

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

ADOBE SYSTEMS INCORPORATED
and
LEVEL 3 COMMUNICATIONS, LLC,
Petitioner,

v.

AFLUO, LLC,
Patent Owner.

Case IPR2014-00153
Patent 5,995,091

Before MICHAEL W. KIM, WILLIAM V. SAINDON, and
TINA E. HULSE, *Administrative Patent Judges*.

HULSE, *Administrative Patent Judge*.

FINAL WRITTEN DECISION
36 U.S.C. § 318(a) and 37 C.F.R. § 42.73

I. INTRODUCTION

Adobe Systems Incorporated and Level 3 Communications, LLC (collectively, “Petitioner”) filed a Petition requesting *inter partes* review of claims 1 and 4–12 of U.S. Patent No. 5,995,091 (Ex. 1001, “the ’091 patent”). Paper 1 (“Pet.”). Afluo, LLC (“Patent Owner”) filed a Preliminary Response to the Petition. Paper 7. On April 29, 2014, we instituted an *inter partes* review of claims 1, 4, and 8 on certain grounds of unpatentability alleged in the Petition. Paper 8 (“Dec. Inst.”), 25. After institution of trial, Patent Owner filed a Patent Owner Response (Paper 13, “PO Resp.”), to which Petitioner filed a Reply (Paper 17, “Pet. Reply”).

Patent Owner filed a Motion for Observation (Paper 20) on certain cross-examination testimony of Petitioner’s declarant, and Petitioner filed a Response (Paper 23).

A consolidated oral hearing for this proceeding and Case IPR2014-00154 was held on November 24, 2014, a transcript of which has been entered in the record. Paper 26 (“Tr.”).

We have jurisdiction under 35 U.S.C. § 6(c). This Final Written Decision is issued pursuant to 35 U.S.C. § 318(a) and 37 C.F.R. § 42.73.

For the reasons that follow, we determine that Petitioner has shown by a preponderance of the evidence that claims 1, 4, and 8 of the ’091 patent are unpatentable.

A. *Related Proceedings*

Patent Owner has asserted the ’091 patent against Petitioner in a copending district court case, *Afluo LLC v. Adobe Systems Inc.*, 1:12-cv-01459-SLR (D. Del.). Pet. 1–2; Paper 5.

B. The '091 Patent (Ex. 1001)

The '091 patent relates to a multimedia system for providing “consistent, timed, coordinated playback of images and/or sounds despite differences in playback system speed or configuration.” Ex. 1001, 1:6–9. The multimedia system of the '091 patent includes three functional elements: an authoring tool element, an interleaver element, and a playback interpreter element. *Id.* at 3:29–32.

The authoring tool element allows an author to build a presentation “script” that contains a sequence of multimedia data elements, such as images and sounds. *Id.* at 3:32–35. The author also uses the authoring tool element “to specify . . . playback at specified times at a selected system bandwidth.” *Id.* at 3:36–38. The authoring tool then checks to determine if a playback system would have sufficient time to load the data required to play back the multimedia data within the specified bandwidth at the specified times. If there is sufficient time, the authoring tool allows the multimedia data to be interleaved for playback at the specified times. *Id.* at 7:64–8:12.

The interleaver element generates a playback data stream from the presentation script according to the specified playback times. *Id.* at 3:39–52. The interleaver element places the multimedia data elements, such as images and sounds, and commands one after another to form the interleaved playback data stream. *Id.* at 9:44–50.

The playback interpreter element reproduces the images and sounds sequenced in the playback data stream. *Id.* at 5:10–13. The playback interpreter element also interprets the interleaved commands to provide an interactive presentation. *Id.* at 5:13–16.

C. Illustrative Claim

Claims 1 and 8 are independent claims, and claim 4 depends from claim 1. Claim 1 is illustrative and is reproduced below:

1. A computer implemented method for generating a multimedia presentation data stream of at least one of images and sounds for timed, coordinated reproduction of said at least one of images and sounds, comprising the steps of:

generating a list specifying a plurality of data elements representing at least one of images and sounds and, for at least some of said data elements, specifying one or more times for playback of said images and sounds;

selecting a playback bandwidth with which to deliver at least one of said images or sounds;

identifying from said list said data elements and said one or more times for playback of said images and sounds;

dividing each of said data elements into one or more data portions; and

combining said data portions in a multimedia presentation data stream for delivery of said data portions to a computer system within said selected bandwidth for timed coordinated reproduction of said at least one of images and sounds.

