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Paper 18
Entered: May 24, 2013

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

AVAYA INC.
Petitioner

v.

NETWORK-1 SECURITY SOLUTIONS, INC.
Patent Owner

Case IPR2013-00071
Patent 6,218,930

Before JAMESON LEE, JONI Y. CHANG, and JUSTIN T. ARBES, *Administrative Patent Judges.*

ARBES, *Administrative Patent Judge.*

DECISION
Institution of *Inter Partes* Review
37 C.F.R. § 42.108

Avaya Inc. filed a Petition ("Pet.") to institute an *inter partes* review of claims 6 and 9 of Patent 6,218,930 (the "'930 patent") pursuant to 35 U.S.C. § 311 *et seq*. Patent Owner Network-1 Security Solutions, Inc. filed a preliminary response ("Prelim. Resp.") to the Petition. We have jurisdiction under 35 U.S.C. § 314. For the reasons that follow, the Board has determined to institute an *inter partes* review.

I. BACKGROUND

The standard for instituting an *inter partes* review is set forth in 35 U.S.C. § 314(a):

> THRESHOLD – The Director may not authorize an inter partes review to be instituted unless the Director determines that the information presented in the petition filed under section 311 and any response filed under section 313 shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.

Petitioner challenges claims 6 and 9 of the '930 patent as anticipated under 35 U.S.C. §§ 102(a) and (b), and as obvious under 35 U.S.C. § 103(a). Pet. 6-7. We grant the Petition as to claims 6 and 9 on certain grounds as discussed below.

A. The '930 Patent (Ex. 1001)

The '930 patent, entitled "Apparatus and Method for Remotely Powering Access Equipment Over a 10/100 Switched Ethernet Network," issued on April 17, 2001 based on Application 09/520,350, filed March 7, 2000, which claims priority to Provisional Application 60/123,688, filed Mar. 10, 1999.

The '930 patent relates to "the powering of 10/100 Ethernet compatible equipment," specifically "automatically determining if remote equipment is capable of remote power feed and if it is determined that the remote equipment is able to accept power remotely then to provide power in a reliable non-intrusive way." Col. 1, ll. 13-19. The patent describes how it was generally known in the prior art to power telecommunications equipment, such as telephones, remotely, but doing so had not "migrated to data communications equipment" due to various problems, such as the high power levels required by data communications equipment. Col. 1, ll. 22-32. The patent describes a need in the art to power data communications equipment remotely and to "reliably determin[e] if a remote piece of equipment is capable of accepting remote power." Col. 1, ll. 42-44.

Figure 3 of the patent is reproduced below:

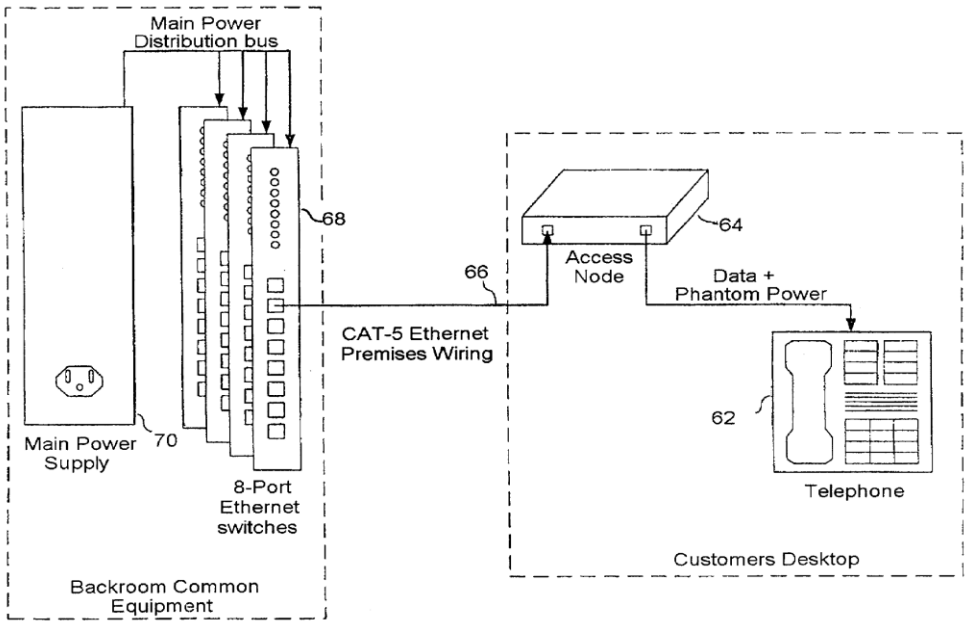


Fig. 3

Figure 3 depicts a remote telephone 62 capable of receiving and transmitting both voice and data. Col. 3, ll. 60-66. Telephone 62 is connected to access node 64 at the customer's premises, and access node 64 is connected to one

of the ports of Ethernet switch 68 via wiring 66 comprising "a Category 5 Ethernet 100BaseX cable of 4 sets of unshielded twisted pairs." *Id*. Ethernet switch 68 comprises an automatic remote power detector 22 (shown in Fig. 1) and remote power supply 34 (shown in Fig. 2). Col. 4, ll. 1-4.

The preferred embodiment described in the '930 patent operates as follows. A remote access device, such as the telephone shown in Figure 3, is normally powered by "an ac transformer adapter plugged in to the local 110 volt supply," but may or may not be capable of being powered remotely. Col. 2, ll. 40-44. The system detects whether the access device is capable of being powered remotely by "delivering a low level current (approx. 20 ma)" over existing twisted pairs of an Ethernet cable used for data signaling and "measuring a voltage drop in the return path." Col. 2, l. 66-col. 3, l. 2; col. 3, ll. 44-48. If there is no voltage drop or a fixed voltage level is detected, the device is not capable of accepting remote power. Col. 3, ll. 2-11. If a varying or "sawtooth" voltage level occurs (caused by the access device repeatedly beginning to start up but being "unable to sustain the start up" due to the low current level), the device is capable of accepting remote power. Col. 3, ll. 12-22. The system then increases the power being supplied remotely to the access device. *Id*. Once the access device is operating under remote power, the system looks for removal of the access device and decreases the power being supplied when the device is no longer connected. Col. 3, ll. 49-58.

