

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

UNIFIED PATENTS, LLC,

Petitioner,

v.

CORRIGENT CORPORATION,

Patent Owner.

IPR2022-01514

Patent No.7,330,431

PATENT OWNER'S PRELIMINARY RESPONSE

TABLE OF CONTENTS

I.	INTRODUCTION	1
II.	CLAIM CONSTRUCTION	2
III.	ARGUMENT	4
A.	Ground 1 should be denied because the combination of references fails to teach “a controller which is adapted to ... determine respective bandwidth requirements for the logical connections based on parameters of the service”	5
1.	Holender fails to teach “a controller which is adapted to ... determine respective bandwidth requirements for the logical connections”	5
2.	Wright fails to teach that its alleged bandwidth determinations are “based on parameters of the service”	7
B.	Ground 2 should be denied because the combination of references fails to disclose numerous claim limitations.....	9
1.	Ground 2 does not disclose “a controller which is adapted to ... receive a definition of logical connections between nodes”	10
2.	Ground 2 does not disclose “a controller”	11
IV.	CONCLUSION.....	14

TABLE OF AUTHORITIES

Cases	Page(s)
<i>CCS Fitness, Inc. v. Brunswick Corp.</i> , 288 F.3d 1359 (Fed. Cir. 2002)	3
<i>Dealertrack Inc. v. Huber</i> , 674 F.3d 1315 (Fed. Cir. 2012)	3
<i>Phillips v. AWH Corp.</i> , 415 F.3d 1303 (Fed. Cir. 2005) (<i>en banc</i>)	2
Statutes	
35 U.S.C. § 314(a)	5

I. INTRODUCTION

The '431 Patent claims a novel and non-obvious apparatus that uses a controller to (1) map a logical topology to a physical topology, (2) determine the specific bandwidth needs of the logical topology, and (3) allocate those needs to the specific physical links.

Petitioner challenges three claims of the '431 Patent—claims 25–27—based on two independent Grounds. While the references cited in the two Grounds generally relate to mapping a logical topology to a physical topology, each does so differently than the '431 Patent. For example, in Ground 1 of the Petition—Holender in view of Wright and the general knowledge of a POSITA—Petitioner alleges that Holender and Wright each independently disclose a controller that “determine[s] respective bandwidth requirements for the logical connections based on parameters of the service,” as required by claim limitation 25d. Petition at 12, 38-41. Holender, however, does not disclose “determin[ing] respective bandwidth requirements for the logical connections” and Wright does not disclose that its alleged bandwidth requirement determination is “based on parameters of the service.” Petition at 12, 38-41, 45. Because neither reference discloses claim limitation 25d, Ground 1 fails to establish a reasonable likelihood that Petitioner would prevail in showing the unpatentability of at least claim 25, from which claims 26 and 27 depend.

With respect to Ground 2—Baker in view of Wright and Lemieux—the Petition fails for at least two independent reasons. First, the Petition fails to establish that Wright discloses “a controller which is adapted to ... receive a definition of logical connections between nodes,” as required by claim limitation 25b. Petition at 12, 73, 74. Second, the Petition fails to establish that Baker includes the claimed “controller” or that it would be obvious in combination with Wright or Lemieux, as required by claim limitation 25a. Petition at 12, 70-72. For each of these independent reasons, Ground 2 also fails to establish a reasonable likelihood that Petitioner would prevail in showing the unpatentability of at least claim 25, from which claims 26 and 27 depend.

Thus, as discussed in more detail below, because both Grounds fail to establish a reasonable likelihood that Petitioner will prevail in showing the unpatentability of the challenged claims, institution should be denied.

II. CLAIM CONSTRUCTION

A court “‘look[s] to the words of the claims themselves . . . to define the scope of the patented invention.’” *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005) (*en banc*) (quoting *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996)). A claim term is generally given its “ordinary and customary meaning,” which 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.” *Id.* at 1312-13.

While courts may deviate from the plain and ordinary meaning in some circumstances, 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) (internal quotations omitted). Under this “exacting” standard, any departure from a claim’s ordinary meaning must be based on language that is “so unmistakable as to be unambiguous.” *Dealertrack Inc. v. Huber*, 674 F.3d 1315, 1322 (Fed. Cir. 2012) (citations omitted).