D. Ground of Unpatentability Instituted for Trial

We instituted trial based on the following ground of unpatentability:

Claims	Basis	Reference
1, 4, and 8	§ 102(e)	Cruz ¹

¹ Cruz et al., US 5,594,911, filed July 13, 1994, and issued Jan. 14, 1997 (Ex. 1003).

II. ANALYSIS

A. *Claim Construction*

In an *inter partes* review, the Board interprets claim terms in an unexpired patent according to the broadest reasonable construction in light of the specification of the patent in which they appear. *See In re Cuozzo Speed Techs., LLC*, No. 2014-1301, 2015 WL 448667, at *5–8 (Fed. Cir. Feb. 4, 2015); 37 C.F.R. § 42.100(b). Under that standard, and absent any special definitions, we give claim terms their ordinary and customary meaning, as would be understood by one of ordinary skill in the art at the time of the invention. *See In re Translogic Tech., Inc.*, 504 F.3d 1249, 1257 (Fed. Cir. 2007). Any special definitions for claim terms must be set forth with reasonable clarity, deliberateness, and precision. *See In re Paulsen*, 30 F.3d 1475, 1480 (Fed. Cir. 1994).

The parties disagree on the construction of “selecting a playback bandwidth with which to deliver at least one of said images or sounds,” which appears in claim 1. In the Decision to Institute, we construed this limitation as “selecting a range of rates within which to deliver at least one of said images or sounds for playback.” Dec. Inst. 9. Petitioner does not contest this claim construction, stating that it is proper under the broadest reasonable interpretation standard. Pet. Reply. 1. Patent Owner asserts that this limitation should be construed as “choosing a rate in preference to other rates with which to deliver said at least one of images or sounds.” PO Resp. 3.

1. *“playback bandwidth with which to deliver at least one of said images or sounds”*

Patent Owner first takes issue with our preliminary construction that a “playback bandwidth” is a “range of rates” within which to deliver

multimedia objects. *Id.* at 4. In the Decision to Institute, we construed the limitation as a range of rates due to the Specification’s consistent reference to the delivery of multimedia objects “*within* an author-selected bandwidth.” Dec. Inst. 9; Ex. 1001, 3:64–4:1, Abstract. Patent Owner and its declarant, Dr. Kevin C. Almeroth, contend that a person of ordinary skill in the art would understand “within,” as used in the Specification, to mean “less than or equal to.” PO Resp. 7; Ex. 2002 ¶ 39 (“[R]eferring to transfer of data ‘within’ a bandwidth is equivalent to referring to transfer of data at a rate less than or equal to the selected playback bandwidth.”). Petitioner and its declarant, Dr. Borko Furht, appear to agree with Patent Owner on this point. Pet. Reply 2; Ex. 1007 ¶ 18 (“Although the selected ‘playback bandwidth’ may be a single value, it identifies the upper limit on a range of expected reliable delivery rates.”). Having considered the parties’ positions and weighed the supporting evidence, we determine that the parties’ positions are correct. Accordingly, we modify our original construction of “playback bandwidth with which to deliver at least one of said images or sounds” to “a rate at or less than which to deliver at least one of said images for playback.”

2. “*selecting*”

Patent Owner also argues that the term “selecting” requires construction. PO Resp. 9. Patent Owner contends that the ordinary and customary meaning of the word “select” as understood by a person of ordinary skill in the art is “to make a choice in preference to other available alternatives.” *Id.* As support, Patent Owner cites the testimony of its declarant and a dictionary defining the term “select” as “to choose in preference to another or others; pick out.” *Id.* (citing Ex. 2002 ¶ 41; Ex. 2007).