B. The Challenged Claims

Claims 6 and 9 of the '930 patent recite:

6. Method for remotely powering access equipment in a data network, comprising,

providing a data node adapted for data switching, an access device adapted for data transmission, at least one data signaling pair connected between the data node and the access device and arranged to transmit data therebetween, a main power source connected to supply power to the data node, and a secondary power source arranged to supply power from the data node via said data signaling pair to the access device,

delivering a low level current from said main power source to the access device over said data signaling pair,

sensing a voltage level on the data signaling pair in response to the low level current, and

controlling power supplied by said secondary power source to said access device in response to a preselected condition of said voltage level.

9. Method according to claim 6, including the step of continuing to sense voltage level and to decrease power from the secondary power source if voltage level drops on the data signaling pair, indicating removal of the access device.

C. The Prior Art

Petitioner relies on the following prior art:

1. Japanese Unexamined Patent Application Publication No. H10-13576, published Jan. 16, 1998 ("Matsuno") (Ex. 1004);[1]

2. Patent 6,115,468, filed Mar. 26, 1998, issued Sept. 5, 2000 ("De Nicolo") (Ex. 1007);

3. Patent 5,754,644, issued May 19, 1998 ("Akhteruzzaman") (Ex. 1005); and

[1] We refer to "Matsuno" as the English translation (Ex. 1004) of the original reference (Ex. 1002). Petitioner provided an affidavit attesting to the accuracy of the translation. *See* Ex. 1003; 37 C.F.R. § 42.63(b).

4. Patent 5,991,885, filed June 11, 1997, issued Nov. 23, 1999 ("Chang") (Ex. 1006).

D. The Asserted Grounds

Petitioner challenges claims 6 and 9 of the '930 patent on the following grounds:

Claims 6 and 9 under 35 U.S.C. § 102(b) as being anticipated by Matsuno;

Claims 6 and 9 under 35 U.S.C. § 103(a) as being unpatentable over De Nicolo in view of Matsuno;

Claims 6 and 9 under 35 U.S.C. § 102(a) as being anticipated by Akhteruzzaman;

Claims 6 and 9 under 35 U.S.C. § 103(a) as being unpatentable over De Nicolo in view of Akhteruzzaman; and

Claims 6 and 9 under 35 U.S.C. § 103(a) as being unpatentable over Chang in view of De Nicolo.

E. Claim Interpretation

Consistent with the statute and legislative history of the America Invents Act (AIA), the Board will interpret claims using "the broadest reasonable construction in light of the specification of the patent in which [they] appear[]." 37 C.F.R. § 42.100(b); *see also* Office Patent Trial Practice Guide, 77 Fed. Reg. 48756, 48766 (Aug. 14, 2012).

There is a "heavy presumption" that a claim term carries its ordinary and customary meaning. *CCS Fitness, Inc. v. Brunswick Corp.*, 288 F.3d 1359, 1366 (Fed. Cir. 2002). However, a "claim term will not receive its ordinary meaning if the patentee acted as his own lexicographer and clearly

set forth a definition of the disputed claim term in either the specification or prosecution history." *Id.* "Although an inventor is indeed free to define the specific terms used to describe his or her invention, this must be done with reasonable clarity, deliberateness, and precision." *In re Paulsen*, 30 F.3d 1475, 1480 (Fed. Cir. 1994). Also, we must be careful not to read a particular embodiment appearing in the written description into the claim if the claim language is broader than the embodiment. *See In re Van Geuns*, 988 F.2d 1181, 1184 (Fed. Cir. 1993) ("[L]imitations are not to be read into the claims from the specification.").

We note that the '930 patent previously was involved in a number of patent infringement actions, including *Network-1 Security Solutions, Inc. v. D-Link Corporation, et al.*, E.D. Tex. Case No. 6:05-cv-00291-LED (the "D-Link litigation"), and *Network-1 Security Solutions, Inc. v. Cisco Systems, Inc., et al.*, E.D. Tex. Case No. 6:08-cv-00030-LED (the "Cisco litigation"). In the Cisco litigation, the district court issued an order interpreting certain terms of claim 6. *See* Memorandum Opinion and Order, Ex. 2006. The parties reference the district court's Order and Patent Owner's earlier claim interpretation positions in their papers. *See, e.g.*, Pet. 8-9; Prelim. Resp. 24.

For purposes of this decision, we construe certain claim limitations as follows:

1. "Low Level Current" (Claim 6)

Claim 6 recites "delivering a low level current from said main power source to the access device over said data signaling pair." Petitioner does not propose a definition for "low level current." Patent Owner argues that "low level current" is a term of degree and means "a current at a level that is

sufficiently low that it will not (a) operate the access device, or (b) damage an access device that is not designed to accept power through the data signaling pair." Prelim. Resp. 24. The district court in the Cisco litigation interpreted the term to mean "a current sufficient to cause the access device to start up, but not sufficient to sustain the start up." Ex. 2006 at 16.

We agree with Patent Owner that "low level current" in the context of claim 6 is a term of degree. Such terms require a standard for measuring the degree; otherwise the scope of what is claimed cannot be determined. *See Playtex Prods., Inc. v. Procter & Gamble Co.*, 400 F.3d 901, 908 (Fed. Cir. 2010) ("['Substantially flattened surface'] is clearly a comparative term. Comparison requires a reference point. Therefore, to flatten something, one must flatten it with respect to either itself or some other object."); *Young v. Lumenis, Inc.*, 492 F.3d 1336, 1346 (Fed. Cir. 2007) (finding that a figure of the asserted patent "provides a standard for measuring the meaning of the term 'near'"); *Exxon Res. & Eng'g Co. v. United States*, 265 F.3d 1371, 1381 (Fed. Cir. 2001) (terms of degree require determining "'whether the patent's specification provides some standard for measuring that degree'") (citation omitted). For example, a person may be "small" relative to the size of a skyscraper, but may not be "small" when compared to another individual of similar height.

