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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

UNIFIED PATENTS, INC.,
Petitioner,

v.

REALTIME ADAPTIVE STREAMING, LLC,
Patent Owner.

Case IPR2018-00883
Patent 8,934,535 B2

Before KEVIN W. CHERRY, GARTH D. BAER, and NABEEL U. KHAN, *Administrative Patent Judges.*

KHAN, *Administrative Patent Judge.*

DECISION
Institution of *Inter Partes* Review
35 U.S.C. § 314

I. INTRODUCTION

A. Background

Unified Patents, Inc. ("Petitioner") filed a Petition (Paper 2, "Pet.") to institute an *inter partes* review of claims 15, 16, 17, 19, 22, and 23 (the "challenged claims") of U.S. Patent No. 8,934,535 B2 (Exhibit 1001, "the '535 Patent"). Realtime Adaptive Streaming, LLC ("Patent Owner") timely filed a Preliminary Response. Paper 11 ("Prelim. Resp."). At the request of the parties, we authorized additional briefing on the issue of whether Petitioner had named all of the real parties-in-interest ("RPIs"). Paper 18. Patent Owner filed a supplemental brief (Paper 21, "P.O. Supp. Br.") and Petitioner filed a response (Paper 25, "Pet. Resp."). We have authority under 37 C.F.R. § 42.4(a) and 35 U.S.C. § 314, which provides that an *inter partes* review may not be instituted unless the information presented in the Petition "shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition." Having considered the arguments and the associated evidence presented in the Petition and the Preliminary Response, for the reasons described below, we institute *inter partes* review of all the challenged claims on all the grounds set forth in the Petition.

B. Related Proceedings

The parties inform us that the '535 Patent is involved in the following litigations:

- *Realtime Data, LLC v. Echostar Corp.*, No. 6:17-cv-84 (E.D. Tex.)
- *Realtime Data LLC d/b/a IXO v. DISH Network Corporation et al.*, 6:17-cv-00421 (E.D. Tex.)

- *Realtime Adaptive Streaming, LLC v. Sling TV, LLC*, No. 1:17-cv-2097 (D. Colo.)
- *Realtime Adaptive Streaming, LLC v. Amazon.com, Inc.*, No. 6:17-cv-549 (E.D. Tex.)
- *Realtime Adaptive Streaming LLC v. EchoStar Technologies, LLC et al.*, No. 6:17-cv-00567 (E.D. Tex.).
- *Realtime Adaptive Streaming, LLC v. Hulu, LLC*, No. 2:17-cv-7611 (C.D. Cal.)
- *Realtime Adaptive Streaming, LLC v. Cisco Systems, Inc.*, No. 6:17-cv-591 (E.D. Tex.)
- *Realtime Adaptive Streaming, LLC v. Brightcove, Inc.*, No. 1:17-cv-1519 (D. Del.)
- *Realtime Adaptive Streaming, LLC v. Haivision Network Video, Inc.*, No. 1:17-cv-1520 (D. Del.)
- *Realtime Adaptive Streaming, LLC v. Polycom, Inc.*, No. 1:17-cv-2692 (D. Colo.)
- *Realtime Adaptive Streaming, LLC v. Netflix, Inc.*, No. 1:17-cv-1692 (D. Del.)
- *Realtime Adaptive Streaming, LLC v. Sony Elecs., Inc.*, No. 1:17-cv-1693 (D. Del.)
- *Realtime Adaptive Streaming, LLC v. Apple, Inc.*, No. 1:17-cv-2869 (D. Colo.)
- *Realtime Adaptive Streaming, LLC v. Adobe Sys. Inc.*, No. 1:18-cv-10355 (D. Mass.)
- *Realtime Adaptive Streaming, LLC v. Samsung Elec. Co., Ltd.*, No. 6:18-cv-00113 (E.D. Tex.)
- *Realtime Adaptive Streaming LLC v. Wowza Media Systems LLC*, No. 1:18-cv-00927 (D. Colo.)
- *Realtime Adaptive Streaming LLC v. Google LLC et al*, No. 2:18-cv-03629 (D.C. Cal.)
- *Realtime Adaptive Streaming LLC v. Avaya Inc.*, No. 1:18-cv-01046 (D. Colo.)

- *Realtime Adaptive Streaming LLC v. Broadcom Corporation et al.*, No. 1:18-cv-01048 (D. Colo.)
- *Realtime Adaptive Streaming LLC v. LG Electronics Inc. et al*, No. 6:18-cv-00215 (E.D. Tex.)
- *Realtime Adaptive Streaming LLC v. Advanced Micro Devices, Inc.*, No. 1:18-cv-01173 (D. Colo.)
- *Realtime Adaptive Streaming LLC v. Intel Corporation*, No. 1:18-cv-01175 (D. Colo.)
- *Realtime Adaptive Streaming LLC v. Mitel Networks, Inc.*, No. 1:18-cv-01177 (D. Colo.)
- *Realtime Adaptive Streaming LLC v. Cox Communications, Inc.*, No. 8:18-cv-00942 (C.D. Cal.)
- *Realtime Adaptive Streaming LLC v. Charter Communications, Inc. et al*, No. 1:18-cv-01345 (D. Colo.)
- *Realtime Adaptive Streaming, LLC v. Comcast Cable Communications, LLC d/b/a Xfinity et al*, No. 1-18-cv-01446 (D. Colo.)

Pet. 1–2; Paper 10, 2–4.

