NOTE: This disposition is nonprecedential.

United States Court of Appeals for the Federal Circuit

CISCO SYSTEMS, INC.,
Appellant,

v.

MICHELLE K. LEE, Deputy Director, United States Patent and Trademark Office,
Appellee,

v.

TELES AG INFORMATIONSTECHNOLOGIEN,
Cross-Appellant.

2012-1513, -1514

Appeals from the United States Patent and Trademark Office, Board of Patent Appeals and Interferences, in Reexamination No. 95/001,001.

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IN RE TELES AG INFORMATIONSTECHNOLOGIEN AND SIGRAM SCHINDLER BETEILIGUNGSGESELLSCHAFT MBH

2012-1297

Appeal from the United States Patent and Trademark Office, Board of Patent Appeals and Interferences, in Reexamination No. 90/010,017.

Decided: February 21, 2014

J. ANTHONY DOWNS, Goodwin Procter LLP, of Boston, Massachusetts, argued for appellant Cisco Systems, Inc. With him on the brief were LANA S. SHIFERMAN and KENNETH E. RADCLIFFE.

AMY J. NELSON, Associate Solicitor, United States Patent and Trademark Office, of Alexandria, Virginia, argued for appellee. With her on the brief were NATHAN K. KELLEY, Deputy Solicitor, and SCOTT C. WEIDENFELLER, Associate Solicitor. Of counsel was SYDNEY O. JOHNSON, JR., Associate Solicitor.

MICHAEL D. KAMINSKI, Foley & Lardner LLP, of Washington, DC, argued for appellant and cross appellant Teles AG Informationstechnologien, et al. With him on the brief were HOWARD N. SHIPLEY, GEORGE E. QUILLIN and RYAN A. SCHMID.

FRANK E. SCHERKENBACH, Fish & Richardson P.C., of Boston, Massachusetts, for amicus curiae Power Integrations in appeal no. 2012-1297. With him on the brief were CRAIG E. COUNTRYMAN, of San Diego, California, and HOWARD G. POLLACK and MICHAEL R. HEADLEY, of Redwood City, California.

Before DYK, MOORE, and WALLACH, *Circuit Judges*.

WALLACH, *Circuit Judge*.

Third-party requester Cisco Systems, Inc. ("Cisco") appeals from the Patent Trial and Appeal Board's ("Board") decision confirming the patentability of claims 91 and 104 of U.S. Patent No. 7,145,902 ("the '902 patent"). Teles AG Informationstechnologien ("Teles")[1] cross appeals from the Board's rejections of claims 68, 69, 71, 75, 77, 79, 82, 84, 87, 90, 92, 95, 98, 100, and 102. This court affirms-in-part and reverses-in-part.

BACKGROUND

I. The '902 Patent

The '902 patent discloses a method and apparatus for transmitting data in a telecommunications network by line switching (also referred to as circuit switching) and packet switching. '902 patent col. 1 ll. 19–22. It contemplates transfer of "any type of data," including "audio data, video data or computer files," *id.* col. 3 ll. 45–46, and is particularly useful in Internet telephony, *id.* col. 4 ll. 3–4. A conventional telephone transmission uses line switching, whereas the Internet uses packet switching. A line-switching connection has fixed bandwidth and transfers data continuously and without delay. *Id.* col. 1 ll. 46–60. Line-switching connections are costly, however, because the connection must be maintained even when no data is being transferred. *Id.* col. 1 ll. 56–58. Packet switching transmits data in data packets. It is less expensive, but can cause significant time delays when there is a large amount of data to be transmitted. *Id.* col. 2 ll. 18–25.