We look to the Specification of the '930 patent for the proper standard for measuring the "low level current" in claim 6. The Specification describes methods for "automatically determining if remote equipment is capable of remote power feed and if it is determined that the remote equipment is able to accept power remotely then to provide power." Ex. 1001, col. 1, ll. 14-19. It is therefore an object of the invention to provide

power to a remote device once it is determined that the device is capable of being powered remotely. The Specification explains how this is accomplished as follows:

> *Automatic detection of remote equipment being connected to the network is accomplished by delivering a low level current (approx. 20 ma) to the network interface and measuring a voltage drop in the return path.* There are three states which can be determined: no voltage drop, a fixed level voltage drop or a varying level voltage drop. . . .
>
> If a varying voltage level is detected, this identifies the presence of dc-dc switching supply in the remote equipment. The varying level is created by the remote power supply beginning to start up but the low current level is unable to sustain the start up. This cycle continues to be repeated creating a "sawtooth" voltage level in the return path. When this cycle is confirmed, switch S1 is closed which increases the power output to the remote equipment. When the power to the remote equipment reaches the proper level the remote power supply *turns on and the remote equipment becomes active*. . . .
>
> . . .
>
> Once the remote equipment is *operating* and confirmed as a known remote power enabled device, the logic circuit shown in FIG. 1 begins to look for removal of the remote equipment or an overload fault condition. . . .

Id., col. 2, l. 66-col. 3, l. 52 (emphasis added). The Specification gives an example of a low level current (approximately 20 mA) and explains how, if a remote access device is determined to be capable of receiving remote power, the power being supplied remotely to the device is increased and the device "becomes active." In other words, the device does not operate based on just the low level current used for detection, but does operate when the power is increased by a certain amount. The Specification therefore indicates that the "low level current" is sufficiently low that, by itself, it will

not operate the access device.

We disagree with Patent Owner's proposed interpretation to the extent it requires the "low level current" to be sufficiently low to not damage an access device not designed to accept remote power. *See* Prelim. Resp. 23-24. Patent Owner's only support for this aspect of its interpretation is the description in the Specification of determining whether remote equipment is capable of accepting remote power in a "non-intrusive manner," which according to Patent Owner means a manner that will not damage the equipment. Ex. 1001, col. 1, ll. 54-56; *see* Prelim. Resp. 23-24. The Specification, however, does not use the word "damage" and does not clearly tie the low level current to any measurement standard based on damage. Thus, we do not include any standard based on damage in our interpretation of "low level current."

Applying the broadest reasonable interpretation of the claim in light of the Specification, we interpret "low level current" to mean a current (e.g., approximately 2 mA) that is sufficiently low that, by itself, it will not operate the access device.

2. "Data Node Adapted for Data Switching" (Claim 6)

Petitioner and Patent Owner do not propose a definition for "data node adapted for data switching." However, in Case IPR2013-00092 (another proceeding involving the '930 patent), Patent Owner argues that "data node" means either an "Ethernet switch or hub" or a "data switch or hub," and argues that "data switching" means "the ability to switch data from one device connected to the data node to another device connected to the data node, which requires the ability to transfer data among the

associated data ports in the node." IPR2013-00092, Paper 19 at 47-48. As support, Patent Owner cites the following technical dictionary definition of "switching":

> A communications method that uses temporary rather than permanent connections to establish a link or to route information between two parties. In the dial-up telephone network, for example, a caller's line goes to a switching center, where the actual connection is made to the called party. In computer networks, message switching and packet switching allow any two parties to exchange information. In both instances, messages are routed (switched) through intermediary stations that together serve to connect the sender and the receiver.

IPR2013-00092, Ex. 2010, Microsoft Computer Dictionary at 505 (5th ed. 2002). The district court in the Cisco litigation interpreted "data node" to mean a "data switch or hub." Ex. 2006 at 6.

The dictionary definition cited by Patent Owner is indicative of the ordinary meaning of "data switching" to a person of ordinary skill in the art and is consistent with the Specification, which describes a well-known "switched Ethernet network" comprising an "Ethernet 8 port switch card." *See* Ex. 1001, col. 2, ll. 44-46; col. 3, ll. 28-31. The definition is also consistent with the Declaration of Dr. George A. Zimmerman submitted by Petitioner, where Dr. Zimmerman states:

> Largely as a result of increased network congestion caused by repeating signals onto all of the network wiring segments, in 1989 Ethernet incorporated the concept of *switching*, which had been generally well known and used notably in PSTNs. Under this approach, *transmitted packets would only be sent out onto the wiring segments of their specific destinations*.

Ex. 1011¶ 21 (emphasis added); *see also* Pet. 15. We also interpret the

phrase "adapted for" as "configured for" given how the phrase is used in the claims and in the Specification, which describes the actual transmission of data over a switched network. *Id*., col. 2, ll. 48-51; *see Aspex Eyewear, Inc. v. Marchon Eyewear, Inc.*, 672 F.3d 1335, 1349 (Fed. Cir. 2012) ("In common parlance, the phrase 'adapted to' is frequently used to mean 'made to,' 'designed to,' or 'configured to,' but it can also be used in a broader sense to mean 'capable of' or 'suitable for.'").

Applying the broadest reasonable interpretation of the claim in light of the Specification, we interpret "data node adapted for data switching" to mean a data switch or hub configured to communicate data using temporary rather than permanent connections with other devices or to route data between devices.

3. "Data Signaling Pair" (Claim 6)

Petitioner and Patent Owner do not specifically define "data signaling pair." Patent Owner, however, argued in the D-Link litigation that the term means "a pair of wires used to transmit data between the data node and the access device," and in the Cisco litigation that the term means "a pair of wires used to transmit data." Ex. 1008 at 1, 9; Ex. 1009 at 17, 41. The latter interpretation is the broadest reasonable interpretation consistent with the surrounding language of claim 6, which requires "at least one data signaling pair connected between the data node and the access device and arranged to *transmit data therebetween*," and the Specification. *See* Ex. 1001, Abstract ("delivering the phantom power to the remote equipment over the same wire pairs that deliver the data signals"); col. 1, ll. 51-59 ("delivering the power to remote equipment over the same wire pairs that deliver the data signals");

col. 3, ll. 60-66 ("Category 5 Ethernet 100BaseX cable of 4 sets of unshielded twisted pairs"). Thus, giving the term its broadest reasonable interpretation in light of the Specification, we interpret "data signaling pair" to mean a pair of wires used to transmit data.