Here, Petitioner and its expert assert that “a definition of logical connections” means information defining the logical connections between the nodes of the logical network. Specifically, citing the ’431 Patent specification, Petitioner first asserts that “a definition of logical connections” is “information ... about the logical connections (e.g., the relationship and arrangement of nodes in the logical network topology) to be implemented on top of the physical network topology.” Petition at 7. Petitioner, citing its expert, further asserts that “a POSITA would have understood the language of *a controller which is adapted to: receive a definition of logical connections* simply means that the controller receives information sufficient to define the logical connections between nodes of the logical network.” Petition at 29 (citing EX1003 (Geier Decl.), ¶54).

For purposes of this preliminary response, Patent Owner will apply Petitioner’s proposed construction and, as demonstrated below, Petitioner has

failed to establish that Wright discloses a controller that receives “a definition of logical connections.”

III. ARGUMENT

Of the three claims that Petitioner challenges, claims 25-27, claim 25 is the only independent claim. Claim 25 recites:

25. Apparatus for assigning bandwidth in a network including nodes coupled by links arranged in a physical topology, the apparatus comprising:

[a] a controller which is adapted to:

[b] receive a definition of logical connections between the nodes, the logical connections being associated with a data transmission service to be provided over the network,

[c] the logical connections having a connection topology different from the physical topology,

[d] determine respective bandwidth requirements for the logical connections based on parameters of the service,

[e] map the connection topology to the physical topology, so that each of the logical connections is associated with one or more links of the physical topology, and

[f] allocate a bandwidth for the service on each of the links in response to the bandwidth requirements of the logical connections and to the mapping.

EX1001 ('431 Patent), 16:15-31 (bracketing added).

As demonstrated below, Ground 1 of the Petition fails to teach claim limitation 25d and Ground 2 of the Petition fails to teach claim limitations 25a and 25b. Thus, neither Ground 1 nor Ground 2 support institution because they both

fail to establish a reasonable likelihood that Petitioner would prevail in showing the unpatentability of at least claim 25, and therefore also claims 26–27, which depend therefrom. 35 U.S.C. § 314(a). Accordingly, the Board should deny institution.

A. Ground 1 should be denied because the combination of references fails to teach “a controller which is adapted to ... determine respective bandwidth requirements for the logical connections based on parameters of the service”

Petitioner’s assertion that Holender and Wright each independently disclose a controller that “determine[s] respective bandwidth requirements for the logical connections based on parameters of the service,” as required by claim limitation 25d, fails for numerous reasons. Petition at 12, 38-41. First, Holender does not disclose “determin[ing] respective bandwidth requirements for the logical connections.” *Id.* Second, Wright does not disclose that its alleged bandwidth requirement determination is “based on parameters of the service.” *Id.* Because neither reference discloses claim limitation 25d, Ground 1 should be denied.

1. Holender fails to teach “a controller which is adapted to ... determine respective bandwidth requirements for the logical connections”

Petitioner wrongly asserts that Holender’s calculation of “logical link capacities” teaches determining “respective bandwidth requirements for the logical connections,” as required by claim limitation 25d. Petition at 38-40. It does not. The claimed determination of respective “bandwidth requirements for the logical

connections” is a determination of the amount of bandwidth that the logical connections require; *i.e.*, it determines ***minimum*** bandwidth needed for each logical connection. *See e.g.*, EX1001 (’431 Patent), 7:22–28, 7:66–8:5, 8:52–9:2, Table II. Using the example of Figure 3, the ’431 Patent explains that “node A is assumed to require a bandwidth of 3R, and each of nodes B, C, and D are assumed to require a bandwidth of R to communicate with hub node A, where R is a bandwidth factor measured in Mbps.” *Id.* at 8:2–5. The ’431 Patent then explains that the relationship between the connections is used to determine “the bandwidth requirements for each link according to the required connections,” which is shown in Table II. *Id.* at 8:52–9:2, Table II.

