

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

CISCO SYSTEMS, INC.
Petitioner,

v.

UMBRA TECHNOLOGIES LTD
Patent Owner.

Inter Partes Review No.: IPR2024-00344
U.S. Patent No. 11,146,632

PETITIONER'S REPLY TO PATENT OWNER'S RESPONSE

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Patent Trial and Appeal Board
U.S. Patent and Trademark Office
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I. INTRODUCTION

The Patent Owner's Response (POR) confirms that the Challenged Claims are unpatentable.

The Petition includes a single ground—Claims 1-7 are unpatentable as obvious over Agarwala. Agarwala includes U.S. Pat No. 9,582,421 (the "'421 Patent")(EX-1005), and U.S. Provisional Application 61/739,685 (the "'685 Provisional Application") (EX-1004), which is expressly incorporated by reference in its entirety in the '421 Patent. The '421 Patent was filed on December 19, 2013, and thus is prior art under 102(a)(2)(AIA), without regard to whether it claims priority to the filing date of the '685 Provisional Application. The Petition's citations to Agarwala include citations to EX-1004, EX-1005 or both.

The POR is based on a misrepresentation of the law and the facts. The POR makes four arguments. *First*, it argues that the '685 Provisional Application cannot be relied on because it is not prior art. However, the '421 Patent specifically identifies the '685 Provisional Application and states "the entirety of which is incorporated by reference." The legal significance of this is that the entirety of the '685 Provisional Application is included in the '421 Patent as if fully written therein as of the December 19, 2013 filing date of the '421 Patent, (which is 3 years before the priority date of the '632 Patent). Thus, the entire contents of the '685 Provisional Application is part of the disclosure of the '421

Patent and can be relied on as prior art under 102(a)(2)(AIA). All of the case law cited by the POR is directed to cases in which a provisional application is **not** incorporated by reference.

Second, the POR asserts “standing alone” neither the ’421 Patent nor the ’685 Provisional Application discloses all the elements of the Challenged Claims. This arguments fails to appreciate that the ’421 Patent standing alone **includes** the disclosure of the ’685 Provisional Application. The Petition makes this clear by asserting a single ground of obviousness over Agarwala which is defined as the combined disclosure of EX-1005 (the ’421 Patent) and EX-1004 (the ’685 Provisional Application.) Thus, the POR’s arguments treating EX-1004 and EX-1005 as unrelated disclosures are not relevant to the only ground in the Petition.

Third, the POR copies and pastes the same arguments from the POPR urging that the term “*data beacon*” recited in the preamble be given a special meaning that limits the claim, even though the Board considered and rejected these arguments in the Institution Decision. DI 12-22.. The POR makes no attempt to explain how the Board got it wrong or provide any new evidence for the Board to consider.

Lastly, the POR asserts that the ’421 Patent is not entitled to the priority date of the ’685 Provisional Application because Petitioner did not do a proper *Dynamic Drinkware* analysis. However, the *Dynamic Drinkware* analysis is only required for pre-AIA patents. Because the earliest priority date of the ’632 Patent

is April 26, 2016 which is after March 16, 2013, the '632 Patent is subject to the AIA, and thus no *Dynamic Drinkware* analysis was required when evaluating whether a reference is prior art. In any event, the Petition does not rely on the priority date of the '685 Provisional Application because the filing date of '421 Patent (December 19, 2013) is years earlier than the priority date of the '632 Patent (April 26, 2016). Instead, as discussed above, the Petition relies on the '685 Provisional Application as being part of the '421 Patent disclosure as of its December 19, 2013 filing date. Whether the '421 Patent can claim priority to the '685 Provisional Application is not relevant.

This Reply addresses each of the POR arguments in order, demonstrating that none of them are legally or factually supported.