4. "Main Power Source" and "Secondary Power Source" (Claim 6)

Petitioner argues that Patent Owner took the position in litigations where the '930 patent has been asserted that the "main power source" and "secondary power source" in claim 6 need not be physically separate devices, and therefore the terms should be interpreted the same in this proceeding when given their broadest reasonable interpretation. Pet. 9-10 (citing Exs. 1008-10). Patent Owner does not challenge Petitioner's proposed interpretation in its preliminary response. The district court in the Cisco litigation interpreted the terms such that the main power source and secondary power source must be "physically separate." Ex. 2006 at 8-14.

We conclude that Petitioner's proposed interpretation is broad but reasonable in light of the surrounding language of the claim and the Specification. Claim 6 does not specify a relationship between the "main power source" and "secondary power source" (e.g., one providing power to the other), but instead only describes how they are arranged. The "main power source" is "connected to supply power to the data node" and the "secondary power source" is "arranged to supply power from the data node via said data signaling pair to the access device." Figure 1 of the Specification also depicts a single "power source 16." *See* Ex. 1001, col. 2, ll. 52-57; Fig. 1. Applying the broadest reasonable interpretation of the claim in light of the Specification, we do not interpret claim 6 as requiring

the "main power source" and "secondary power source" to be physically separate devices.

5. Other Terms

All other terms in claims 6 and 9 are given their ordinary and customary meaning and need not be further construed at this time.

II. ANALYSIS

We turn now to Petitioner's asserted grounds of unpatentability and Patent Owner's arguments in its preliminary response to determine whether Petitioner has met the threshold standard of 35 U.S.C. § 314(a).

A. Whether the Petition Should be Denied for Failure to Propose a Specific Interpretation for "Low Level Current"

As an initial matter, Patent Owner argues in its preliminary response that the Petition should be denied because it does not comply with 37 C.F.R. § 42.104(b), which requires a petition to state "[h]ow the challenged claim is to be construed" and "[h]ow the construed claim is unpatentable." Prelim. Resp. 1-2, 11-19. According to Patent Owner, Petitioner was required to provide an interpretation for the term "low level current," rather than merely stating that the term should be given its ordinary and customary meaning, because "low level current" is a term of degree and has no ordinary meaning absent a standard for measuring that degree. *Id*. at 11-19.

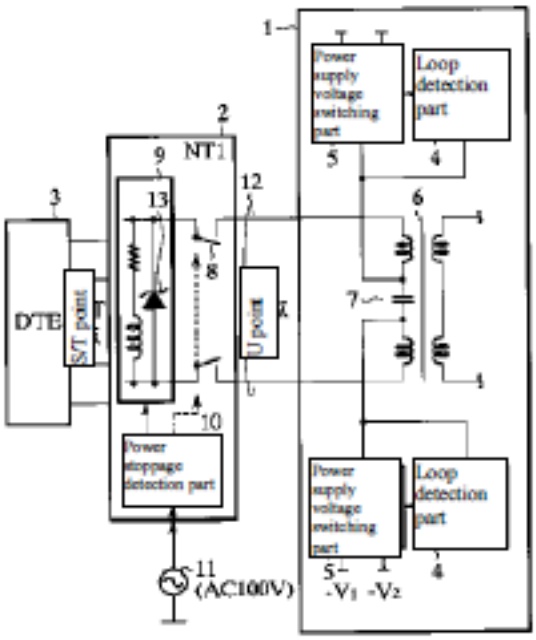
We agree with Patent Owner that Petitioner should have provided an interpretation for "low level current" given its importance to the claims being challenged and the fact that it is a term of degree. We do not conclude, however, that the failure to do so is itself sufficient reason to deny

the Petition because the error is harmless. Patent Owner, for instance, does not contend that it is unable to respond to Petitioner's grounds of unpatentability because of the deficiency. Indeed, Patent Owner argues at length in its preliminary response regarding Patent Owner's own interpretation of "low level current" and why the asserted prior art references do not disclose the limitation under Patent Owner's interpretation. *See* Prelim. Resp. 20-25, 28-29, 32-34, 36-41, 47-49. Thus, we are not persuaded that the Petition should be denied for failure to provide a specific definition of "low level current."

B. Grounds Based on Matsuno (Ex. 1004)

Petitioner contends that claims 6 and 9 are anticipated by Matsuno under 35 U.S.C. § 102(b). Pet. 17-26. We conclude that Petitioner has established a reasonable likelihood of prevailing on its assertion that claims 6 and 9 are anticipated for the reasons explained below.

Matsuno discloses a "power supply circuit that switches power supply voltage and supplies the desired power while ensuring safety." Matsuno, Abstract. Figure 1 of Matsuno, reproduced below, depicts a network terminal device 2 in communication with power supply circuit 1 over digital subscriber line 12 in an Integrated Services Digital Network (ISDN):



Network terminal device 2 is typically powered locally by AC power supply 11. *Id*. ¶¶ 4, 8. When local power is available, power supply circuit 1 in the ISDN "switching station" provides over digital subscriber line 12 a current generated from "low voltage V_2," which may be -48 V. *Id*. ¶¶ 7, 18-20. When local power stops, loop detection part 4 of power supply circuit 1 detects the change and the voltage is switched to "high-voltage V_1," which may be -120 V, "thereby allowing the desired power to be supplied from the station." *Id*.

Patent Owner argues that Matsuno does not disclose delivering a "low level current." Prelim. Resp. 36-41. Specifically, Patent Owner contends that the current generated from low voltage V_2 (-48 V) in Matsuno is sufficient to operate "access devices (e.g., telephones) connected to the disclosed ISDN telephone network." *Id*. at 35-40. As support for its argument, Patent Owner cites another patent, Patent 6,301,358 ("Chen") (Ex. 2005), stating that "[c]onventional analog telephone line-interface circuits . . . require a 48VDC power supply for operation." Prelim. Resp. 35,

39-40 (citing Ex. 2005, col. 1, ll. 11-14).