Consider the logical links as pipes that transport water, *i.e.*, data, and the bandwidth of the logical link as the diameter of the pipe—the bigger the pipe’s diameter, the more water it can carry. The ’431 Patent determines the minimum pipe diameter based on the particular needs of the service it is providing. Unlike the ’431 Patent’s claimed determination of bandwidth needed for each logical connection, Holender’s calculation of “logical link capacities” is a determination of capacity, *i.e.*, the ***maximum*** bandwidth available, for particular logical connections. In other words, Holender discloses calculating the maximum pipe diameter that the system can allow.

Petitioner identifies Holender’s optimization calculations, which calculate

“logical link capacities,” as disclosing the claimed bandwidth requirement determination. Petition at 39–40. But Holender’s optimization calculations do not determine the bandwidth *needed* for each logical connection, as claimed. Instead, they determine *capacities*, specifically determining “how to distribute or partition said physical network resources among logical networks by subdividing physical link *capacities* into logical link *capacities* associated with said logical networks.” EX1006 (Holender), 1:23–25, 2:25–30 (emphasis added).

The capacity of the logical link is the maximum amount of data that the logical link can carry, *i.e.*, the maximum pipe diameter. This disclosure, however, stands in stark contrast to the ’431 Patent’s determination of the minimum pipe diameter based on the service being provided. Accordingly, Holender does not teach determining “respective bandwidth requirements for the logical connections,” as required by claim limitation 25d.

2. Wright fails to teach that its alleged bandwidth determinations are “based on parameters of the service”

Petitioner’s assertion that “Wright explains how bandwidth is calculated” is not only based solely on attorney argument, but also fails to explain how Wright’s alleged bandwidth determinations are “based on parameters of the service,” as required by claim limitation 25d. Petition at 43–46. First, Petitioner’s expert fails to explain how Wright discloses this limitation. While he broadly states “I agree with the analysis in the Petition regarding limitation 25d,” he provides no

independent analysis or discussion regarding how Wright’s alleged bandwidth determinations are “based on parameters of the service.” EX1003 (Geier Decl.), ¶¶61–65. Accordingly, we are left only with Petitioner’s attorney argument, which fails. Petition at 45–46.

Petitioner relies exclusively on “Wright’s discussion of calculating bandwidth in Figure 3” as disclosing the first part of claim limitation 25d, i.e., “determine respective bandwidth requirements for the logical connections.” Petition at 43–45 (quoting EX1007 (Wright), 4:46–5:3). Petitioner provides no analysis or explanation about how Wright meets this claim limitation. Petition at 43–45. Instead, Petitioner merely copies Wright’s language with a single, large, block quote and inserts some selective bolding. *Id.* Relying on the language in bold, Petitioner alleges that Wright’s calculations of “reserved bandwidth” is the claimed determination of claim limitation 25d. *Id.*

But, even if we assume *arguendo* that Wright’s calculation of “reserved bandwidth” is the claimed determination of claim limitation 25d, as Petitioner asserts, this calculation is not “based on parameters of the service,” as claim limitation 25d also requires. As Petitioner asserts, “a POSITA would have understood that *parameters of a service* include the node bandwidth requirements to support a given service.” Petition at 39. Wright’s calculations of “reserved bandwidth,” however, are agnostic to the service being used over the links.

EX1007 (Wright), 4:46–5:3. Nowhere in Wright’s explanation of how reserved bandwidth is calculated is the type of service considered. *Id.*

Seemingly acknowledging that Wright’s calculation of “reserved bandwidth” is not “based on parameters of the service,” Petitioner relies on a *different* disclosure, *i.e.*, Wright’s “bandwidth guarantees,” as allegedly disclosing calculations based on parameters of the service. But Petitioner does not attempt to connect Wright’s disclosed “reserved bandwidth” calculations to Wright’s disclosed “bandwidth guarantees” and never explains how Wright’s disclosed “bandwidth guarantees” relate to Wright’s “reserved bandwidth” calculations such that the calculations are “based on parameters of the service.”