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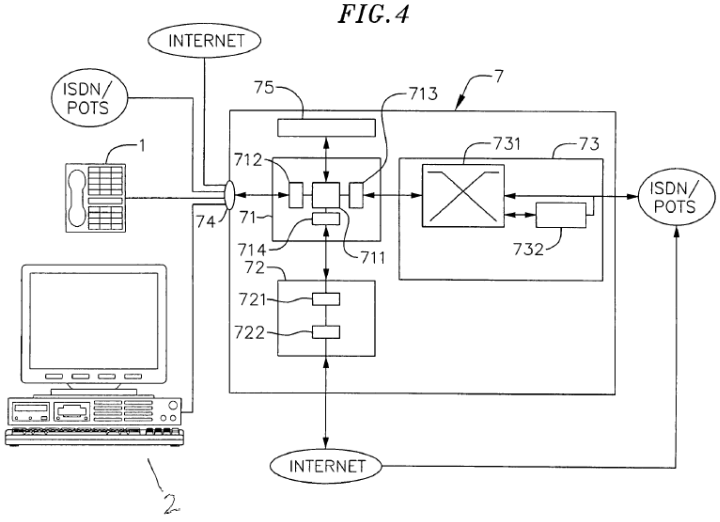
[1] For convenience, this court will refer to former patent owner Teles, even though Sigram Schindler Beteiligungsgesellschaft MbH now owns the '902 patent.

The '902 patent teaches changing over between line switching and packet switching during an existing communication, so that each type of connection can be used when it is most beneficial. This is accomplished with switches that "allow both line-switching and packet-switching, and combine the functions of a line-switch and a packet-switch." *Id.* col. 3 ll. 47–50. Such a switch has "[(1)] a packeting device for packeting and unpacketing data, [(2)] an IP switching device for routing data packets, [(3)] a line-switching device for establishing connections for switching through data channels[, and (4)] a control device which directs incoming data." *Id.* col. 3 ll. 51–55. The control device responds to control signals, which can be triggered (1) automatically when a packet-switching transfer exceeds a certain bandwidth, (2) by a user, or (3) by the network management system. *Id.* col. 3 ll. 58–63. The method is designed to harness both the cost-saving benefits of packet switching and the speed and accuracy of line switching. *Id.* col. 3 ll. 25–39. Importantly, the transfers between line switching and packet switching occur "without interrupting the connection" between the servers. *Id.* col. 3 ll. 25–28.

A telecommunications network according to the '902 patent includes multiple switches 7, each of which comprises a packet switch 72 and a line switch 73.

FIG. 4



Id. Fig. 4. Control device 71 produces internal control commands to direct data either through packet switch 72 or line switch 73. *Id.* col. 8 ll. 59–65. The network management system or a user can use an end terminal or another switch to trigger control signals from the control device 71. *Id.* col. 9 ll. 29–33, 63–66. Alternatively, change-over control device 711 (depicted in Figure 4 as part of control device 71) monitors the transfer bandwidth and can automatically release a control command to change the type of transfer. *Id.* col. 9 ll. 41–47. For instance, when the control device 711 detects that packet switching is "understepping or exceeding a certain bandwidth and/or in the event of a time delay," it can change over to line switching. *Id.*

Exemplary claim 68 recites:

> 68. Switching apparatus for selectively routing a *telephone call* from a first end terminal to a second end terminal, comprising:

> a device that provides access to a *packet switching network* through which data can be sent for delivery to the second end terminal;
>
> means for transferring first data of the telephone call originated by the first terminal through the packet switching network for delivery to the second end terminal;
>
> a device for establishing a connection to a *line-switching network* through which data can be sent for delivery to the second end terminal;
>
> means for transferring second data of the telephone call originated by the first terminal over the connection through the line-switching network for delivery to the second end terminal; and
>
> *means responsive to a control signal for changing-over from a packet-switching mode of transfer of the first data of the telephone call to a line-switching mode of transfer of the second data of the telephone call without interruption of a call-up procedure*, wherein said control signal is produced by a network management system.

Id. col. 18 l. 58–col. 19 l. 14 (emphasis added to disputed limitations). Two dependent claims, 91 and 104 (which depend from claims 84 and 100, respectively), also feature a multiplexer in the line-switching device "for multiplexing data of several origin end terminals over a single line connection through the line-switching network."[2] *Id.* col. 21 ll. 38–40; *see also id.* col. 23 ll. 6–8 (substantially the same, except the connection must be "through the public telephone network").

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[2] Claims 84 and 100 cover similar switching apparatuses, except that claim 100's packet-switching network is limited to the Internet. '902 patent col. 22 l. 27–29.

II. Prior Art References

Cisco relied on multiple prior art references in its request for inter partes reexamination. Five references are most relevant to this appeal: Jonas,[3] Farese,[4] Matsukawa,[5] Yoshida,[6] and Focsaneanu.[7] The Board found that the first four references disclose changing over between packet switching and line switching during an existing communication. Jonas discloses a system and method of transmitting secret and/or critical data over a packet-switched network (such as the Internet), and also features a line-switched network to "bypass" packet switching when necessary. J.A. 11–12.