As explained above, we interpret "low level current" to mean a current (e.g., approximately 2 mA) that is sufficiently low that, by itself, it will not operate the access device. Patent Owner does not point to any disclosure in Matsuno itself indicating that the current generated from low voltage V_2 (-48 V) is sufficient, by itself, to operate network terminal device 2. Indeed, the opposite appears to be the case. Low voltage V_2 (-48 V) is applied when the device is operating under local power, but high voltage V_1 (-120 V) is applied if the local power fails. *See* Matsuno ¶¶ 7-8, 18-22 (describing the "low voltage power supply" and "high voltage power supply"). If low voltage V_2 (-48 V) was sufficient, by itself, for the device to operate, presumably there would be no need to switch to high voltage V_1 (-120 V) when local power is unavailable.[2] Patent Owner has not argued otherwise except to say that "conventional" telephones require a 48 V power supply. *See* Prelim. Resp. 35, 39-40. Whether the current in Matsuno would be sufficient for "conventional" devices in other contexts is not the issue. The issue is whether *the specific current in Matsuno* is sufficient, by itself, to operate *the specific access device in Matsuno* such that it would be more than a "low level current" as recited in claim 6. Seeing no indication that it is, we conclude that Petitioner has made a threshold showing that Matsuno discloses delivering a "low level current."

[2] Patent Owner acknowledges that the current generated from low voltage V_2 (-48 V) in Matsuno "may not be able to fully power all connected ISDN equipment. Matsuno teaches that if the local power to the device (11) stops, the voltage on the telephone line (12) increases to -120 volts to assure that certain ISDN equipment can also be fully powered and communications during power outages will not be restricted." Prelim. Resp. 35-36.

Patent Owner also argues that the current generated from low voltage V_2 (-48 V) in Matsuno is sufficient to "damage" devices that are not designed to accept remote power. *Id*. at 38. This argument is not persuasive because, as explained above, we do not interpret "low level current" as imposing any measurement standard based on damage to the access device.

With respect to the remaining elements of claims 6 and 9, which are not disputed by Patent Owner, Petitioner has made a threshold showing that they are disclosed by Matsuno as well. For example, Petitioner contends that the ISDN switching station in Matsuno (of which power supply circuit 1 is a part) is a "data node adapted for data switching," and network terminal device 2 is an "access device" as recited in claim 6. Pet. 18-19 (citing Ex. 1011 ¶¶ 30-31). Petitioner also argues that Matsuno controls the power supplied to network terminal device 2 by increasing the voltage to V_1 (-120 V) when local power is removed. *Id*. at 19-21 (citing Ex. 1011 ¶¶ 30-40).

We are persuaded by the analysis set forth in the Petition and accompanying declaration that there is a reasonable likelihood that Petitioner will prevail on its assertion that claims 6 and 9 are anticipated by Matsuno under 35 U.S.C. § 102(b).

C. Grounds Based on De Nicolo (Ex. 1007)

De Nicolo in View of Matsuno

Petitioner contends that claims 6 and 9 are unpatentable over De Nicolo in view of Matsuno. We conclude that Petitioner has established a reasonable likelihood of prevailing on its assertion that claims 6 and 9 are unpatentable for the reasons explained below.

Petitioner relies on De Nicolo as teaching the "providing" step of claim 6, including the claimed structures of a data node, access device, data signaling pair, and power sources. Pet. 36-42. Petitioner relies on Matsuno as teaching the remaining "delivering," "sensing," and "controlling" steps of claim 6, as well as the "continuing to sense" step of claim 9. *Id*. at 36-43. Petitioner contends that a person of ordinary skill in the art would have had reason to incorporate the process of Matsuno into the Ethernet system of De Nicolo to perform the claimed method, citing the analysis of Dr. Zimmerman. *Id*. at 43-45 (citing Ex. 1011 ¶¶ 69-71). Specifically, Petitioner cites power saving and safety improvement as alleged reasons why a skilled artisan would combine the teachings of the references. *Id*.

As to De Nicolo in particular, the reference discloses a system for providing "electrical power to devices such as Ethernet telephones and related equipment over a 4-wire Ethernet connection." De Nicolo, col. 2, ll. 30-34. Figure 3 of De Nicolo, reproduced below, depicts data ports 80/82/84 communicating data to and from load devices 98/100/102 over Ethernet twisted pair lines:

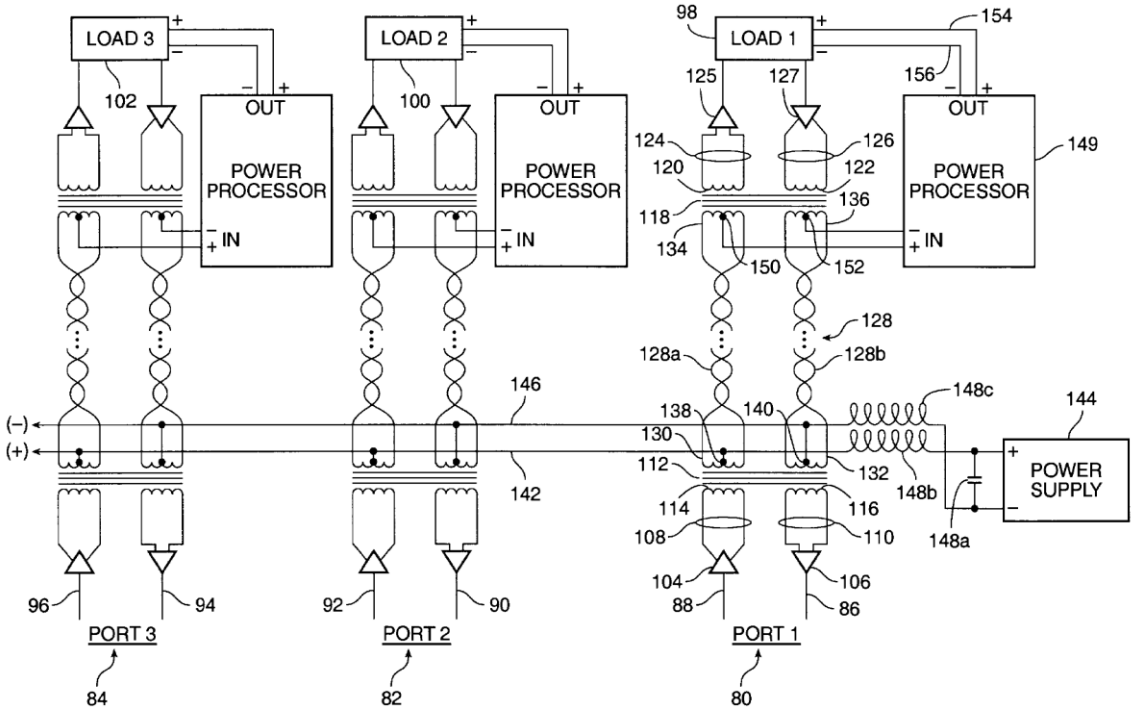


FIG. 3

Petitioner identifies any one of the "multiple data ports (Port 1-3) and associated circuitry" as the claimed "data node," any one of the "load devices such as Ethernet telephones or other Ethernet devices" as the claimed "access device," and twisted pair conductors 128a or b of Ethernet link 128 as the claimed "data signaling pair." Pet. 38-42.