Petitioner disagrees with Patent Owner's proposed construction of "selecting," asserting that Patent Owner's proposal is too narrow. Pet. Reply 3. Petitioner notes that the Specification explains that the selection of the playback bandwidth is made upon "consideration of network and/or playback system limitations." *Id.* at 3–4 (citing Ex. 1001, 4:1–5). The Specification, Petitioner argues, does not state that there must be multiple playback bandwidth options from which the user can select. *Id.* at 4. Petitioner also asserts that the dictionaries cited by Patent Owner define "select" more broadly as allowing one to make a "choice," without requiring multiple options. *Id.* (citing Exs. 2007, 2008).

Upon considering the claim language and the Specification, we determine that Patent Owner's proposed construction of "selecting" is too narrow. To the extent that Patent Owner argues that its proposed construction requires a user to make a specific choice between a menu of playback bandwidths, we do not agree that that is the broadest reasonable interpretation in light of the Specification. In particular, nothing in the Specification requires a user to choose specifically from a list of multiple playback bandwidths. As support, Patent Owner asserts that an object of the invention is to permit a user to select a playback bandwidth to generate a "bandwidth-controlled presentation data stream, thereby controlling network load and providing predictable performance on a variety of playback systems." PO Resp. 9 (quoting Ex. 1001, 2:61–67). Patent Owner also notes that the Specification explains that the selection of the playback bandwidth is made upon "consideration of network and/or playback system limitations." *Id.* at 10; Ex. 1001, 4:1–5. These disclosures, however, do not require that a user identify a specific list of playback bandwidths and then affirmatively choose one over another. Rather, this disclosure simply

suggests that a user choose a playback bandwidth that will achieve these goals. Moreover, we agree with Petitioner that the choice need not be limited to choosing between specific alternative delivery rates. Pet. Reply 3–4. As Petitioner’s declarant states, the choice may be between different ways to determine a playback bandwidth, as each may result in a different playback bandwidth value. Ex. 1007 ¶ 24.

3. Conclusion

Thus, after considering the complete record, we modify our construction and determine that the broadest reasonable interpretation of “selecting a playback bandwidth with which to deliver at least one of said images or sounds” is “choosing a rate at or less than which to deliver at least one of said images or sounds for playback.”

B. Principles of Law

To prevail in its challenges to the patentability of the claims, Petitioner must prove unpatentability by a preponderance of the evidence. 35 U.S.C. § 316(e); 37 C.F.R. § 42.1(d). To establish anticipation, each limitation in a claim must be found in a single prior art reference, arranged as recited in the claim. *Net MoneyIN, Inc. v. VeriSign, Inc.*, 545 F.3d 1359, 1369 (Fed. Cir. 2008). While the limitations must be arranged or combined in the same way as in the claim, identity of terminology is not required. *In re Gleave*, 560 F.3d 1331, 1334 (Fed. Cir. 2009); *In re Bond*, 910 F.2d 831, 832 (Fed. Cir. 1990). Moreover, a reference anticipates a claim “if it discloses the claimed invention such that a skilled artisan could take its teachings in combination with his own knowledge of the particular art and be in possession of the invention.” *In re Graves*, 69 F.3d 1147, 1152 (Fed. Cir. 1995). Thus, “it is proper to take into account not only specific teachings of the reference but also the inferences which one skilled in the art

would reasonably be expected to draw therefrom.” *In re Preda*, 401 F.2d 825, 826 (CCPA 1968).

We analyze the instituted ground of unpatentability in accordance with the above-stated principles.

C. Anticipation of Claims 1, 4, and 8 by Cruz (Ex. 1003)

Petitioner contends that Cruz anticipates claims 1, 4, and 8. Pet. 28–32, 36–38. Petitioner relies on the Declaration (Ex. 1005) and Reply Declaration (Ex. 1007) of Dr. Borko Furht. Patent Owner disagrees with Petitioner’s assertions (PO Resp. 11–18), relying on the Declaration of Dr. Kevin C. Almeroth (Ex. 2002).