Farese teaches a system in which a host computer transfers an Integrated Services Data Network ("ISDN") access path between a D-channel (which uses packet switching) and a B-channel (which is capable of using line switching) during an ongoing host session.[8] Matsukawa's network likewise uses an ISDN in both packet-switching and line-switching modes, and teaches changing over to line switching when a certain pre-determined time delay occurs during the packet-switching connection. Yoshida, again, teaches an ISDN network using line and packet switching. Yoshida focuses on a Local Area Network ("LAN") with channels B1 and B2, which correspond to packet and line switches, respectively. When there is an increase in packet data per unit time (resulting in greater delays), Yoshida's channel change signal causes a change over to transmission on the line-switching connection.

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[3] U.S. Patent No. 6,137,792.
[4] U.S. Patent No. 4,996,685.
[5] U.S. Patent No. 5,598,411.
[6] U.S. Patent No. 5,347,516.
[7] U.S. Patent No. 5,610,910.
[8] ISDN is a data system that enables digital transmission over the public telephone network.

The fifth reference, Focsaneanu, discloses a multi-service access platform that allows a plurality of computers (or other communications equipment) to interface with a plurality of networks. Focsaneanu col. 1 ll. 7–14, col. 4 l. 40–col. 5 l. 12. Focsaneanu also teaches the use of a multiplexer to combine multiple signals in a single transmission to the network. *Id.* col. 8 ll. 24–26, col. 10 ll. 47–49.

III. Procedural History

In 2007, Cisco requested inter partes reexamination of claims 36, 37, 41, 54–58, 60–62, 64, 66, 68, 69, 71, 75, 77, 79, 82, 84, 87, 90–92, 95, 98, 100, 102, 104, and 118–125 of the '902 patent.[9] After the U.S. Patent and Trademark Office ("PTO") granted the request, the Examiner rejected all but two of the reexamined claims based on anticipation, with some claims being anticipated by multiple prior art references. The Examiner confirmed the patentability of claims 91 and 104, rejecting all of Cisco's proposed obviousness and anticipation rejections. Teles appealed the rejections to the Board, and Cisco cross appealed the Examiner's decision to allow claims 91 and 104. The Board affirmed in all respects.

In particular, the Board affirmed the Examiner's claim construction of "network," as used in claim terms "packet-switching network" and "line-switching network." The Board determined the broadest reasonable interpretation of those terms includes D- and B- channels of

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[9] Teles and Cisco are also involved in an infringement action in the U.S. District Court for the District of Delaware involving, inter alia, the '902 patent. *Cisco Sys., Inc. v. Sigram Schindler Beteiligungsgesellschaft*, C.A. No. 09-232-SLR & No. 09-072-SLR (D. Del.). That case is currently stayed pending final decision in this and other reexamination proceedings.

ISDN, and rejected Teles's argument "that the separate channels of the ISDN cannot constitute 'two distinct networks.'" J.A. 19. The Board also found unpersuasive Teles's argument that "telephone call" and "real-time properties," as recited in the apparatus claims of the '902 patent, require actually making a telephone call or transferring data in real time; rather, the Board determined the apparatus claims only require a structure capable of performing those functions.

Finally, the Board construed the "means responsive to a control signal" limitation in the last paragraph of claim 68 as a means-plus-function claim. The Board agreed with the Examiner that the recited function was "changing-over from a packet-switching mode of transfer of the first data of the telephone call to a line-switching mode of transfer of the second data of the telephone call without interruption of a call-up procedure." J.A. 22 (internal quotation marks omitted). The Board determined the corresponding structure was the change-over control unit 711. J.A. 23.

Based on these claim constructions, the Board affirmed the Examiner's rejections of claims 68, 69, 71, 75, 77, 79, 82, 84, 87, 90, 92, 95, 98, 100, and 102 as anticipated by Jonas. Some of these claims were also rejected as anticipated by Farese, Matusaka, and Yoshida, although claims 100 and 102 were rejected solely on the basis of Jonas. The Board also affirmed the Examiner's decision not to adopt Cisco's proposed anticipation rejections based on Focsaneanu. It determined Focsaneanu does not meet the limitation of changing-over between packet and line switching during an active communication, but instead requires disconnecting the data transfer before making such a change.