Patent Owner further informs us that the '535 Patent is involved in the following *inter partes* review proceedings:

- *Hulu, LLC et al v. Realtime Adaptive Streaming LLC*, IPR2018-01169
- *Hulu, LLC et al v. Realtime Adaptive Streaming LLC*, IPR2018-01170
- *Sling TV LLC et al v. Realtime Adaptive Streaming LLC*, IPR2018-01332
- *Sling TV LLC et al v. Realtime Adaptive Streaming LLC*, IPR2018-01342
- *Cisco Systems, Inc. v. Realtime Adaptive Streaming LLC*, IPR2018-01384

Paper 10, 1–2.

C. The '535 Patent

The '535 Patent relates generally to compressing and decompressing data based on an actual or expected throughput (bandwidth) of a system. Ex. 1001, 1:21–25. The '535 Patent explains that data compression algorithms can have varied performance characteristics. Ex. 1001, 1:32–35. For example, with a typical dictionary-based compression algorithm, such as Lempel-Ziv, the size of the dictionary can affect the performance of the algorithm. Ex. 1001, 1:35–38. A large dictionary may yield very good compression ratios, but may make the algorithm take a long time to execute. On the other hand, a smaller dictionary would yield a faster compression time but at the expense of lower compression ratio. Ex. 1001, 1:38–44. Thus, one challenge in employing data compression is selecting the appropriate algorithm from a variety of algorithms for a given application or system. The desired balance between speed and efficiency is an important factor in determining which algorithm to select for data compression. A system that provides dynamic modification of compression system parameters to provide an optimal balance between speed and compression ratio is highly desirable. Ex. 1001, 1:56–60.

The '535 Patent describes two categories of compression algorithms—asymmetrical and symmetrical. An asymmetrical data compression algorithm is "one in which the execution time for the compression and decompression routines differ significantly." Ex. 1001, 9:64–66. Thus, in an asymmetrical algorithm, either the compression time is fast with the decompression time being slow, or vice versa. An example of an asymmetric algorithm is Lempel-Ziv. Ex. 1001, 10:2–4. A symmetric compression algorithm, on the other hand, is "one in which the execution

time for the compression and the decompression routines are substantially similar. Examples of symmetrical algorithms include table-based compression schemes such as Huffman." Ex. 1001, 10:5–9. The total execution time of the compression and decompression portions of asymmetrical algorithms is typically higher than the total time for symmetrical algorithms. But an asymmetric algorithm typically achieves higher compression ratios. Ex. 1001, 10:10–14.

The invention described in the '535 Patent is directed to a system and method for compressing and decompressing based on the actual or expected throughput (bandwidth) of a system employing data compression and a technique of optimizing based upon planned, expected, predicted, or actual usage. Ex. 1001, 7:51–55. A bandwidth sensitive data compression routine may be selected based on access profiles that enable the controller to determine a compression routine associated with a data type of the data to be compressed. Ex. 1001, 8:4–8. The access profiles comprise information that enables the controller to select a suitable compression algorithm that provides the desired balance between speed and compression ratio. Ex. 1001. 8:8–13.

These access profiles may take into account the overall throughput of a system as one factor in deciding whether to use an asymmetric or symmetric algorithm. Ex. 1001, 11:25–29. Another factor the access profile may track is the type of data to be processed. Ex. 1001, 11:29–31. For example, different data types (the type may be determined by a file extension of the data) may be associated with different compression algorithms. Ex. 1001, 11:35–40.

The '535 Patent illustrates this concept with three categories of access profiles. In a first category, the access profile of a particular data type may specify that the data may be decompressed significantly more times than it is compressed. This is typical with operating systems, applications, and websites. Ex. 1001, 12:1–12. In such a situation it may be suitable to utilize an asymmetric algorithm that provides slow compression routine and a fast decompression routine. Ex. 1001, 12:14–20. Thus, the compression ratio achieved by using an asymmetric algorithm with slow compression will be higher than if a symmetric algorithm was used. Ex. 1001, 12:20–24.

A second category is one in which the data would be compressed significantly more times than decompressed. Ex. 1001, 12:25–27. This is typical for automatically updating an inventory database. Here an asymmetric algorithm with a fast compression routine and a slow decompression routine would be most appropriate. Ex. 1001, 12:27–35.

A third category is one in which the data is accessed with a similar number of reads and writes, and thus would be compressed and decompressed approximately the same number of times. Ex. 1001, 12:36–39. This is typical of most user-generated data such as documents and spreadsheets. Ex. 1001, 12:40–41. In this case, a symmetric algorithm that provides relatively fast compression and decompression would be preferable. Ex. 1001, 12:41–43.

In this way, the '535 Patent describes a system that automatically selects an appropriate compression algorithm to optimize system throughput and based on the type of data being installed or stored. Ex. 1001, 14:27–39.

D. Illustrative Claim

Of the challenged claims, claim 15 is independent and claims 16, 17, 19, 22, and 23 depend from claim 15.

Claim 15, reproduced below, is illustrative:

15. A method, comprising:

determining a parameter of at least a portion of a data block;

selecting one or more asymmetric compressors from among a plurality of compressors based upon the determined parameter or attribute;

compressing the at least the portion of the data block with the selected one or more asymmetric compressors to provide one or more compressed data blocks; and

storing at least a portion of the one or more compressed data blocks.

E. Asserted Grounds of Unpatentability

Petitioner challenges claims 15, 16, 17, 19, 22, and 23 of the '535 Patent on the following grounds:

Basis	Challenged Claims	Reference(s)
§ 102	15, 16, and 22	Dye[1]
§ 103	15, 16, and 22	Dye
§ 103	15, 16, 17, 19, 22, and 23	Dye and Appelman[2]
§ 103	15, 16, 17, 19, 22, and 23	Dye and Riddle[3]

[1] Dye, U.S. Patent No. 7,190,284, March 13, 2007 (Ex. 1003, "Dye").