II. ARGUMENT

A. The '685 Provisional Application is included in the '421 Patent as if fully written therein as of the filing date of December 19, 2013

The Petition asserts a single ground that Claims 1-7 of the '632 Patent are obvious over Agarwala. The Petition defines Agarwala as follows:

U.S. Patent No. 9,582,421 to Agarwala et al. is titled "Distributed Multi-Level Caching For Storage Appliances" and issued on February 28, 2017 from an application filed on December 19, 2013. *EX-1005*. The '421 Patent claims priority to and incorporates by reference U.S. Provisional Application 61/739,685 (*EX-1004*) filed December 19, 2012. *EX-1005* 1:6-8. The '421 Patent is prior art to the '632 Patent

under §102(a)(2)(AIA). Together the '421 Patent and the incorporated '685 Provisional Application are referred to herein as “Agarwala”.

Agarwala was not cited or applied by the examiner during prosecution of the '632 Patent.

Pet. 18. Specifically, the '421 Patent incorporates by reference the “entirety” of the '685 Provisional Application:

Applicant claims the benefit of priority of prior, Provisional Application Ser. No. 61/739,685, filed Dec. 19, 2012, the entirety of which is incorporated by reference.

EX-1005 1:5-7.

Under the relevant law, the entire disclosure of the '685 Provisional Application is included in the '421 Patent for all purposes as if explicitly contained therein. MPEP (8th Ed) §2163.07(b) (“information incorporated is as much a part of the application as filed as if the text was repeated in the application, and should be treated as part of the text of the application as filed.”); *Ultradent Prods., Inc. v. Life-Like Cosmetics, Inc.*, 127 F.3d 1065, 1069 (Fed. Cir. 1997) (rejecting argument that anticipatory reference “sa[id] nothing” about pertinent portions of an incorporated reference because “the entire contents” were incorporated); *Apple Inc. v. Koss Corporation*, IPR2021- 00255, Paper 54 (Final Written Decision) (May 31, 2022), at 25-30 (holding claims obvious over host reference, relying on material from two provisional applications incorporated in their entirety.)

Thus, the Petition properly includes pin cites to Agarwala, either EX-1004 ('685 Provisional Application) or EX-1005 ('421 Patent), or both.

The POR makes several ancillary challenges to the disclosure of the '685 Provisional Application, none of which are persuasive. First, the POR argues that the '685 Provisional Application is not prior art under 35 USC § 102. However, as described above, the Petition does not assert that the '685 Provisional Application is **itself** prior art. Instead, its disclosure is part of the '421 Patent, which is prior art under §102(a)(2)(AIA), as expressly stated in the Petition (Pet. 18) and confirmed in MPEP 2127 (I).¹

Next, the POR asserts that disclosures in a provisional application which are “cancelled” in a subsequent U.S. Patent Application cannot constitute 102(a) prior art. POR 7-10. However, no part of the '685 Provisional Application was

¹ However, the subject matter of an abandoned application, including both provisional and nonprovisional applications, referred to in a prior art U.S. patent or U.S. patent application publication may be relied on in a 35 U.S.C. 102(a)(2) or pre-AIA 35 U.S.C. 102(e) rejection based on that patent or patent application publication if the disclosure of the abandoned application is actually included **or incorporated by reference** in the patent or patent application publication. MPEP 2127 (I) (emphasis added).

canceled. To the contrary, the **entirety** of the '685 Provisional Application was included in the '421 Patent. Thus, the POR's citation to cases regarding "canceled matter," none of which involve a provisional application which was expressly incorporated by reference in its entirety, are simply not relevant to the facts in this case. POR 7-10. Moreover, the POR's assertion that "the non-provisional application must make a 'specific reference' to the matter within the provisional application sought to be included in the non-provisional application is without legal support. Although the POR cites to 35 U.S.C. §119(e)², that provision relates to claiming the benefit of the filing date of a provisional application for priority purposes, not for incorporation by reference purposes:

An application for patent filed under section 111(a) or section 363 for an invention disclosed in the manner provided by section 112(a) (other than the requirement to disclose the best mode) in a provisional application filed under section 111(b), by an inventor or inventors named in the provisional application, shall have the same effect, as to such invention, as though filed on the date of the provisional application filed under section 111(b), if the application for patent filed under section 111(a) or section 363 is filed not later than 12

² The POR cited 35 U.S.C. §119(c), but because that section deals with foreign priority, an issue not relevant here, we assume the POR meant to cite to 35 U.S.C. §119(e).

months after the date on which the provisional application was filed and if it contains or is amended to contain a **specific reference** to the provisional application.”³

35 U.S.C. §119(e)(emphasis added).

Instead, the relevant case law cited above makes clear that it is not necessary to identify pertinent portions of an incorporated reference when “the entire contents” were incorporated. *Ultradent Prods* 127 F.3d at 1069.