Finally, the Board affirmed the allowance of claim 91, holding it would not have been obvious over Focsaneanu in view of Lucent[10] and, inter alia, Jonas or Yoshida, and likewise affirmed that claim 104 would not have been obvious over the combination of Focsaneanu, Lucent, and Jonas. Although Focsaneanu discloses a multiplexer as required by claims 91 and 104, the Board found it does not disclose a multiplexer that supports changing-over between packet switching and line switching during an ongoing phone call.

Cisco filed a timely appeal challenging the Board's allowance of claims 91 and 104. Teles cross appealed the Board's rejections. This court has jurisdiction pursuant to 35 U.S.C. §§ 141 and 144 and 28 U.S.C. § 1295(a)(4)(A).

DISCUSSION

On appeal, Teles contests the Board's constructions of "network," "telephone call," and "real-time properties." It further argues the Board improperly failed to interpret the terms "control signal" and "communications connection." According to Teles, these allegedly incorrect claim constructions require reversal of the Board's rejections based on Farese, Yoshida, Matsuwaka, and Jonas. Even assuming those constructions are correct, Teles contends there is not substantial evidence to support the Board's rejections of claims 100 and 102 as anticipated by Jonas. Cisco, in turn, challenges the Board's decision confirming claims 91 and 104. Each argument is addressed in turn.

I. Standard of Review

During reexamination, "claims . . . are to be given their broadest reasonable interpretation consistent with

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[10] Lucent Technologies, *Lucent Technologies announces Internet telepathy servers to put voice, fax, and mail on the Internet* (Sept. 17, 1996) ("Lucent").

the specification, and . . . claim language should be read in light of the specification as it would be interpreted by one of ordinary skill in the art." *In re Am. Acad. of Sci. Tech. Ctr.*, 367 F.3d 1359, 1364 (Fed. Cir. 2004) (internal quotation marks and citation omitted). "'[C]laim construction by the PTO is a question of law that we review *de novo* . . . .'" *Rambus Inc. v. Rea*, 731 F.3d 1248, 1252 (Fed. Cir. 2013) (quoting *In re Baker Hughes Inc.*, 215 F.3d 1297, 1301 (Fed. Cir. 2000)).

Anticipation under 35 U.S.C § 102 is a question of fact. *In re Rambus*, 694 F.3d 42, 46 (Fed. Cir. 2012). Obviousness under 35 U.S.C. § 103 is a legal conclusion based on underlying factual findings, including "[t]he scope and content of the prior art" and "whether the prior art teaches away from the claimed invention." *In re Mouttet*, 686 F.3d 1322, 1330 (Fed. Cir. 2012). The Board's factual findings are reviewed for substantial evidence, and questions of law are reviewed without deference. *Id.* at 1330–31.

II. Teles's Cross Appeal

A. The Board Correctly Construed "Network"

Exemplary claim 68 recites, inter alia, (1) "a device that provides access to a packet switching *network*," (2) "a device for establishing a connection to a line-switching *network*," and (3) "means responsive to a control signal for changing-over" between the packet-switching *network* and the line-switching *network*. '902 patent col. 18 l. 61–col. 19 l. 11 (emphases added). On appeal, Teles argues the packet-switched network and the line-switched network must be "two independent and distinct networks." Teles's Br. 28. Teles maintains the Board therefore erred in holding that the D- and B-channels of a single ISDN network can constitute packet- and line-switching networks, respectively, because the D- and B-channels are

part of the same network, not two independent networks.[11]

In holding the claimed packet- and line-switching networks can be part of one network, the Board relied on the '902 patent's statement that it is "'possible to divide up a *single coupling network* depending, on requirements, dynamically into a line-switching network and a packet-switching network.'" J.A. 9 (quoting '902 patent col. 3 ll. 10–13) (emphasis added). While this statement is made in the context of discussing prior art, the rest of the specification does not require a narrower meaning. Contrary to Teles's argument that a person of ordinary skill "always understands the ISDN to be a *single* line-switching network," Teles's Br. 19 (emphasis added), the "Summary of the Invention" portion of the '902 patent refers to ISDN's D-channel as one type of packet-switching network, thus confirming that packet switching and line switching can take place in one network. *See* '902 patent col. 4 l. 66–col. 5 l. 2 (describing an example of "a packet-switching transfer to the access point" as "e.g., through an ISDN D channel").