[2] Appelman, U.S. Patent No. 6,112,250, Aug. 29, 2000 (Ex. 1004, "Appelman").

[3] Riddle, U.S. Patent No. 6,175,856 B1, Jan. 16, 2001 (Ex. 1005, "Riddle").

F. Level of Ordinary Skill

Petitioner proposes that

> A person of ordinary skill in the art ("POSITA") for the '535 Patent at the time would have had a Bachelor's Degree in Electrical Engineering or a related subject and three or more years of experience working with data compression systems and algorithms. EX1006, ¶ 17. Less work experience may be compensated by a higher level of education, such as a Master's Degree, and vice versa. *Id.*

Pet. 8. Patent Owner does not provide an alternative proposal for the level of ordinary skill. For purposes of this Decision, we adopt Petitioner's proposed level of ordinary skill.

G. Claim Interpretation

In an *inter partes* review, we construe claim terms in an unexpired patent according to their broadest reasonable construction in light of the specification of the patent in which they appear. 37 C.F.R. § 42.100(b); *Cuozzo Speed Techs., LLC v. Lee*, 136 S. Ct. 2131, 2144–46 (2016) (upholding the use of the broadest reasonable interpretation standard). "Under a broadest reasonable interpretation, words of the claim must be given their plain meaning, unless such meaning is inconsistent with the specification and prosecution history." *Trivascular, Inc. v. Samuels*, 812 F.3d 1056, 1062 (Fed. Cir. 2016). Only terms that are in controversy need to be construed, and only to the extent necessary to resolve the controversy. *See Wellman, Inc. v. Eastman Chem. Co.*, 642 F.3d 1355, 1361 (Fed. Cir. 2011); *Vivid Techs., Inc. v. Am. Sci. & Eng'g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999).

Petitioner proposes to construe "asymmetric compressors" as "a compressor in which the execution time for the compression and decompression routines differ significantly." Pet. 9. Patent Owner agrees with this construction. Prelim. Resp. 3–4. Because Petitioner's construction is consistent with the definition of "asymmetric compressors" from the '535 Patent, we adopt this construction. *See* Ex. 1001, 9:63–66 ("An asymmetrical data compression algorithm is referred to herein as one in which the execution time for the compression and decompression routines differ significantly.")

II. DISCUSSION

A. Real Parties in Interest

In accordance with 35 U.S.C. § 312(a)(2) and 37 C.F.R. § 42.8(b)(1), Petitioner identifies itself, Unified Patents, Inc., as the only real-party-in-interest ("RPI"). Pet. 1. Patent Owner argues that the Petition should be denied because Petitioner has failed to identify all real parties in interest (RPIs), which it argues, are all members of Petitioner's "Content Zone." P.O. Supp. Br., 1–2.

1. Principles of Law

A petition for *inter partes* review "may be considered only if . . . the petition identifies all real parties-in-interest." 35 U.S.C. § 312(a)(2). When a patent owner provides sufficient evidence prior to institution that reasonably brings into question the accuracy of a petitioner's identification of RPIs, the overall burden remains with the petitioner to establish that it has complied with the statutory requirement to identify all real parties in interest.

Zerto, Inc. v. EMC Corp., Case No. IPR2014-01295, slip op. at 6–7 (PTAB Feb. 12, 2015) (Paper 32).

"[A]t a general level, the 'real party-in-interest' is the party that desires review of the patent." Office Patent Trial Practice Guide, 77 Fed. Reg. 48,756, 48,759 (Aug. 14, 2012) ("Trial Practice Guide"). "Whether a party who is not a named participant in a given proceeding nonetheless constitutes a 'real party-in-interest' . . . to that proceeding is a highly fact-dependent question" with no "bright line test," and is assessed "on a case-by-case basis." Trial Practice Guide, 48,759 (citing *Taylor v. Sturgell*, 553 U.S. 880, 893–95 (2008)). A common consideration is whether the non-party exercised or could have exercised control over the proceeding. Trial Practice Guide, 48,759 (citing Charles Alan Wright, Arthur R. Miller & Edward H. Cooper, Federal Practice & Procedure ("Wright & Miller") § 4451). The concept of control generally means that "the nonparty has the actual measure of control or opportunity to control that might reasonably be expected between two formal coparties." *Id.* Actual control is, however, not the only measure, thus, in addition, "[d]etermining whether a non-party is a 'real party in interest' demands a flexible approach that takes into account both equitable and practical considerations, with an eye toward determining whether the non-party is a clear beneficiary that has a preexisting, established relationship with the petitioner." *Applications in Internet Time, LLC v. RPX Corp.*, 897 F.3d 1336, 1351 (Fed. Cir. 2018) ("*AIT*"). Relevant factors in the RPI analysis include "Party A's relationship with the petitioner; Party A's relationship to the petition itself, including the nature and/or degree of involvement in the filing; and the nature of the entity filing the petition." Trial Practice Guide, 48,760.

2. Arguments

Patent Owner's arguments are premised on its contention that Petitioner's members are beneficiaries of this Petition and have a preexisting, established relationship with Petitioner. P.O. Supp. Br., 4. Patent Owner explains that Petitioner is a for-profit entity that "organizes its customer relationships into specific technology 'areas' or 'zones' based on their interest" and that this particular IPR falls within Petitioner's "Content Zone." P.O. Supp. Br., 4 (citing Ex. 2003, 2–3). Several Content Zone members have been accused of infringing the '535 Patent. P.O. Supp. Br., 4 (citing Ex. 2003, 11). Patent Owner singles out one such member, [redacted], but argues all members of Petitioner's "Content Zone," would benefit if trial is instituted as a result of this Petition and are, therefore, RPIs. P.O. Supp. Br., 5 (citing Ex. 2003, 3–10).