Thus, POR’s argument that the ’421 Patent does not incorporate all of the ’685 Provisional Application based on a side-by-side comparison of the two documents is simply not relevant in view of the binding case law. POR 11-12.

B. Agarwal discloses each limitation of the Challenged Claims

The POR’s argument that, standing alone, neither the ’421 Patent nor the ’685 Provisional Application discloses all the elements of the Challenged Claims misapprehends that the ’421 Patent standing alone, includes the disclosure of the ’685 Provisional Application. As discussed above, because the ’421 Patent expressly incorporates the ’685 Provisional Application in its entirety, the ’685 Provisional Application is a part of the application for the ’421 Patent as filed as if

³ As discussed above, although the ’421 Patent complies with 119(e) because it claims priority by making specific reference to the ’685 Provisional Application, the Petition does not rely on the filing date of the ’685 Provisional Application.

the text was repeated in the application, and should be treated as part of the text of the application as filed. *Ultradent Prods.* 127 F.3d at 1069. Thus, the POR arguments attacking the references individually are not relevant, particularly when the POR does not identify a single limitation that is not disclosed by Agarwala (the combined '421 Patent and '685 Provisional Application).

To be clear, Agarwala is a single reference that includes the combined disclosure of the '421 Patent and the '685 Provisional Application, and the Petition's use of two different exhibits numbers (EX-1004 and EX-1005) is a necessary mechanism since there is no document that physically embodies the combined disclosure of the '421 Patent and the '685 Provisional Application. Thus, it is clearly improper for the POR to treat the '421 Patent and '685 Provisional Application as separate unrelated disclosures.

In several places, the POR asserts that the Petition fails to show that certain claim elements are anticipated by the '421 Patent or the '685 Provisional Application. POR 6, 12. However, the Petition does not contain any anticipation analysis. Instead, Ground 1 is based on a single reference obviousness challenge based on a single reference, i.e., the combined disclosure of the '421 Patent and the '685 Provisional Application.

Further, the POR asserts that the Petition failed to demonstrate that the EX-1004 (the '685 Provisional Application) discloses element [1.4]. This statement is

misleading as the primary support in the Petition for this limitation is the disclosure in EX-1005. Limitation [1.4] recites *wherein the second node reads the first data from the second parallel file system and places the data in the second read queue.*

As an initial matter, the Petition describes how EX-1005 discloses that objects are initially read from persistent storage (e.g., SSD 412 or the HDD 410 of FIG. 4) and added to the read cache where they are held for reading. Pet. 21 (citing EX-1005 8:27-28, 8:27-55). This describes the normal interaction between a cache and persistent memory storage and would be deemed to be an “inter-nodal” movement of data, which the POR asserts is not disclosed in Agarwala. POR 14. The Petition further explains how first data received at the first node can be stored in persistent storage of the second node. Specifically, during the discussion of limitation [1.3], the Petition describes the operation of how the first node writes the first data to the second parallel file system at the second node using the flusher and the asynchronous replication at the first node. Pet 18-28; limitation [1.3]. The Petition further explains how the first data stored in the second parallel file system is written to the second read queue at the second node. Specifically, the Petition identifies an example in Agarwala that discloses that when there is a read cache miss for data object, the data object is read from the persistent storage (*second parallel file system*) into the read cache (*second read queue*). Pet. 48 (citing EX-1005 10:44-51). Thus, whenever a read cache miss occurs at a second node for

first data that was previously stored in the persistent storage at the second node, the first data is read from the persistent storage at the second node into the read cache of the second node. Thus, this example discloses limitation [1.4] and demonstrates “an intra-node movement of data” that the POR asserts is missing. POR 14.