1. Cruz

Cruz relates to preprocessing and delivering multimedia presentations. Ex. 1003, 1:26–27. The Cruz system includes a multimedia preprocessor, a mass storage, a delivery processor, a distribution network, and a plurality of presentation processors. *Id.* at 8:2–6. The preprocessor receives an original media presentation (“OMP”), which includes multimedia objects and associated presentation commands “for presenting the multimedia objects to a customer based upon the customer’s interactive commands.” *Id.* at 8:6–9. The preprocessor also receives inputs called “presentation technology parameters (“PTPs”),” which indicate “key information characterizing components” of the delivery system. *Id.* at 8:10–14. The PTPs, which can be inputted manually from a human interface, include the bit rate of distribution network. *Id.* at 8:20–21; 9:26–27. Based upon the PTPs, the preprocessor generates a preprocessed multimedia presentation (“PMP”), which includes a delivery schedule for delivering the PMP. *Id.* at 7:40–45.

A mass storage stores PMPs available for delivery on customer request. *Id.* at 8:29–32. Upon receiving a request from a customer for a

multimedia presentation, the delivery processor retrieves the requested PMP from mass storage. *Id.* at 8:36–39. The delivery processor executes the delivery schedule embedded in the PMP and delivers the multimedia objects and the presentation commands to the presentation processor of the requesting customer. *Id.* at 8:39–43. The presentation processor then presents the multimedia objects to the customer according to the presentation commands. *Id.* at 8:43–45.

2. *Analysis*

a. *Claims 1 and 4*

Petitioner contends that Cruz anticipates claims 1 and 4. Pet. 27–32. We have reviewed Petitioner’s detailed explanation identifying where each limitation allegedly appears in Cruz, along with the testimony of Petitioner’s declarant, Dr. Furht. *See id.*; Ex. 1005 ¶¶ 129–139. We also have reviewed Patent Owner’s assertions and evidence as to why Petitioner’s explanations and evidence are deficient. PO Resp. 11–18; Ex. 2002 ¶¶ 43–55. On this record, we are persuaded that Petitioner has shown by a preponderance of the evidence that Cruz discloses each limitation of claims 1 and 4.

For example, claim 1 requires generating a list specifying data elements representing images and sounds and playback times. Petitioner asserts that Cruz discloses using an OMP, which includes a list of multimedia objects (such as images and sounds) and associated presentation times for presenting the images and sounds. Pet. 28–29 (citing Ex. 1003, 1:31–33, 7:39–50, 8:6–10, 9:58–63, Fig. 1B). Petitioner also asserts that Cruz discloses that the OMP can be generated using “any well-known multimedia authoring system.” *Id.* at 29 (citing Ex. 1003, 8:67–9:10).

Claim 1 further requires selecting a playback bandwidth with which to deliver the images and sounds. Petitioner asserts that Cruz discloses

selecting a playback bandwidth, as a user can input manually the “bit rate of distribution network” as one of the PTPs. *Id.* at 29–30 (citing Ex. 1003, 8:10–22, 9:27–28, 14:48–52, 19:4–9).

Claim 1 further requires identifying from the list the data elements and the times for playback of the images and sounds. Petitioner asserts that Cruz discloses generating a delivery schedule listing the multimedia objects and presentation times included in the OMP. *Id.* at 30 (citing Ex. 1003, 10:9–21, 14:40–18:55); *see also* Ex. 1003, 19:4–14, Fig. 6A.

Claim 1 also requires dividing each of the data elements into one or more data portions. Petitioner asserts that Cruz discloses that its presentation scheduler may repack an object into smaller objects for delivery if the presentation scheduler finds that the object cannot be accommodated in its entirety by the presentation processor before the presentation time. *Pet.* 30–31 (citing Ex. 1003, 11:40–48).

Finally, claim 1 requires combining the data portions in a multimedia presentation data stream for delivery to a computer within the selected bandwidth. Petitioner asserts that Cruz discloses that, based on the OMP and PTPs, the presentation scheduler creates a PMP, which includes a delivery schedule so that each object in the presentation and its associated commands arrive at the customer’s presentation processor no later than its designated presentation time. *Id.* at 31–32 (citing Ex. 1003, 6:37–44, 9:58–10:21, 14:14–24, 19:17–20:35).