Patent Owner characterizes Petitioner's "relationship with its members [as being] dominated by [Petitioner's] filing of IPRs to benefit them." P.O. Supp. Br., 5. For example, Patent Owner argues that the fees paid by Petitioner's customers are overwhelmingly spent on filing IPRs, and that such fact is marketed to those customers as a benefit of membership. P.O. Supp. Br., 6–7 (citing Ex. 2007, 2; 2008, 9, 11 ([redacted]). Indeed, according to Patent Owner, [redacted]. P.O. Supp. Br., 5 (citing Ex. 2008, 19).

Patent Owner argues that Petitioner "acts as . . . an association that 'assert[s] the personal rights of its members'" because Petitioner is not at risk of being sued on the patent it challenges, only its members are. P.O. Supp. Br., 8 (citing Ex. 2004, 14:21–25, 16:2–7). Patent Owner also argues that Petitioner acts as an "attorney-in-fact" for its members, because its customers hire it "with full knowledge that most of their fees will be used to file petitions within the selected zone, reducing their litigation risk." P.O. Supp. Br., 8 (citing Ex. 2006, 2 (stating that Petitioner's strategy [redacted])).

In response, Petitioner argues that Patent Owner interprets *AIT* too broadly and ignores the many facts that distinguish the circumstances present here from those in *AIT*. Pet. Resp., 1.

According to Petitioner, Patent Owner incorrectly interprets *AIT* as proposing a "benefits-plus-relationship" standard where any nonparty that benefits from an IPR and has any relationship to the Petitioner is considered an RPI. P.O. Supp. Br., 6. Petitioner alleges that finding Petitioner to be an attorney-in-fact because members hire it with full knowledge that most of their fees will be used to file petitions is contrary to the common law of RPI and preclusion. P.O. Supp. Br., 7 (citing *Taylor v. Sturgell*, 553 U.S. 880, 906 (2008); Wright & Miller § 4454 n. 19). Similarly, Petitioner argues its members are not RPIs under Patent Owner's "Association Theory" merely due to their paid memberships being combined with some shared interest because "[o]rdinarly, preclusion requires participation and control—an association's mere 'interest as an advocate of the interests of its members' is not sufficient." P.O. Supp. Br., 9–10 (citing Wright & Miller § 4451).

Under the correct interpretation of *AIT*, Petitioner argues, its members are not RPIs. For example, Petitioner argues there is no dispute that "(1) Unified solely directed, controlled, and funded this IPR; (2) no member communicated with Unified or knew about the IPR before it was filed; and (3) no member has participated in this IPR, either explicitly or implicitly." P.O. Supp. Br., 3. Similarly, Petitioner emphasizes that it does not work with its members to resolve their litigations; no significant payments were made shortly before the Petition was filed; Petitioner does not share any board members and has no corporate relationships with any of its members (beyond membership itself); there was no offer to, or request by, members for Petitioner to reach out to Patent Owner regarding any litigation; Petitioner does not communicate with any member regarding its desires or to coordinate strategies; most of the members that are alleged to be RPIs, including [redacted], were not involved in litigation with Patent Owner when this IPR was filed; and no member had filed an earlier petition that was denied or was otherwise time-barred from filing an IPR. P.O. Supp. Br., 4–5.

3. Analysis

At this stage of the proceeding, and based on the facts in the current record, we are persuaded that Petitioner has carried its burden in complying with 35 U.S.C. § 312(a) and identifying all RPIs.

We agree with Petitioner that Patent Owner is overextending the reasoning of *AIT*. The RPI analysis set out in *AIT* and the common law require more than simply confining the analysis to determining whether a party benefits generally from the filing of this Petition and also has a

relationship with the Petitioner. While the court in *AIT* looked to the fact that RPX was a "for-profit company whose clients pay for its portfolio of 'patent risk solutions,'" it did not end its analysis there. *AIT*, 897 F.3d at 1351. Instead, it proceeded deeper to ascertain the nature of the relationship between Salesforce, RPX and the specific IPRs filed, and the nature of the benefit to Salesforce from RPX's IPRs. Finding extensive and specific ties between the two parties as they relate to the IPRs, the Federal Circuit was ultimately compelled to vacate the Board's decision and remand for further proceeding to consider "the full range of relationships under § 315(b) and the common law that could make Salesforce a real party in interest." *AIT*, 897 F.3d at 1358.

We start then by analyzing the nature and degree of the relationship between Petitioner, the members of its Content Zone, and the filing of this IPR. There are nearly two hundred companies in the Content Zone. *See* Ex. 2003, 4–10. Many of those companies pay subscription fees for their membership in the zone, but at least some pay no fee at all. Ex. 1018 ¶ 5. The fees are allocated to the zone in which the subscribing member belongs. Ex. 2004, 103:16–19. Using money allocated to the Content Zone, Petitioner [redacted] including filing IPR petitions such as this one (Ex. 1018 ¶ 13) and claims its strategy [redacted] (Ex. 2006, 2). In this regard, Petitioner is similar to RPX, which is a for-profit company that also files IPRs to serve its clients and claims its interests are "100% aligned" with those clients. *AIT*, 897 F.3d at 1343, 1352. As we explained above, ending the inquiry here and basing the decision on the aforementioned similarities would be premature and cut short the RPI analysis set out in *AIT*. It would also run afoul of "the

general rule that a litigant is not bound by a judgment to which she was not a party" except in discrete and limited circumstances. *Taylor*, 553 U.S. at 898.