Patent Owner makes three arguments. First, Patent Owner argues that De Nicolo does not disclose, and teaches away from, a system that "detects whether the device connected to the cable can accept power and that differentiates between devices that can accept remote power and devices that cannot." Prelim. Resp. 26-27. This language, however, does not appear in the claims or our interpretation of the claim language. For instance, claim 6 recites sensing a voltage level and controlling power to an access device in response to a preselected condition of the voltage level. It does not include any step of "differentiat[ing] between devices that can accept remote power

and devices that cannot" as Patent Owner suggests. *See id*. Patent Owner's argument therefore is not commensurate with the scope of the claims and is not persuasive.

Second, Patent Owner contends that Cisco Technology, Inc. ("Cisco"), the assignee of De Nicolo, relied on De Nicolo during the Cisco litigation but subsequently settled for a certain amount. Prelim. Resp. 27-28. According to Patent Owner, Cisco "would not have licensed the '930 Patent for this amount if they believed that the '930 Patent was invalid in light of De Nicolo." *Id*. at 28. We do not consider the Cisco settlement or Patent Owner's speculation as to Cisco's views regarding the patentability (or lack thereof) of the claims relevant to our analysis. *See generally* Fed. R. Evid. 408, Advisory Notes (evidence of accepting a settlement "is irrelevant, since the offer may be motivated by a desire for peace rather than from any concession of weakness of position").

Third, Patent Owner argues that De Nicolo does not teach "delivering a low level current from said main power source to the access device over said data signaling pair" as recited in claim 6 because the current delivered in De Nicolo is not a "low level current." Prelim. Resp. 28-29. While Petitioner argues that both Matsuno and De Nicolo disclose delivering current over a data signaling pair, Petitioner relies on Matsuno, not De Nicolo, for the specific limitation of delivering a "low level current." Pet. 39-40, 43. As explained above, Petitioner has met its burden to demonstrate that the "low level current" limitation is taught by Matsuno.

Petitioner has made a threshold showing that the limitations of claims 6 and 9 are taught by De Nicolo and Matsuno in combination and that a person of ordinary skill in the art would have had reason to combine them to

achieve the claimed subject matter. We are persuaded by the analysis set forth in the Petition and accompanying declaration that there is a reasonable likelihood that Petitioner will prevail on its assertion that claims 6 and 9 are unpatentable over De Nicolo in view of Matsuno under 35 U.S.C. § 103(a).

De Nicolo in View of Akhteruzzaman

Petitioner also contends that claims 6 and 9 are unpatentable over De Nicolo in view of Akhteruzzaman. Similar to its ground based on De Nicolo in view of Matsuno, Petitioner relies on De Nicolo for the "providing" step of claim 6 and Akhteruzzaman for the remaining steps of the claims. Pet. 45-47. As explained below, Petitioner has not demonstrated that Akhteruzzaman teaches the step of "delivering a low level current from said main power source to the access device over said data signaling pair" in claim 6. *See infra* Section II.D. Petitioner also does not argue that De Nicolo teaches the missing limitation. Based on the information presented in the Petition and accompanying declaration, we conclude that Petitioner has not established a reasonable likelihood of prevailing on its assertion that claims 6 and 9 are unpatentable over De Nicolo in view of Akhteruzzaman under 35 U.S.C. § 103(a).

D. Grounds Based on Akhteruzzaman (Ex. 1005)

Petitioner contends that claims 6 and 9 are anticipated by Akhteruzzaman under 35 U.S.C. § 102(a). Pet. 26-36. We conclude that Petitioner has not established a reasonable likelihood of prevailing on its assertion that claims 6 and 9 are unpatentable for the reasons explained below.

Akhteruzzaman discloses a method of powering a remote telephone from a central office and "controlling power losses associated with the operation of line interface circuits" in the telecommunications network. Akhteruzzaman, Abstract. The reference discloses that telephones near the central office have a smaller subscriber loop and therefore "do not require as much voltage to generate the needed amount of current as do longer subscriber loops to interconnect customer premises equipment to the serving central office switch." *Id*., col. 2, ll. 3-14. The central office system detects a loop current of the subscriber loop associated with the telephone, determines a threshold voltage based on the detected current, uses the threshold voltage to determine an "optimum battery feed voltage" that is "just sufficient to produce the correct amount of current necessary to interconnect the customer premises equipment to the central office switch, and provide telecommunications service," and adjusts the power being supplied to the telephone accordingly. *Id*., col. 2, ll. 15-34. Doing so minimizes power losses by ensuring that the minimum current (and no more) is provided to the subscriber loop based on the telephone's distance from the central office. *Id*., col. 2, ll. 31-34; col. 5, ll. 20-26. Akhteruzzaman discloses that "[t]he range of current provided to subscriber loops is 10 milliamps to 40 milliamps." *Id*., col. 4, ll. 61-63.