Teles counters that "[t]he '902 Patent makes clear that *two independent and distinct networks* are required to make up the 'Packet- and Line-switching Network': one being a packet-switched network, such as the Internet; and the other being a line-switched network, such as the [public switched telephone network] or ISDN." Teles's Br. 28 (citing '902 patent col. 7 ll. 49–52). The portion of the specification that Teles cites for this proposition, however,

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[11] The finding that D- and B-channels in an ISDN network can meet the "packet" and "line-switching network" limitations is necessary to the Board's anticipation findings regarding prior art references Farese, Yoshida, and Matsukawa, which disclose changing over between packet and line switching in an ISDN network.

refers to only *one* network: "The switches 7a and 7b[, representing a packet switch and a line switch, respectively,] can be mounted . . . at different points in *the telecommunications network*." '902 patent col. 7 ll. 48–49 (emphasis added). Moreover, the fact that packet switching and line switching are "quite different[ ]" from each other, *id.* col. 1 l. 67–col. 2 l. 3, does not show that two separate networks are required.

Nor is there an unmistakable disavowal of claim scope, as Teles argues, in the description that "'[i]f an ISDN network exists, then an ISDN B channel is used as the data channel.'" Teles's Br. 31 (quoting '902 patent col. 5 ll. 2–6). This simply describes a preferred embodiment in which "the same data channel is used for transferring the data packets from the first switch" to both the packet-switching network and the line-switching network. '902 patent col. 4 ll. 51–60. This embodiment is meant to ensure "a larger and fixed bandwidth . . . up to the access point [of the packet-switching network]," *id.* col. 5 ll. 1–2, but does not state that the packet-switching network cannot be another channel in the ISDN network. Although "ISDNs are conventionally known as line-switched networks," the Board correctly determined that "the networks in the instant claims" can "be read onto an ISDN under a broadest reasonable interpretation." J.A. 20. This court therefore affirms that the claimed packet-switching network and line-switching network includes a single telecommunications network with multiple channels, such as an ISDN network.

B. The Board Correctly Construed "Telephone Call" and "Data Transfer with Real-Time Properties"

The contested claims of the '902 patent require "a telephone call" and/or "data transfer with real-time properties." Claim 68, for example, recites a "[s]witching apparatus for selectively routing *a telephone call*," comprising, inter alia, "means for transferring first data of the

telephone call" and "means for transferring second data of the *telephone call*." '902 patent col. 18 l. 58–col. 19 l. 4 (emphases added). Claim 84 requires a control device that maintains "respective communications connections for *data transfer with real-time properties*." *Id.* col. 20 ll. 63–64 (emphasis added). The Board determined that both limitations require only "a structure capable of performing the function" of sustaining a telephone call or providing real-time properties. J.A. 21 (citing *Hewlett-Packard Co. v. Bausch & Lomb Inc.*, 909 F.2d 1464, 1468 (Fed. Cir. 1990) ("[A]pparatus claims cover what a device *is*, not what a device *does*.")).

Teles argues the Board should have construed both terms to mean "end-terminal-to-end-terminal communications connections with a communications time delay of less than 0.5 seconds." Teles's Br. 40. The proper construction, according to Teles, must "exclude the transfer of anonymous bulk data with unspecified/non-real-time delay requirements." *Id.* Teles bases its argument on the portion of the specification stating that "'[w]ith Internet telephony, a cost-conscious caller uses the normal Internet with approximately 8 kbit/s bandwidth and a time delay of 0.5 seconds.'" *Id.* at 41 (quoting '902 patent col. 2 ll. 19–21).

This statement is set forth in the "Background of the Invention," and provides context by describing the difficulties typically associated with packet switching; it does not limit the otherwise plain meaning of "telephone call" or "data transfer with real-time properties." Nearby portions of the specification further describe "delays . . . of considerable significance," especially when the Internet is overloaded. *Id.* col. 2 l. 18–25 ("When the Internet is overloaded, the time delay of the individual packets becomes so great that an acceptable conversation connection between telephone partners is no longer possible."). Nor does the specification even mention the 0.5-second time delay in the context of line switching. Teles is there-

fore incorrect that the broadest reasonable interpretation of "telephone call" and "real-time" data transfer requires a specific time delay limit. *See Toshiba Corp. v. Imation Corp.*, 681 F.3d 1358, 1369 (Fed. Cir. 2012) ("We do not read limitations from the specification into claims."). This court affirms the Board's construction of the terms as any "structure capable of sustaining a telephone call or providing real-time properties."[12] J.A. 21.