Looking more deeply, we initially note there is no evidence that any of Petitioner's members controlled, directed, or directly financed this proceeding. The vast majority of the Content Zone members have not been accused of infringing the '535 Patent. Ex. 2003, 4–10; Paper 10. As for the members that have been accused, some were sued after Petitioner had already filed this IPR. Paper 10. There is no evidence that there was any communication at all between the nonparties and Petitioner regarding filing this Petition, or that any Content Zone member even knew beforehand of Petitioner's intent to file this Petition. Additionally, there is no evidence here, as there was in *AIT*, of communications between Petitioner and any of its members regarding the underlying litigations involving the '535 Patent.

Similarly, there is no evidence here, as there was in *AIT*, that any of the Content Zone members share officers or board members with Petitioner, or have any corporate relationships with Petitioner aside from their membership. Ex. 2003, 29; Ex. 1018 ¶ 6. There also is no evidence of a "very significant payment shortly before" this IPR was filed. *AIT*, 897 F.3d at 1342. Perhaps most significantly, there is no evidence that any member desires review of the '535 Patent but is time-barred from filing an IPR—a fact that was crucial in *AIT*. *Id.* at 1353 ("Given that . . . any IPR petitions Salesforce might have wanted to file would have been time-barred, this evidence at least suggests that RPX may have filed the three IPR petitions, in part, to benefit Salesforce."), 1355 ("[T]he evidence submitted indicates the company's understanding that the very challenges to validity included in the IPR petitions were challenges Salesforce would like to have made if not

time-barred from doing so."), 1356 (no evidence contradicts "AIT's theory that RPX filed IPR petitions challenging the two patents asserted in the *Salesforce* action to benefit Salesforce, where Salesforce itself was time-barred from filing petitions").

In *AIT*, these accumulated factors[4] raised a concern that RPX's actions appeared tailored to benefit Salesforce specifically. This, combined with the fact that RPX advertises itself as an "extension of a client's in-house legal team," not only demonstrated a deep and extensive tie between RPX and Salesforce, but also raised the issue of whether RPX was acting as an attorney-in-fact on behalf of Salesforce. *AIT*, 897 F.3d at 1357. Here, Petitioner asserts that it "has no attorney-client relationship with its members and is not an extension of any member's in-house legal team." P.O. Supp. Br., 4 (citing Ex. 1018 ¶ 4). Unlike *AIT*, the circumstances here do not warrant calling this assertion into question. There is no evidence of any member having had communications with Petitioner regarding any underlying litigation involving the '535 Patent. No member has had its petitions denied. No member is time-barred from filing its own IPRs. [redacted] Thus, the evidence does not point to any specific member whose ties with Petitioner

[4] The Federal Circuit found the timing of RPX's petitions, just three weeks after Salesforce's CBM petitions were denied, the fact that Salesforce was time-barred from challenging the patents, and the sudden termination of communications between RPX and Salesforce regarding Salesforce's underlying litigation, as all indicating "a mutual desire to avoid entering into an express agreement under which RPX would file IPR petitions challenging AIT's patents for Salesforce's benefit." *AIT*, 897 F.3d at 1355 n.6.

are so extensive to imply that Petitioner filed this IPR at the behest of that member or that it was acting as an attorney-in-fact on behalf of that member.

Finally, we assess Patent Owner's allegations regarding [redacted], which it singles out as notable amongst the nearly two hundred Content Zone members. P.O. Supp. Br., 1–2. Patent Owner emphasizes that, [redacted]. P.O. Supp. Br., 1 (citing Ex. 2008, 9, 11, 19). Thus, Patent Owner argues "there can be no doubt that [redacted] is an RPI." P.O. Supp. Br., 1. At first glance, these facts indicate a more specific tie between [redacted], Petitioner, and the filing of this IPR. Looking more closely, however, the current record suggests that [redacted]'s relationship to Petitioner and this IPR is not significantly different than that of the other members. First, [redacted] was not accused of infringement at the time Petitioner filed this IPR and Petitioner had no way of knowing that [redacted] would be accused of infringing the '535 Patent at that time. Nor is there any evidence that [redacted] itself knew that it would be accused of infringing the '535 Patent when this IPR was filed. Thus, beyond the general benefit received from Petitioner's common practice of filing IPRs in relevant technology areas, the evidence does not point to any further specific benefits [redacted] would have received from Petitioner's actions in return for the membership payments it was making. Second, it appears [redacted]. P.O. Supp. Br., 9 (citing Ex. 2010, 15). For example, at least one other member,

not accused of infringement by Patent Owner, [redacted]. *Id.*

In sum, we do not find membership in Petitioner's Content Zone and the general benefits accruing from such membership to be sufficient under the principles espoused by *AIT* and the common law to require that all such members be identified as RPIs under § 312(a)(2). Further, because the evidence on this record has demonstrated the relationships between Content Zone members and Petitioner to be far less extensive than between RPX and Salesforce in *AIT*, we agree with Petitioner that its particular members are not unnamed RPIs in this case. Accordingly, at this stage of the proceeding, we are persuaded that Petitioner has carried its burden in complying with 35 U.S.C. § 312(a).

B. Discretion under 35 U.S.C. § 325(d)

Patent Owner emphasizes that the Petition's primary reference and one of its secondary references, Dye and Riddle, respectively, were listed on an IDS and acknowledged by the Examiner during prosecution. Prelim. Resp. 6. Although neither Dye, nor Riddle, were explicitly discussed by the Examiner, Patent Owner urges us to exercise our discretion to deny institution. Prelim. Resp. 6–7.