Claim 4 depends from claim 1 and further requires the step of accessing the multimedia presentation data stream to reproduce the images and sounds at the specified times. Petitioner asserts that Cruz discloses that the presentation processor receives and processes objects and presentation commands delivered to it from the delivery processor, ensuring that the

presentation commands are executed and the objects are presented at their specified times. *Id.* at 32 (citing Ex. 1003, 14:14–31).

In response, Patent Owner contends that Cruz does not disclose the steps of “selecting a playback bandwidth with which to deliver at least one of said images or sounds” or “dividing each of said data elements into one or more portions.” PO Resp. 11–18. We address each of Patent Owner’s arguments in turn.

i. “selecting a playback bandwidth with which to deliver at least one of said images or sounds”

Patent Owner argues that Cruz does not disclose the “selecting a playback bandwidth” step because the minimum bit rate described is a fixed characteristic of a given network and, therefore, is not “selected.” PO Resp. 11. According to Patent Owner, when a user enters the fixed minimum bit rate of the distribution network, the user is not choosing a particular bit rate over other bit rates for delivery. *Id.* at 12; Ex. 2002 ¶¶ 46–48.

We are not persuaded. As explained above, “selecting a playback bandwidth” is not limited to choosing between specific alternative bit rates. Rather, “selecting a playback bandwidth” may encompass a choice between different ways to determine the playback bandwidth. Cruz discloses that the minimum bit rate can be inputted manually by the user. Ex. 1003, 9:27–28. In doing so, we agree with Petitioner that a user chooses a playback bandwidth by determining what the minimum bit rate is. The testimony of both parties’ declarants supports this finding. Petitioner’s declarant, Dr. Furht, testified that there are several different ways that a person of ordinary skill in the art may select a playback bandwidth. Ex. 1007 ¶¶ 23–24. Although Patent Owner’s declarant, Dr. Almeroth, testified that he was not

aware of a good way to identify what the minimum bit rate of the distribution network would be, he conceded that, if required to do so, one might “just pick some arbitrary value.” Ex. 1008, 117:12–118:6. Thus, we are persuaded that Cruz’s disclosure of inputting the minimum bit rate discloses “selecting a playback bandwidth,” as claimed.

Patent Owner also argues that the minimum bit rate is not a rate at which the particular presentation is delivered. PO Resp. 14. According to Patent Owner, Cruz does not describe a situation where the value of the delivery rate is equal to the minimum bit rate of the network. *Id.* at 15; Ex. 2002 ¶¶ 49–53. As Petitioner and Patent Owner’s declarants note, however, the claim does not require actual transmission, and, therefore, the playback bandwidth does not have to be the actual delivery rate. Ex. 1007 (Furht Reply Decl.) ¶¶ 16–17; Ex. 1008 (Almeroth Dep.), 33:8–12 (“Since Claim 1 doesn’t specifically require actually doing the transmission, if the transmission ends up not actually occurring at that playback bandwidth, it may or may not meet the claim.”). Moreover, Cruz contemplates delivering a multimedia presentation at the selected minimum network bit rate, as required by claim 1. Ex. 1003, 19:4–14; Fig. 6A (showing a delivery schedule of a multimedia presentation that has been optimized for delivery over a distribution network operating at a minimum network bit rate). Thus, we are not persuaded by Patent Owner’s argument.

ii. “dividing each of said data elements into one or more portions”

Patent Owner argues that the repackaging process of Cruz does not disclose dividing each of the data elements into one or more portions. PO Resp. 16; Ex. 2002 ¶¶ 54–55. Specifically, Patent Owner argues that, in Cruz, for an object to be divided in the repackaging process, (1) the object and its commands cannot be accommodated in their entirety by the

presentation processor before the presentation time; and (2) there must be some available memory at the presentation processor. PO Resp. 16 (citing Ex. 1003, 11:41–45). Patent Owner argues that, because Cruz never states that both of these conditions are fulfilled for all of the elements of the OMP, Cruz does not disclose expressly the “dividing” step of the claim. *Id.* at 16–17. Patent Owner further argues that Cruz does not disclose inherently the “dividing” step, because it is possible that some elements do not meet both requirements and, therefore, would not be divided. *Id.* at 17.