Accordingly, Petitioner has failed to establish that Wright discloses determining “respective bandwidth requirements for the logical connections *based on parameters of the service*,” as required by claim limitation 25d.

Because neither Holender nor Wright disclose claim limitation 25d, Ground 1 fails to establish that claim 25 is obvious.

B. Ground 2 should be denied because the combination of references fails to disclose numerous claim limitations

Ground 2 fails for at least two independent reasons. First, the Petition fails to establish that Wright discloses “a controller which is adapted to ... receive a definition of logical connections between nodes.” Petition at 12, 73, 74. Second, the Petition fails to establish that Baker includes the claimed “controller” or that it

would be obvious in combination with Wright or Lemieux. Petition at 12, 70-72.

For each of these independent reasons, Ground 2 should be denied.

1. Ground 2 does not disclose “a controller which is adapted to ... receive a definition of logical connections between nodes”

Petitioner relies on Wright alone as disclosing “a controller which is adapted to ... receive a definition of logical connections between nodes,” as recited in claim limitation 25b. *See* Petition at 73. But Wright does not disclose a controller that “receives[s] a definition of logical connections between the nodes” and Petitioner fails to establish otherwise.

Petitioner’s argument that Wright teaches claim limitation 25b is based on Wright’s disclosures related to step 504 in Figure 5’s flow diagram, which states “receive logical connectivity requirements.” Petition at 31–32. Using Petitioner’s own proposed construction for the term “a definition of logical connections,” however, it is clear that Wright does not receive “a definition of logical connections between the nodes.” As explained above, Petitioner and its expert assert that “a definition of logical connections” means information defining the logical connections between the nodes of the logical network. *See supra* Section II. Rather than defining the logical connections between all the nodes in the logical network, Wright’s “logical connectivity requirements” relate only to the edge nodes in the system. EX1007 (Wright), 7:4–7 (“[T]he logical connectivity requirements are in terms of edge nodes and communication requirements between

edge nodes.”). Wright’s “logical connectivity requirements” do not provide any information related to the logical topology that defines the logical connections between the nodes in the logical network. Thus, Wright’s “logical connectivity requirements” are not “a definition of logical connections.”

Rather than *receive* “a definition of logical connections,” as claimed, Wright’s system *creates* a definition of logical connections. Specifically, at Step 506 of the Figure 5 flow diagram, Wright’s system “creat[es] a restricted topology to provide logical connections” between the nodes of the logical network. EX1007 (Wright), 7:7–11. Wright provides an example of such a restricted topology with Figure 3, which defines the logical connections between the nodes in the logical network. But Wright’s restricted topology is not received by a controller, as required by claim limitation 25b.

Accordingly, Ground 2 fails because the Petition fails to establish that Wright discloses “a controller which is adapted to ... receive a definition of logical connections between nodes.”

2. Ground 2 does not disclose “a controller”

Ground 2 also fails because neither Baker nor Petitioner’s proposed combinations of Baker with Wright or Lemieux disclose “a controller,” as required by claim limitation 25a.

Baker does not disclose “a controller”

While Petitioner asserts that “Baker discloses a *controller* (e.g., a processor) within a peer group leader node in its system,” Petitioner fails to identify any specific component in Baker as the alleged “controller.” The claim language establishes that the claimed controller is a component of the claimed apparatus. *See* EX1001 (’431 Patent), Claim 25 (“the apparatus comprising: a controller”).

Petitioner also admits that the claimed controller is a processor or component in the claimed apparatus – “This comports with what a POSITA’s understanding of the term *controller* would have been, i.e., a processor (or component) in a system that receives, interprets, and executes instructions.” Petition at 27. While Petitioner points to Baker’s head node (also called the peer group leader node), *i.e.*, node N0 in Figure 1, for this limitation, Petitioner does not identify any component of node N0 as the claimed controller. Petition at 68–71.