Institution of *inter partes* review is discretionary. *See Harmonic Inc. v. Avid Tech, Inc.*, 815 F.3d 1356, 1367 (Fed. Cir. 2016) ("the PTO is permitted, but never compelled, to institute an IPR proceeding"). In particular, § 325(d) states that "[i]n determining whether to institute . . . the Director may take into account whether . . . the same or substantially the same prior art or arguments previously were presented to the Office." While

Patent Owner is correct that the Board has discretion to deny institution even when certain prior art references are not explicitly discussed or applied by the Examiner against the claims during prosecution, the Board typically exercises its discretion to decline institution under 35 U.S.C. § 325(d) when the cited art was previously presented to and extensively considered by the Office. *See, e.g.*, *Kayak Software Corp. v. International Business Machines Corp.*, Case CBM2016-00075, 2016 WL 11034653 (PTAB Dec. 15, 2016) (Paper 16).

This is not the case here as neither Dye nor Riddle were discussed or substantively considered during prosecution. We also note that the IDS in which Dye and Riddle appear lists 566 total United States Patents and some number of other references as well. Riddle appears as the 360th patent and Dye appears as the 478th on the IDS. Ex. 1002, 268, 274. Under such circumstances, with the vast number of references listed on the IDS, we decline to exercise our discretion to deny institution.

C. Anticipation over Dye

1. Overview of Dye

Dye relates to an Integrated Memory Controller (IMC) that includes data compression and decompression engines for improved data efficiency and bandwidth. Ex. 1003, 3:3–5. "The memory controller includes a compression/decompression engine, preferably parallel data compression and decompression slices, that are embedded into the memory control logic of the memory controller." Ex. 1003, 3:6–9.

The IMC disclosed in Dye preferably uses lossless data compression and decompression schemes, but may also include one or more lossy compression schemes for audio/video/graphics data. Ex. 1003, 4:9–15. As

an example of lossless compression and decompression, Dye discloses the use of a dictionary based compression algorithm such as Lempel-Ziv. Ex. 1003, 4:37–41, 18:52–62. Dye also discloses that preferably a lossy algorithm is used for image, texture, video, graphical objects, and depth data. Ex. 1003, 19:46–51, 28:58–60, 38:23–27.

To improve latency and reduce performance degradations associated with compression and decompression, Dye uses multiple techniques, including "selectable compression modes such as lossless, lossy, or no compression." Ex. 1003, 4:25–33, 38:43–46. Dye explains that it "may selectively apply different compression/decompression algorithms depending on one or more of the type of data, the requesting agent, or a memory address range." Ex. 1003, 4:51–54, 38:15–19. For example, "if the data comprises application data, the compression mode is determined to be lossless compression. If the data comprises video/graphics data, then the compression mode may be lossy compression." Ex. 1003, 39:12–15. Similarly, "if the requesting agent is a CPU application or associated driver, then a lossless compression should be applied. If or the requesting agent is a video/graphics driver, then lossy compression may be applied." Ex. 1003, 39:4–8. Finally, if the destination address range is designated with a lossless compression format, then lossless compression may be used. If the destination address range is designated for lossy compression, then a lossy algorithm may be used. If the range is designated as no compression, then no compression may be used. Ex. 1003, 38:55–67.

2. Independent Claim 15

Claim 15 recites "[a] method comprising: determining a parameter of at least a portion of a data block" and "selecting one or more asymmetric compressors from among a plurality of compressors based upon the determined parameter or attribute." Petitioner argues Dye discloses this limitation in two ways. First, Dye discloses "that the system 'determines' or 'analyzes' a parameter of uncompressed data blocks to be compressed, such as 'an address range where the data is to be stored; a requesting agent which provides the data; and/or a data type of the data.'" Pet. 12 (citing Ex. 1003, 38:38–39:35). According to Petitioner, "[e]ach of the address range, requesting agent, and data type of the data blocks disclosed in *Dye* corresponds to the claimed 'parameter.'" Pet. 12 (citing Ex. 1006 ¶ 36). Petitioner further contends Dye selects an asymmetric compression mode from among many compression options based on the determined parameter. Pet. 14 (citing Ex. 1003, 38:38–39:35). Specifically, Petitioner argues that Dye's lossless mode applies different types of the Lempel-Ziv algorithm, which is known to be an asymmetric algorithm. Pet. 14 (citing Ex. 1003, 18:59–62).

Second, Petitioner also argues that Dye "separately discloses the claimed determining a parameter feature in the context of handling data blocks for video/graphical objects." Pet. 12 (citing Ex. 1003, 39:29–35; Ex. 1006 ¶ 37). Specifically, in relation to video/graphical objects or windows displayed on a display, Petitioner argues that Dye's "system selects the compression algorithm 'on a per-object basis, e.g., based on whether the object is in the foreground or background, or based on an attribute of the graphical object.'" Pet. 12 (quoting Ex. 1003, 39:22–25 (emphasis added)).

According to Petitioner, "whether the object is in the foreground/background, or the attribute of an object, it discloses the claimed 'parameter.'" Pet. 12 (citing Ex. 1006 ¶ 37). If the object is in the background, Petitioner argues that Dye may use a lossy algorithm with higher compression ratio, while if the object is in the foreground, Dye may use a lossy algorithm with a lower compression ratio. Pet. 16 (citing Ex. 1003, 39:22–35). Petitioner also argues that because Dye discloses lossless asymmetric algorithms and describes a preference for algorithms where decompression is faster than compression, Dye also discloses using lossless compression based on whether a graphical object is in the foreground or background of the screen. Pet. 16–18 (citing Ex. 1003, 47:30–40)

Addressing the first of Petitioner's aforementioned two theories, Patent Owner argues "neither the 'address range where the ***data is to be stored***' nor the 'requesting agent ***which provides the data***' constitutes a parameter of a data ***block***" because "neither item says anything about the data block itself." Prelim. Resp. 10. As for "data type," Patent Owner argues that the Petition never shows that Dye teaches selecting LZ compression "based upon" a block's data type. Prelim. Resp. 10–11.