C. The term “data beacons” recited in the preamble is an intended use and not limiting

The term “*data beacons*” is recited in the preamble, but not defined in the specification. The term “*data beacon*” appears in the ’632 Patent apart from the term “pulse(r)”, only twice outside of claim 1: (1) in the Abstract: “Systems and methods for providing data beacons are disclosed.” (Ex. 1001, Abstract), and as identically described, (2) in the Summary of the Disclosure: “Systems and methods for providing data beacons are disclosed” Ex. 1001, 7:30–31.

The body of Claim 1 fully and intrinsically sets forth all of the limitations of the claimed invention. In other words, the limitations in the body of Claim 1 do not rely upon and derive antecedent basis from the “data beacons” language recited in the preamble of claim 1. Moreover, “data beacons” recited in the preamble is not a necessary component, it does not provide “essential structure or steps” and it is not “necessary to give life, meaning, and vitality to the claim.” *Catalina Mktg. Int’l, Inc. v. Coolsavings.com, Inc.*, 289 F.3d 801, 808 (Fed. Cir. 2002).

Instead, the preamble merely states the purpose or intended use of the invention, *e.g.*, “*for providing data beacons*”, rather than any distinct definition of

any of the claimed invention's limitations, and thus, the preamble is not considered a limitation and is of no significance to claim construction. MPEP 2111.02 II.

In the Institution Decision, the Board held that the recitation of *data beacons* in the preamble was not limiting, and left it to the parties “to focus the arguments during trial to further develop the claim 1 preamble claim construction issue.” DI 22. However, the POR does not further develop the claim construction issue, but instead, includes the same arguments that were addressed by the Board in the Institution Decision. Thus, the POR does not provide any further evidence for the Board to review.

For example, the POR proposes the same construction of the term “*data beacon*” to mean “a signal delivered via a one-way casting or one-way multicasting” (POR 20), and makes the same arguments that the intrinsic evidence supports this construction because the '632 Patent specification provides a description of the “benefits” of Slingshot technology, including that it does not require responses or acknowledgements, and that it provides performance benefits over longer distances regarding speed and reliability. POR 20-24. In the Institution Decision, the Board addressed these same arguments finding that “none of these features are recited in any of the Challenged Claims.” DI 20. Importantly, the POR's citations to the Specification of the '632 Patent are describing “data beacon pulsers” powered by a technology the patent calls “Information Slingshot”.

EX-1001 1:29-37 (“DBP offers fast, efficient, and dependable one way casting/multicasting of information globally”); 3:36-38 (“Slingshot one-way sending (U.S. Provisional Application Patent No. 62/266,060 referenced herein) offers certain advantages to the reliable movement of data at near wire-speed”) and 5:21-51 (“It provides advantages over the current state of the art such as UDP one-way multi-casting vs DBP utilizing slingshot”). POR 20-21. However, the POR fails to provide any evidence that ties the benefits of a data beacon pulser powered by Slingshot technology to the recited *data beacon*.

However, even if the term *data beacon* is considered to be a limitation, its meaning can be discerned from the body of the claim limitations. Looking to the claim body’s limitations, the claim recites only the *writing* and *reading* of *first data* within the claim node structure of the network system. It does not place limits on the nature of that *first data* requiring it to be delivered via one-way casting or multicasting as urged by the POR.