C. Teles Waived Its Proposed Constructions of "Control Signal" and "Communications Connection"

Claim 84 recites, inter alia, a "control device" that is "responsive to a *control signal* for changing-over from packet-switching transfer of first data of a *communications connection* to line-switching transfer of second data of the *communication connection* without interruption of the *communications connection*." '902 patent col. 20 l. 66–col. 21 l. 4 (emphases added). The Board did not construe "control signal" or "communications connection," because Teles did not dispute the meaning of those terms. Teles now argues that "[u]pon *de novo* review, the Court should find legal error in the [Board's] failure to construe the terms 'Control Signal' and 'Communications Connection.'" Teles's Br. 45. It contends "[t]hese terms address key inventive concepts of the patent," and "provide the solu-

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[12] Teles's claim construction arguments rely, in part, on its contention that the Supreme Court's decision in *Mayo* requires "that a 'baseline' has to be identified, in view of the specification, by identifying the 'inventive concepts' of the claimed invention as disclosed by the patent's specification." Teles's Br. 26 (citing *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 132 S. Ct. 1289, 1294 (2012)). This court discerns nothing in the Board's claim constructions that is contrary to *Mayo*, however, which addresses patentable subject matter under 35 U.S.C. § 101, rather than principles of claim construction.

tion to the problem present in prior art systems." *Id.* at 45–46. According to Teles, "[a]ll of the appealed claims were carefully and deliberately limited to structure or acts of 'changing-over' . . . from the packet-switched network to the line-switched network 'without interruption' of 'the communications connection' / 'the call set-up procedure.'" *Id.* at 46.

Contrary to Teles's argument, the Board had no obligation to consider claim construction challenges that were not actually raised before it. *See* 37 C.F.R. § 41.67(c)(1)(vii). The Board did construe the "means responsive to a *control signal*" limitation in claim 68, finding it was a means-plus-function term and that the "control device 711" was corresponding structure. J.A. 22 (emphasis added). Teles now contends that "control signal" requires "the real-time changing-over of an ongoing telephone call from a packet-switched network to a line-switched network without interruption of end-to-end communications connection," and that "[c]ommunications [c]onnection should be construed as an end-terminal-to-end-terminal link." Teles's Br. 45. These arguments have been waived. Moreover, Teles's one-and-a-half pages of argument on this issue do not cite to any intrinsic or extrinsic evidence to support its proposed constructions. To the extent Teles contests the Board's construction of "means responsive to a control signal," the Board properly treated it as a means-plus-function term with corresponding structure of the "control device 711."

Teles's claim construction arguments are its sole challenges to the rejections of claims 68, 69, 71, 75, 77, 79, 82, 84, 87, 90, 92, 95, and 98 as anticipated by one or more of Jonas, Farese, Yoshida, and Matsukawa. Because the Board's claim constructions are correct, this court also affirms these otherwise unchallenged anticipation rejections.

D. Teles's New Challenges to Claims 100 and 102 Are Unpersuasive

The Board affirmed the Examiner's rejections of independent claim 100 and its dependent claim 102 as anticipated by Jonas. Claim 100 recites, inter alia, "a control device,"

> the control device being responsive to the *data packet headers* for controlling the packet switching device and the line switching device for establishing and maintaining respective communication connections for data transfer with real-time properties between origin *end terminals* and destination *end terminals*, and the control device also being responsive to *an overload in the Internet* for automatically changing-over from packet-switching transfer of first data of a *communications connection* to line-switching transfer of second data of the *communication connection* without interruption of the *communications connection* when a data blockage occurs in the routing of data packets of the first data of the communications connection through the Internet.