Addressing Petitioner's second theory, Patent Owner argues "Dye compresses video/graphic objects using only ***lossy*** compression" and the "Petitioner never attempts to show that any of Dye's lossy compressors is an 'asymmetric compressor.'" Prelim. Resp. 11–12.

Based on our current review of the record, we are persuaded that Dye discloses the limitations of "determining a parameter of at least a portion of a data block" and "selecting one or more asymmetric compressors from

among a plurality of compressors based upon the determined parameter or attribute." Under Petitioner's first theory, we agree that the data type of a block of data is "a parameter of at least a portion of a data block," as claimed. Dye discloses that data type is used to select whether lossless or lossy compression will be used (Ex. 1003, 39:11–21) and, as Petitioner argues, Dye discloses that in a preferred embodiment, Lempel-Ziv is used as a "parallel lossless compression method" (Ex. 1003, 18:52–62). Petitioner establishes that Lempel-Ziv is an asymmetric compression algorithm. Pet. 14 (citing Ex, 1001 10:2–4). Thus, contrary to Patent Owner's arguments, by selecting lossless compression based on data type, where the lossless algorithm is Lempel-Ziv, Dye discloses "selecting one or more asymmetric compressors" based on a parameter of a data block.[5]

Claim 15 recites "compressing the at least the portion of the data block with the selected one or more asymmetric compressors to provide one or more compressed data blocks; and storing at least a portion of the one or more compressed data blocks." Petitioner argues Dye "discloses this limitation because, after selecting an asymmetric compression and decompression algorithm . . . the IMC compresses the data blocks using the selected algorithm" (Pet. 18–19 (citing, *e.g.*, Ex. 1003, 39:36–44)) and then

[5] We are less persuaded by Petitioner's second theory, which relies on Dye's compression of graphical objects, for the reasons Patent Owner points out. Prelim. Resp. 12. Specifically, Dye discloses using lossy algorithms for video and graphical objects and Petitioner has not established that Dye's lossy algorithms are asymmetric. *See* Ex. 1003: 4:13–15, 4:48–51, 39:14–15. Nevertheless, because we find Petitioner's first theory persuasive, we find Petitioner has demonstrated a reasonable likelihood that Dye discloses the discussed limitations.

"stores the compressed data in memory of the device (Pet. 20 (citing, *e.g.*, Ex. 1003, 11:54–12:13)). Patent Owner does not address Petitioner's aforementioned arguments. Based on our review of the current record, we are persuaded that Dye discloses these limitations.

3. Dependent Claim 16

Claim 16, which depends from claim 15 recites:

> wherein the compressing comprises: compressing the at least the portion of the data block with the selected one or more asymmetric compressors to create one or more portions of the one or more compressed data blocks, the at least the portion of the data block having been compressed with the one or more selected asymmetric compressors to create the one or more portions of the one or more compressed data blocks, and wherein the storing comprises: storing at least the one or more portions of the one or more compressed data blocks.

Petitioner points out that claim 16 differs from claim 15 only slightly, requiring "creat[ing] one or more portions of the one or more compressed data blocks" while claim 15 requires "provid[ing] one or more compressed data blocks." Pet. 21. Similarly, claim 16 requires "storing at least one or more portions of the one or more compressed data blocks" while claim 15 requires "storing at least a portion of the one or more compressed data blocks." Pet. 22. As such, Petitioner argues Dye discloses these limitations for largely same reasons as alleged with respect to claim 15. *See* Pet. 21–22.

Patent Owner does not address Petitioner's arguments. We agree claim 16 differs from claim 15 only slightly and thus, the reasons presented by Petitioner for claim 15 are persuasive in showing Dye discloses the limitations of claim 16.

4. Dependent Claim 22

Claim 22 recites "wherein the at least stored one or more portions of the one or more compressed data blocks comprises: audio or video information." Petitioner argues "*Dye* discloses that the IMC may use different compression modes based on the type of data, including digital video and digital audio." Pet. 22 (citing Ex. 1003, 4:1–15, 4:45–58, 35:31–37:63). Patent Owner does not address Petitioner's arguments.

We note that Dye typically discloses using lossy algorithms for compressing video or audio data. *See* Ex. 1003: 4:13–15, 4:48–51, 39:14–15. Petitioner has not explicitly shown that any of the lossy algorithms used in Dye are asymmetric algorithms. In a few instances, Dye discloses that a lossless algorithm can be used for display data. *See, e.g.*, Ex. 1003, 36:31–33 ("Display data 300 can also be compressed and is typically compressed in a lossless format that is linear complete span lines."). However, Petitioner does not explicitly allege that the lossless format mentioned here is an asymmetric algorithm. Thus, based on the current record before us, we are not persuaded Dye discloses the limitations of claim 22.

5. Conclusion

At this stage of the proceeding, having reviewed Petitioner's contentions and associated evidence, we are persuaded Dye discloses the limitations of claims 15 and 16 but not claim 22. Accordingly, we find Petitioner has demonstrated a reasonable likelihood that it will succeed in showing claim 15 and 16 are unpatentable over Dye.