Patent Owner argues that Akhteruzzaman does not disclose delivering a "low level current" as recited in claim 6 because the 10-40 mA it provides is always at a level that can operate the telephones. Prelim. Resp. 32-34. Patent Owner's argument is persuasive. As explained above, we interpret "low level current" to mean a current (e.g., approximately 2 mA) that is sufficiently low that, by itself, it will not operate the access device. In

Akhteruzzaman, the current being provided remotely is sufficient, by itself, to operate the telephone, but is not necessarily the optimal amount. It is for this reason that the central office adjusts the current to provide a "just sufficient amount" to the telephone. *See* Akhteruzzaman, col. 2, ll. 15-34; col. 4, ll. 57-60; col. 5, ll. 20-23 (battery feed voltage "is tailored for providing the minimum amount of voltage needed to send a predetermined magnitude of loop current to the subscriber loop"); Pet. 26-27 (acknowledging that Akhteruzzaman ensures that "a just sufficient amount" of current is provided); Ex. 1011 ¶ 56. Thus, we agree with Patent Owner that Akhteruzzaman does not disclose delivering a "low level current" as recited in claim 6.

Based on the information presented in the Petition and accompanying declaration, we conclude that Petitioner has not established a reasonable likelihood of prevailing on its assertion that claims 6 and 9 are anticipated by Akhteruzzaman under 35 U.S.C. § 102(a).

E. Grounds Based on Chang (Ex. 1006)

Petitioner contends that claims 6 and 9 are unpatentable over Chang in view of De Nicolo under 35 U.S.C. § 103(a). Pet. 47-59. We conclude that Petitioner has not established a reasonable likelihood of prevailing on its assertion that claims 6 and 9 are unpatentable for the reasons explained below.

Petitioner argues that both Chang and De Nicolo teach the structural elements in the "providing" step of claim 6, and relies on Chang as teaching the remaining steps of the claim. *Id*. at 49-57. Specifically, Petitioner contends that Chang discloses "delivering a low level current from said main

power source to the access device over said data signaling pair," identifying presence request signal 619 in Chang as the claimed "low level current." *Id.* at 51, 56.

Chang discloses a system that "detects the presence of a remote terminal connected to a network and determines the functional protocol of the remote terminal." Chang, Abstract. If, for example, the remote terminal is an infrared adapter, a network hub provides power to the adapter and thereafter monitors for the presence of the adapter. *Id.* If the adapter is removed, the network hub stops providing power. *Id.* Figure 2 of Chang, reproduced below, depicts a network hub 202 in communication with infrared adapter 206 and computers 212 via twisted-pair cables 205:

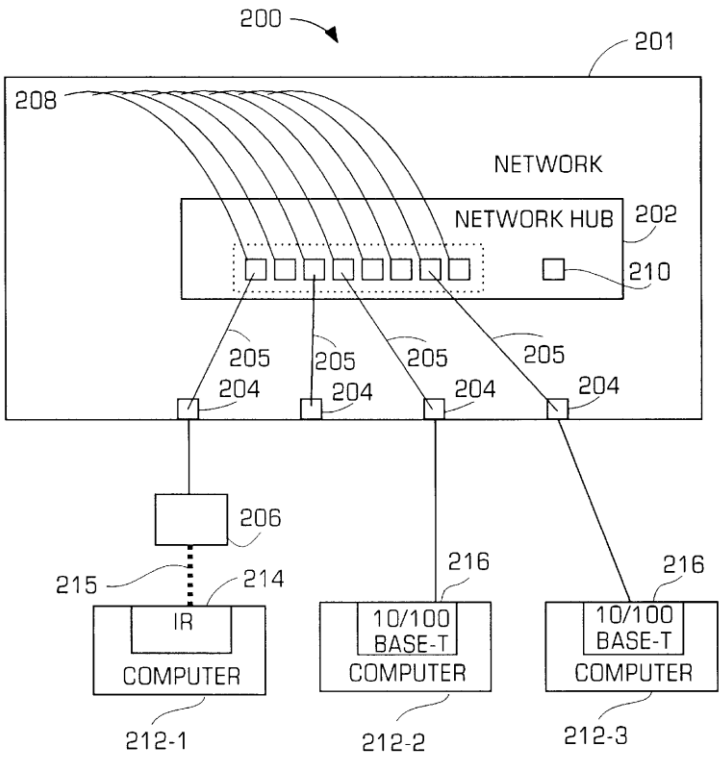


FIGURE 2

Network hub 202 includes a device presence detector 414, which communicates with remote terminal 602-1 (an infrared adapter 206), as

shown in Figure 6a of Chang reproduced below:

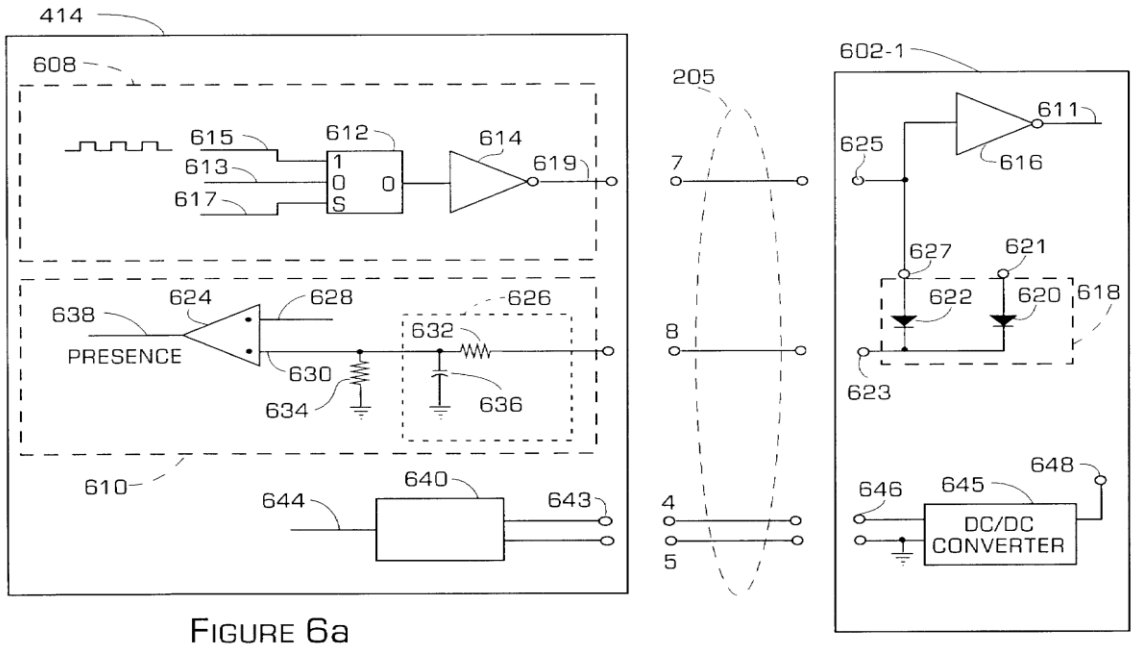


FIGURE 6a

Chang detects the presence of an infrared adapter by sending a presence request signal 619 over the wire connected to pin 7 and receiving a feedback signal over the wire connected to pin 8. *Id*., col. 11, 1-32. When the feedback signal indicates that the infrared adapter is connected, electrical power supply 640 starts supplying power to the adapter over the wires connected to pins 4 and 5. *Id*., col. 11, ll. 37-67.