'902 patent col. 22 ll. 33–51 (emphases added to disputed language). On appeal, Teles argues that Jonas does not disclose (1) an "end terminal," (2) a "communications connection," or (3) a control device that is responsive to "data packet headers" and "an overload on the Internet." Teles's Br. 52, 56. Teles did not raise these arguments before the Board, however, where it challenged the rejection of claims 100 and 102 based only on its arguments with respect to exemplary claim 68. *See*, *e.g.*, J.A. 7174–75 ("real-time properties" and "telephone call" arguments), 7154–56 (arguing Jonas does not disclose the limitations of claim 68). "Absent exceptional circumstances," this court does not consider arguments not

raised before the Board. *In re Baxter Int'l, Inc.*, 678 F.3d 1357, 1362 (Fed. Cir. 2012).

Even if this court considers the merits of these new arguments, they are unpersuasive.[13] Without deciding whether the above three limitations are required by claims 100 and 102, it is evident from the Board's fact finding that Jonas discloses all three. Jonas describes monitoring a packet-switching transmission from a source computer to a destination computer and dynamically switching to a line-switching connection during an existing transmission. Jonas col. 5 ll. 53–58. The Board found that Jonas discloses "'dynamically tak[ing] advantage of both the inherent cost benefit of [a] . . . packet-switched [network] and the minimal delay time of [a] [line]-switched . . . network[ ]'" by monitoring transmission delay, and switching to the line-switched network when the delay exceeds a predetermined value. J.A. 13 (quoting Jonas col. 5 ll. 53–56). Jonas also features "data packet headers" and describes that packets transmitted over the bypass line-switched network may contain labels in the IP header. J.A. 12 (citing Jonas col. 4 ll. 43–45). Based on the Board's fact findings, Jonas thus discloses an "end terminal," a "communications connection," and a control device responsive to data packet headers and Internet

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[13] In its reply brief, Teles argues that Cisco and the PTO waived their argument that Teles's arguments are waived. Teles Reply Br. 25 (citing *Riemer v. Ill. Dep't of Transp.*, 148 F.3d 800, 809 (7th Cir. 1998) for the proposition that "[a] defense of waiver can itself be waived by not being raised"). This argument overlooks that this is Cisco and the PTO's first opportunity to respond to Teles's new arguments on claims 100 and 102.

overload. Accordingly, the rejections of claims 100 and 102 are affirmed.[14]

III. Cisco's Appeal

A. The Board Erred in Confirming the Patentability of Claims 91 and 104

Claims 91 and 104 depend from claims 84 and 100, respectively, and add the limitation of "a multiplexer device for multiplexing data of several origin end terminals over a single line connection through the line-switching network." '902 patent col. 21 ll. 37–40 (claim 91); *id.* col. 23 ll. 4–8 (claim 104 reciting substantially the same, except that the line-switching network must be a public telephone network). Cisco's request for reexamination argued these claims should be rejected as anticipated by Focsaneanu, or, alternatively, as obvious over Focsaneanu alone or in combination with multiple prior art references. In particular, Cisco argued claim 91 would have been obvious over Focsaneanu and Lucent and either Jonas or Yoshida. It argued claim 104 would have been obvious over the combination of Focsaneanu, Lucent, and Jonas.

The Board found that claims 91 and 104 were not anticipated by Focsaneanu. It agreed with Cisco that Focsaneanu discloses a multiplexer, but nevertheless found Focsaneanu does not disclose switching networks *without interrupting* an active communication, as required by claims 91 and 104. J.A. 25 ("The one embodiment of Foscaneanu [*sic*] that clearly talks about change-over while a call is transpiring discloses that ongoing call is terminated."); *see also* J.A.11 (citing Focsaneanu col. 10

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[14] Because the Board's rejections are affirmed, there is no need to determine whether the Board erred in declining to adopt Cisco's alternative proposed bases for rejection. *See* Cisco's Br. 3–4.

ll. 32–34) (stating "'a data service request initiated by the user *during a [Plain Old Telephone Service] call will disconnect the phone* and present a carrier to the user's modem'") (emphasis added)). The Board also affirmed the Examiner's decision that claim 91 would not have been obvious over Focsaneanu, Lucent, and either Jonas or Yoshida, and that claim 104 would not have been obvious over Focsaneanu, Lucent, and Jonas.