While in its Petition, Petitioner provides three sentences that purport to support its argument that Baker includes a controller in head node N0, each fails to identify a controller. Petition at 70-71. Instead, two of Petitioner’s sentences identify only functionality of the head node, *i.e.*, (1) the head node “will execute ... procedures” and (2) “the head node is responsible for flooding information” *Id.* at 70–71. The third sentence simply refers to the fact that in Baker the head node can be “associated with additional resources.” *Id.* at 71 (citing EX1008

(Baker), [0047]). But these additional resources are merely “associated” with the head node, not located within head node N0. *Id.* Accordingly, Petitioner failed to identify “a controller” in Baker.

Wright does not disclose “a controller”

Petitioner then cites Wright as allegedly providing additional support for its argument that the combination includes an apparatus with a controller. Petition at 72. But this argument also fails. Wright discloses “a computer program product,” not a controller within a network node. *Id.* (citing EX1007 (Wright), 2:39–43.

While Wright notes that the computer program product would be executed by a processing circuit, Petitioner does not identify any specific processing circuit, and certainly not one within a network node, as taught by Baker. Petition at 72.

Accordingly, Petitioner fails to identify “a controller” in Wright.

Lemieux does not disclose “a controller”

Lastly, Petitioner cites to Lemieux’s disclosure of “connection admission control (CAC) functionality” as allegedly teaching a controller. This argument also fails. Lemieux’s “connection admission control (CAC)” is “functionality” and not a component in the system that could be considered “a controller.” Petition at 72 (citing EX1009 (Lemieux), 9:25–28). Petitioner asserts that Lemieux’s CAC is similar to the ’431 Patent’s CAC but fails to acknowledge that the ’431 Patent’s CAC is a “connection admission *controller* (CAC),” *i.e.*, a component within the

claimed apparatus, and not merely functionality. Accordingly, Petitioner fails to identify “a controller” in Lemieux.

Because neither Baker, Wright, nor Lemieux disclose “a controller,” as required by claim limitation 25a, Ground 2 fails.

IV. CONCLUSION

As discussed above, Petitioner has failed to establish a reasonable likelihood that Petitioner will prevail in showing the unpatentability of the challenged claims for both Ground 1 and Ground 2. Accordingly, the Board should deny institution.

Date: January 25, 2023

Respectfully submitted,

/James R. Nuttall, Reg. No. 44,978/

James R. Nuttall, Reg. No. 44,978

STEPTOE & JOHNSON LLP

227 West Monroe, Suite 4700

Chicago, Illinois 60606

Tel: (312) 577-1260

Fax: (312) 577-1370

Katherine D. Cappaert, Reg. No. 71,639

Thomas Yebernetsky, Reg. No. 70,148

Christopher A. Suarez, Reg. No. 72,553

STEPTOE & JOHNSON LLP

1330 Connecticut Avenue, NW

Washington, DC 20036-1795

Tel: (202) 429-3000

Fax: (202) 429-3902

Counsel Corrigent Corporation

CERTIFICATION UNDER 37 C.F.R. § 42.24

Under the provisions of 37 C.F.R. § 42.24, the undersigned hereby certifies that the foregoing document contains 2,983 words, and thus complies with the word-count limits of 37 C.F.R. § 42.24.

Date: January 25, 2023

By: /James R. Nuttall, Reg. No. 44,978/

James R. Nuttall, Reg. No. 44,978

STEPTOE & JOHNSON LLP

227 West Monroe, Suite 4700

Chicago, Illinois 60606

Tel: (312) 577-1260

Fax: (312) 577-1370

Counsel for Corrigent Corporation

CERTIFICATE OF SERVICE

The undersigned hereby certifies that a copy of the foregoing PATENT OWNER'S PRELIMINARY RESPONSE was served on January 25, 2023 by filing this document through the P-TACTS platform as well as by delivering a copy via the delivery method indicated to the attorneys of record for the Petitioner as follows:

Via Email:

David C. Seastrunk
david@unifiedpatents.com
Ashraf Fawzy
afawzy@unifiedpatents.com

Date: January 25, 2023

By: /James R. Nuttall, Reg. No. 44,978/

James R. Nuttall, Reg. No. 44,978
STEPTOE & JOHNSON LLP
227 West Monroe, Suite 4700
Chicago, Illinois 60606
Tel: (312) 577-1260
Fax: (312) 577-1370

Counsel for Corrigent Corporation