Court, particularly considering the phrase in the

context of the intrinsic record, construes “transit traffic” as “traffic between one telecommunications carrier and another such carrier, transmitted by a third carrier in a local region regardless of any other transport of the call.”

CLAIMS 12 and 20

The portion of claim 12 that contains the disputed terms states:

“12. A method of providing transit traffic amongst a plurality of public and private wireline and wireless carriers, comprising:

creating a *distributed switching network* at a higher level in a switching hierarchy including Regional Bell Operating Company (RBOC) tandems and that is independent of said plurality of public and private wireline and wireless carrier networks, said distributed switching network comprising at least one switch, a plurality of tandem access points, and a network connecting said tandem access points to said at least one switch . . .” (emphasis added.)

*“Distributed Switching Network”*

NT proposes the following construction for “distributed switching network”: “A network in which the switching function is distributed over a number of switching or routing elements, components or devices.” Peerless’s proposed construction is:

“a routing tandem network that links tandem access points and tandem switches together so as to provide an end to end managed tandem network that provides alternative routing and call completion management capabilities which is both competitor neutral and technology neutral, not part of a proprietary network or a competitor network and is not reliant upon one particular technology platform, is without end users, and provides tandem switching and transport services.”

Peerless argues that the terms “distributed switching network” and Neutral Tandem Network are synonymous and that both should therefore have the same limitations. However, those limitations with respect to the term Neutral Tandem Network have been rejected, as set out above. Also, the report of Dr. Arthur Brody, Plaintiff’s expert, confirms that Plaintiff’s

construction is consistent with how one skilled in the art would understand the term. Therefore, the term “distributed switching network” is construed as “a network in which the switching function is distributed over a number of switching or routing elements, components or devices.”

*“At a higher level in a switching hierarchy including Regional Bell Operating Company (RBOC) tandems”*

NT proposes the following construction: “A level of traffic switching whereby two carrier networks are connected to each other, and also given access to the RBOC/ILEC.”

Peerless proposes: “a switching hierarchy wherein the distributed switching network is at a higher level in the switching hierarchy above the current Class 4 designation assigned to Regional Bell Operating Company (RBOC) tandems, overlaying ILEC and competitive carrier switches.” The dispute here is essentially whether the network is at a Class 4 designation, as NT argues, or above a Class 4 designation, as Peerless argues. NT cites the specification in support of its position:

“In a preferred embodiment, the NTN architecture will provide a reliable, scalable series of network access points by deploying an advanced tandem-level (Class 4) ‘soft switch’ . . . The NTN thus provides a higher level switching hierarchy above the current RBOC tandems.”

The quoted language, equating “a higher level” with Class 4 supports NT’s position.

Furthermore, according to Dr. Brody’s report, this construction is in agreement with how one skilled in the art would understand the term in the context of the ‘708 Patent. Therefore, the Court construes the term as “a level of traffic switching whereby two carrier networks are connected to each other, and also given access to the RBOC/ILEC.”

## DEPENDENT CLAIMS

### *Soft Switch*

The parties propose the following constructions for the term “soft switch.” Peerless’s proposed construction is:

“telecommunications equipment required to switch calls for which policy-based call control and services is separated from the underlying transport network and hardware, and which includes software that manages network devices to set up calls across IP, ATM, and circuit networks.”

NT’s proposed construction is “a system with call control and service decoupled from the underlying transport and switching network hardware.”

Both sides cite the following language from the specification in support of their positions:

“The separation of policy-based call control and services from the underlying transport network and hardware is a key defining element of soft switches.” NT asserts that a soft switch is switching equipment that separates hardware devices from the software that controls how calls are switched. NT’s proposed construction is consistent with the cited language from the specification. By contrast, Peerless does not explain how its proposed construction is derived from the quoted language. Therefore, the Court construes “soft switch” as “a system with call control and service decoupled from the underlying transport and switching network hardware.”

### *“Tandem Trunk Group Access Points”*

Finally, the parties dispute the term “tandem trunk group access points.” NT proposes the following construction: “Points at which a carrier network’s trunk group is connected to the claimed network.” Peerless’s construction of the term is:

“at least two remote switches within a metropolitan area, which each have switching intelligence enabling local switching among carriers interconnected at said switches without the need to transport or backhaul traffic to a main switching center to make such connections, connected by more than one trunk.”

Peerless’s proposed construction is drawn largely from its proposed construction of tandem access points. For reasons stated above, that construction has been rejected. Therefore, the Court construes “tandem trunk group access points” as “points at which a carrier network’s trunk group is connected to the claimed network.”

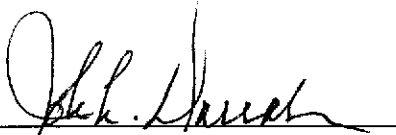
### CONCLUSION

Therefore, the disputed terms in the ‘708 Patent are construed as follows: “Neutral Tandem Network” is a descriptive name for the invention as a whole, not requiring construction; “switch” is construed as “a device, including mechanical, electrical, electronic or optical devices, which opens or closes circuits, completes or breaks a path, or selects paths or circuits”; “tandem access points” are construed as “points at which a carrier’s network is connected to the claimed network”; “managing the efficient routing of transit traffic between said plurality of tandem access points and said switch” is construed as “managing transit traffic into, out of and throughout the claimed network by reducing the customer carriers’ reliance on the RBOC/ILEC network”; “transit traffic” is construed as “traffic between one telecommunications carrier and another such carrier, transmitted by a third carrier in a local region regardless of any other transport of the call”; “distributed switching network” is construed as “a network in which the switching function is distributed over a number of switching or routing elements, components or devices”; “at a higher level in a switching hierarchy including Regional Bell Operating Company



(RBOC) tandems” is construed as “a level of traffic switching whereby two carrier networks are connected to each other, and also given access to the RBOC/ILEC”; “soft switch” is construed as “a system with call control and service decoupled from the underlying transport and switching network hardware”; and “tandem trunk group access points” is construed as “points at which a carrier network’s trunk group is connected to the claimed network.”

Dated: January 8, 2010

  
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JOHN W. DARRAH  
United States District Court Judge