The POR also includes the same file history arguments that the Board considered and rejected. POR 24-27.⁴ For example, the POR argues that the

⁴ The POR also cites the same case law that it cited in the POPR, including the *Shoes by Firebug* case that the Board explained “cuts against Patent Owner, because the Patent Owner has not shown any dependence on a particular disputed

prosecution highlights the fact that *data beacons* recited in the preamble are the basis for the invention because the Examiner relied on the preamble to distinguish the prior art. It is not apparent how the Examiner's consideration that a "data beacon pulser" is "the technology upon which the invention is based" or that a search for "data beacon" and "pulse" in the same paragraph leads to the POR's conclusion regarding reliance by the Examiner. POPR 5-7. Instead, the Notice of Allowance clearly indicates the distinguishing features relied upon by the Examiner were recited in the body of the claim. In particular, with respect to the references found via an additional exploratory search related to the technology discussed in the Specification, the Examiner stated "[h]owever, those references deal with mobile networks, and do not disclose any information about **read queues, write queues, or parallel file systems.**" EX-1002 p. 10 (emphasis added). This statement clearly demonstrates that the Examiner was distinguishing the prior art based on limitations recited in the body of the claims and not the preamble as asserted in the POR.

Further, the POR's reliance on extrinsic evidence, that defines a data beacon as a frame generated when a "node detects a problem" or a "device that transmits a

preamble phrase ('for providing data beacons') for antecedent basis purposes." DI

14.

continuous signal, typically via Bluetooth” do not appear to have any relevance, and in any event are silent with respect to one-way casting or one-way multicasting. POR 21.

The POR’s remaining evidence is directed to the POR’s characterization that a “*data beacon*” is a fundamental characteristic of the claimed network system, and that the inventors “intended that the claims encompass only improved data beacon delivery systems having certain features recited in the body of the claim.” POR 23-27. However, the inventor’s “intent” is not a recognized legal basis for importing limitations into the claims. Instead, the Patent Owner had the opportunity to effectuate the intent of the inventors by proposing claim amendments to the present claims in this proceeding, and chose not to do so.

Because the POR does not provide any additional evidence not already considered by the Board, or explain how the Board got it wrong in the Institution Decision, the Board should maintain its previous position that the body of Claim 1 defines a structurally complete invention, and that the preamble only states a purpose or intended use for the invention.

D. The Dynamic Drinkware analysis is not required for AIA patents

The POR’s final argument conflates the concepts of incorporation by reference and claiming priority to a provisional application. The POR argues that the Petitioner has failed to show that the ’421 Patent is entitled to the disclosures of

the '685 Provisional Application based on the *Dynamic Drinkware* case. POR 27-32.

The *Dynamic Drinkware* is simply not relevant to the current Petition. The earliest priority date of the '632 Patent is April 26, 2016 which is after March 16, 2013, and thus as noted in *Penumbra, Inc. v. RapidPulse, Inc.*, IPR2021-01466 paper 34. P 30 (precedential as to (§ II.E.3)), designated: November 15, 2023) “under AIA §§ 102(a)(2) and 102(d), there is no need to evaluate whether any claim of a reference patent document is actually entitled to priority when applying such a reference” and “Petitioner did not need to conduct a *Dynamic Drinkware* analysis under AIA § 102(d) based on statutory language, legislative history, USPTO Guidance on *Dynamic Drinkware*, and the MPEP” citing *Apple Inc. v. Telefonaktiebolaget LM Ericsson*, IPR2022-00341, Paper 10, at 14–22 (PTAB Sept. 14, 2022).

The December 18, 2013 filing date of the '421 Patent predates the April 26, 2016 priority date of the '632 Patent. The '421 Patent is prior art to the '632 Patent based on its own filing date without regard to the priority date of the '685 Provisional Application. Because the '632 Patent and the reference patent document, Agarwala, are evaluated under AIA, the *Dynamic Drinkware* analysis is not required for the Petitioner to meet its burden that the Challenged Claims are obvious over Agarwala.

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CERTIFICATION OF SERVICE ON PATENT OWNER

Pursuant to 37 C.F.R. §§ 42.6(e), the undersigned certifies that on January 17, 2025, a complete and entire copy of Petitioner's Reply to Patent Owner's Response, was served by electronic mail to the Patent Owner's counsel at the following addresses:

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CERTIFICATE OF COMPLIANCE

Pursuant to 37 C.F.R. § 42.24 *et seq.*, the undersigned certifies that this document complies with the type-volume limitations. This document contains 3,529 words as calculated by the “Word Count” feature of Microsoft Word 2010, the word processing program used to create it.

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