We do not find Patent Owner’s arguments persuasive. Claim 1 recites “dividing each of said data elements into *one or more* portions.” Thus, contrary to Patent Owner’s assertion, by encompassing “dividing each of said data elements into one . . . portion[,],” the claim does not require dividing each data element into multiple portions. Although Cruz does not necessarily repackage every object into multiple smaller objects, it is not required to do so to anticipate the claims.

As Petitioner notes, our position is consistent with the Specification of the ’091 patent. Pet. Reply 13–14. The Specification states that compressed data is “apportioned into utilizable portions, which can be generally uniform in size, but which are not subject to any particular size constraints other than such upper limits which are determined by the bandwidth limitations of the network and playback systems.” Ex. 1001, 9:30–35. We credit the testimony of Petitioner’s expert, who explains that this passage of the Specification is similar to the disclosure of Cruz. Ex. 1007 ¶ 40. That is, both the ’091 patent and Cruz describe that, after considering the upper limits of the playback system, if the data has a utilizable size, then the data need not be divided into multiple portions. *Id.*

After considering the arguments and evidence presented by Petitioner and Patent Owner, we determine that Petitioner has shown by a preponderance of the evidence that Cruz anticipates claims 1 and 4 of the '091 patent.

b. Claim 8

Petitioner provides a detailed explanation as to how Cruz discloses each limitation of claim 8. Pet. 36–38. Patent Owner does not address claim 8 in its Patent Owner Response and, accordingly, “leave[s] it to the Board’s discretion to decide Claim 8 based on the petition.” Tr. at 24:19–25. Upon review of Petitioner’s analysis and supporting evidence, we determine that Petitioner has demonstrated, by a preponderance of the evidence, that claim 8 is anticipated by Cruz.

For example, claim 8 requires a method for reproducing a multimedia presentation from a playback data stream containing images and sounds and associated commands. Petitioner asserts that Cruz discloses a system for “preprocessing and delivering multimedia presentations to customers” where the multimedia presentation is made up of multimedia objects and presentation commands. Pet. 36–37 (citing Ex. 1003, 1:31–33, 7:39–45, 9:58–10:21).

Claim 8 further requires identifying the data portions. Petitioner asserts that Cruz discloses that “[t]he basic function of the presentation processor is to receive and process objects and presentation commands sent by the delivery processor as a result of executing delivery commands and to present the objects to the customer as instructed in the presentation commands.” *Id.* at 37 (citing Ex. 1003, 14:14–18). Petitioner notes that to process the objects and their presentation commands, the presentation processor identifies those objects and commands. *Id.*; Ex. 1005 ¶ 152.

Claim 8 also requires extracting images and sounds from the data portions and extracting the associated commands. Petitioner asserts that Cruz discloses that the presentation processor stores objects in an object store and commands in a command store. Pet. 37–38 (citing Ex. 1003, 14:5–8, Fig. 5). As such, Petitioner contends that the presentation processor must extract multimedia objects from the data stream and separate them from other objects that are extracted, such as presentation commands, to place them in their respective stores. *Id.*; Ex. 1005 ¶¶ 153–154.

Finally, claim 8 requires processing the data portions in accordance with the associated commands to reproduce the images and sounds. Petitioner asserts that Cruz discloses that the presentation processor receives and processes objects and presentation commands sent by the delivery processor to present the objects to the customer as instructed in the presentation commands. *Id.* at 38 (citing Ex. 1003, 14:14–18; 8:43–45).

We are persuaded by Petitioner’s reasoning. After considering the arguments and evidence, we determine that Petitioner has shown by a preponderance of the evidence that Cruz discloses each limitation of claim 8 of the ’091 patent.

III. CONCLUSION

We conclude that Petitioner has shown by a preponderance of the evidence that claims 1, 4, and 8 are unpatentable under 35 U.S.C. § 102(e).

IV. ORDER

In consideration of the foregoing, it is hereby:

ORDERED that that Petitioner has shown by a preponderance of the evidence that claims 1, 4, and 8 are unpatentable;

FURTHER ORDERED that, because this is a Final Written Decision, parties to the proceeding seeking judicial review of the decision must comply with the notice and service requirements of 37 C.F.R. § 90.2.

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