Patent Owner argues that Chang does not disclose "delivering a low level current from said main power source to the access device *over said data signaling pair*" as recited in claim 6. Prelim. Resp. 43-47. Patent Owner contends that the wires connected to pins 7 and 8 in Chang, which are used to provide presence request signal 619 and return a feedback signal, are not used to transmit data and therefore cannot be a "data signaling pair." *Id*. We agree. As explained above, we interpret "data signaling pair" to mean a pair of wires used to transmit data. Table 1 of Chang, reproduced below, indicates how the eight wires (i.e., four pairs) of the twisted-pair

cable are used:

TABLE I

RJ45 pin at DTE of the station	l0 Base-T Interface	l00 Base-TX Interface	Token Ring Interface
1	TX+	TX+	Unused
2	TX–	TX–	Unused
3	RX+	RX+	TX+
4	Unused	Termination	RX+
5	Unused	Termination	RX–
6	RX–	RX–	TX–
7	Unused	Termination	Unused
8	Unused	Termination	Unused

Chang, col. 9, ll. 45-55. Data is transmitted and received over the wires connected to pins 1, 2, 3, and 6 when using a 10 Base-T Interface or 100 Base-TX Interface, and the wires connected to pins 3, 4, 5, and 6 when using a Token Ring Interface. *Id.*; col. 9, ll. 18-25 (lines 1, 2, 3, and 6 "carry signals," and lines 4, 5, 7, and 8 are "unused"). As shown in Figure 6a above, presence request signal 619 (the claimed "low level current" according to Petitioner) is sent over line 7 and a corresponding feedback signal is received over line 8. These lines are not used to transmit data. Indeed, Chang discloses that "to perform detection that is continuous and does not interfere with the normal transmit and receive, the device presence detector 414 *does not connect to the signal lines* – twisted-pair cable line 1, 2, 3, 6 in Ethernet protocol nor connect to line 3, 4, 5, 6 in Token Ring protocol." *Id.*, col. 10, ll. 3-7 (emphasis added). Thus, we agree with Patent Owner that Chang does not disclose "delivering a low level current from said main power source to the access device over said data signaling pair."

We also note that, even if lines 7 and 8 in Chang could be considered a "data signaling pair," claim 6 requires that the low level current delivered to the access device be over the same "said data signaling pair" as power supplied from the data node to the access device. Petitioner points to

presence request signal 619 (provided using lines 7 and 8) as the claimed low level current, and power supplied by electrical power supply 640 (using lines 4 and 5) as the claimed power supplied from the data node. Pet. 55-57. Because different wire pairs are used, the same "data signaling pair" does not perform both functions and the claim language is not met by Chang.

Petitioner has not demonstrated that Chang teaches the claim step of "delivering a low level current from said main power source to the access device over said data signaling pair." Petitioner also does not argue in the Petition that De Nicolo teaches the missing limitation. Thus, Petitioner has not shown that all of the limitations of claim 6 are taught by the cited references.

Petitioner also makes the bare assertion that, to the extent any claim element is not disclosed by Chang, "a person of ordinary skill in the art would have been motivated to combine features of De Nicolo with the network set forth in Chang in order to form the claimed combination of the '930 Patent." *Id*. at 47. Petitioner gives no explanation in the Petition, however, as to why the "delivering" step of claim 6 (missing from Chang) would be obvious based on the combination of Chang and De Nicolo, nor does Petitioner provide any facts or reasoning as to why a person of ordinary skill in the art would have found the claimed subject matter obvious in spite of the missing limitation. *See* 35 U.S.C. § 312(a)(3); 37 C.F.R. § 42.104(b).

Based on the information presented in the Petition and accompanying declaration, we conclude that Petitioner has not established a reasonable likelihood of prevailing on its assertion that claims 6 and 9 are unpatentable

over Chang in view of De Nicolo under 35 U.S.C. § 103(a).[3]

F. Conclusion

We conclude that Petitioner has demonstrated a reasonable likelihood of prevailing on the following grounds of unpatentability asserted in the Petition:

Claims 6 and 9 under 35 U.S.C. § 102(b) as being anticipated by Matsuno; and

Claims 6 and 9 under 35 U.S.C. § 103(a) as being unpatentable over De Nicolo in view of Matsuno.

III. ORDER

In consideration of the foregoing, it is hereby:

ORDERED that the Petition is granted as to claims 6 and 9 of the '930 patent;

FURTHER ORDERED that pursuant to 35 U.S.C. § 314(a), *inter partes* review of the '930 patent is hereby instituted commencing on the entry date of this Order, and pursuant to 35 U.S.C. § 314(c) and 37 C.F.R. § 42.4, notice is hereby given of the institution of a trial;

FURTHER ORDERED that the trial is limited to the grounds identified above and no other grounds set forth in the Petition as to claims 6 and 9 are authorized; and

[3] Because Petitioner has not met its burden for the reasons explained above, we need not address Patent Owner's arguments regarding other aspects of Petitioner's proposed ground of unpatentability based on Chang in view of De Nicolo. *See* Prelim. Resp. 47-51.

FURTHER ORDERED that an initial conference call with the Board is scheduled for 2:00 PM Eastern Time on June 18, 2013. The parties are directed to the Office Patent Trial Practice Guide, 77 Fed. Reg. 48756, 48765-66 (Aug. 14, 2012), for guidance in preparing for the initial conference call, and should come prepared to discuss any proposed changes to the Scheduling Order entered herewith and any motions the parties anticipate filing during the trial.

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