On appeal, Cisco argues claims 91 and 104 are anticipated by Focsaneanu, and would have been obvious over Focsaneanu, Jonas (or Yoshida), and Lucent. With respect to anticipation, Cisco argues Focsaneanu discloses changing-over between packet and line switching during an active transmission, and that the Board lacked substantial evidence in finding otherwise. Cisco relies on the portion of Focsaneanu's specification stating "'the access module can *dynamically* select a different network from the one prescribed in the user profile, to carry the packetized data traffic.'" Cisco's Br. 40 (quoting Focsaneanu col. 11 ll. 7–10); *see also* Focsaneanu col. 11 ll. 15–16 ("The voice service [quality of service] is maintained by continuous monitoring of the transmission delay."). According to Cisco, these portions of the specification show that the "change between the network originally selected for the voice call and the different network on which the call is routed is dynamically carried out within a single call and does not require the user to initiate a new call set-up procedure or to re-dial the number." Cisco's Br. 40. In finding otherwise, Cisco maintains the Board improperly focused on a single embodiment in Focsaneanu, and ignored other embodiments that meet the claim limitation of changing over in real time.

The PTO and Teles respond that the Board's findings on Focsaneanu are supported by substantial evidence. According to the PTO, "[n]one of the other disclosures in Focsaneanu cited by Cisco disclose[s] a change-over between modes during an active communication." PTO

Br. 47. It maintains the "dynamic" selection occurs prior to placing a telephone call, and that the quality of service disclosure "simply permits the most appropriate channel to be selected after a call is made." *Id.*

This court need not resolve the parties' arguments on anticipation; even if the Board was supported in finding Focsaneanu does not anticipate claims 91 and 104, it nevertheless erred in holding those claims are not invalid as obvious. According to the Board, the one limitation of underlying dependent claims 84 and 100 that is not disclosed in Focsaneanu is the change-over between line and packet switching during an existing communication, a limitation the Board found was disclosed by Jonas. Indeed, independent claims 84 and 100 are anticipated by Jonas, which therefore "disclose[s] each and every element" of those claims. *In re Gleave*, 560 F.3d 1331, 1334 (Fed. Cir. 2009). Dependent claims 91 and 104 add only a multiplexer to their respective independent claims, and Cisco argued to the Board that "[t]here is nothing novel about a multiplexer." J.A. 6847.

The Board nonetheless reasoned that claims 91 and 104 would not have been obvious because "[t]he multiplexing disclosed in Focsaneanu is not disclosed to support changing-over between switching networks for data transfers having real-time properties." J.A. 43. Claims 91 and 104 do not require the multiplexer itself to "support changing-over between switching networks," however. The claimed multiplexer resides in "*the line switching device*" and "multiplex[es] data of several origin end terminals over a single line connection *through the line-switching network*." '902 patent col. 21 ll. 36–40; *id.* col. 23 ll. 4–9 (emphases added). There is no requirement that the multiplexer itself trigger or support changing-over between line switching and packet switching. According to the claim language, the multiplexer's operation is limited to the line-switching network. That independent claims 84 and 100 recite changing-over between

packet switching and line switching does not mean claim 91 and 104's multiplexer must do the same, especially when the multiplexer is expressly limited to the line-switching network. The Board found that Focsaneanu's multiplexer is "used for multiplexing signals from different line interfaces," J.A. 43, and claim 91 and 104's multiplexer requires no more, especially under the broadest reasonable interpretation. Nor did the Board identify any other unique aspect of the '902 patent's multiplexer; rather, "[t]he technologies used [in the '902 patent] are known per se." '902 patent col. 6 l. 56.

Because the Board's improper limitation of the claimed multiplexer was its sole reason for finding claims 91 and 104 not obvious, the Board's allowance of claims 91 and 104 is reversed. Once the proper scope of claim 91 and 104's multiplexer is understood, it is apparent that including such a multiplexer in the combination of Focsaneanu, Lucent, and, inter alia, Jonas, is no more than "the predictable use of prior art elements according to their established functions."[15] *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 417 (2007).

CONCLUSION

For the foregoing reasons, this court reverses the Board's decision confirming the patentability of claims 91 and 104, and affirms the Board in all other respects.

AFFIRMED-IN-PART AND REVERSED-IN-PART

Costs to Cisco

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[15] Because claims 91 and 104 would have been obvious over the combination of Focsaneanu, Jonas, and Lucent, this court need not determine whether claim 91 would also have been obvious over Focsaneanu, Yoshida, and Lucent.