D. Obviousness of Dye Alone

In addition to arguing that Dye anticipates claims, 15, 16, and 22 of the '535 Patent, Petitioner also asserts that Dye alone renders obvious those same claims. Petitioner relies largely on the same arguments as before, but puts forth its arguments under 35 U.S.C. § 103 rather than § 102. *See* Pet. 23–26. Additionally, instead of explicitly relying on the disclosure of Lempel-Ziv in Dye, Petitioner states that Dye's express preference for asymmetric algorithms would have motivated the ordinary artisan to choose an asymmetric algorithm as its compression mode. *See* Pet. 24–25 (citing Ex. 1003, 47:30–40).

Patent Owner once again argues that the parameters disclosed in Dye are either not parameters of a data block (i.e., address range and requesting agent), or are not used to select an asymmetric compression algorithm (data type). *See* Prelim. Resp. 12–13. Additionally, Patent Owner argues "Ground 2 of the Petition must be rejected because the Petition fails to identify any differences between Dye and claim 15." Prelim. Resp. 15 (citing *Apple v. OpenTV*, Case IPR2015-01031, Paper. 10, 13–14 (PTAB Oct. 13, 2015)).

Patent Owner's argument that Petitioner has not satisfied its burden of alleging a *prima facie* showing of obviousness because it has not identified differences between Dye and claim 15 is unpersuasive. The Petition analyzes the claims, comparing Dye's disclosure to the claim limitations, on a limitation by limitation basis. This is sufficient to show the differences, to the extent they exist, between Dye and the claims. *Apple v. OpenTV* is inapposite. In that case, the Petition alleged obviousness both over a single reference and over a combination of references, but failed to clearly identify

if any limitations were missing from the primary reference or where in any of the secondary references the limitations may be found if not found in the primary reference. *Id.* at 13, 16–17. The petition in *Apple v. OpenTV* thus ran afoul of the requirement of 37 C.F.R. § 42.104(b)(4) that "[t]he petition must specify where each element of the claim is found in the prior art patents or printed publications relied upon." *Id.* at 13. Here, the Petition clearly identifies where in the prior art reference each limitation may be found and explains why the teachings of the reference combined with the knowledge of one of ordinary skill in the art would render obvious the challenged claims.

At this stage of the proceeding, having reviewed Petitioner's contentions and associated evidence, we are persuaded Dye teaches or suggests the limitations of claims 15 and 16 for the reasons discussed above with respect to anticipation of those claims over Dye. We are not persuaded that Dye teaches the limitations of claim 22, again for the reasons discussed above with respect to anticipation of claim 22 over Dye. Accordingly, we find Petitioner has demonstrated a reasonable likelihood that it will succeed in showing claim 15 and 16 are unpatentable over Dye.

E. Obviousness over Dye and Appelman

1. Overview of Appelman

Appelman relates "to a network server for automatically decompressing selected pre-compressed data streams and recompressing the decompressed data to a greater degree than the original pre-compressed data." Ex. 1004, 1:8–11. Appelman describes the scenario where a requester, such as a web browser, sends a request for a file to a web server. The request is processed through a recompression server. Ex. 1004, 2:30–

37. When a file requested by the requester (i.e., the web browser) and provided by the web server passes through the recompression server, a determination is made whether the file is pre-compressed. Ex. 1004, 2:50–54. This can be done by checking the file extension of the file. Ex. 1004, 2:56–59. For example, if the file extension is .GIF then the image file has been compressed using the GIF standard. *Id.* The image file is then decompressed and then recompressed using an algorithm that provides a better compression ratio than the original GIF compression. Ex. 1004, 2:65–67. Appelman discloses that the algorithms used for recompressing the files may be the GT algorithm, Huffman Coding, Lempel-Ziv '77, Lempel-Ziv '78, Lempel-Ziv-Welch, and MPEG. Ex. 1004, 3:2–13.

2. Independent Claim 15

Claim 15 recites "[a] method comprising: determining a parameter of at least a portion of a data block" and "selecting one or more asymmetric compressors from among a plurality of compressors based upon the determined parameter or attribute." Petitioner argues that Appelman "chooses the best compression algorithm for different data types . . . where the different algorithms may include" various Lempel-Ziv algorithms, MPEG, JPEG and other algorithms as well. Pet. 28–29 (citing Ex. 1004, 2:65–3:14). Petitioner contends that both Lempel-Ziv and MPEG are asymmetric algorithms, because they take substantially longer to compress than decompress data. Pet. 29 (citing Ex. 1017, 1:65–2:11; Ex. 1006 ¶ 67).

Claim 15 further recites "compressing the at least the portion of the data block with the selected one or more asymmetric compressors to provide one or more compressed data blocks; and storing at least a portion of the one

or more compressed data blocks." Petitioner argues Appelman discloses recompressing certain files using one of the compression algorithms selected from the group of algorithms. Pet. 33–34 (citing Ex. 1004, 2:65–3:14, 3:46–62, Fig. 4; Ex. 1006 ¶ 73). Petitioner further alleges that Appelman teaches storing the compressed data blocks by disclosing that the compressed data blocks may be cached in mass storage cache. Pet. 34 (citing Ex. 1004, 3:46–62, Fig. 4).

Patent Owner does not address these specific arguments by Petitioner. Based on our review of the current record, we are persuaded that Appelman discloses determining a parameter of the data block, namely the data type, and selecting one or more asymmetric compressors, for example Lempel-Ziv, or MPEG, based upon the data type. We are also persuaded that Appelman teaches compressing data using the selected algorithm and storing the compressed data. Thus, we are persuaded the combination of Dye and Appelman teaches or suggests the limitations of claim 15.

3. Dependent Claim 16

Petitioner once again argues that dependent claim 16 differs from claim 15 only slightly, in the ways explained above, and relies on the same sections of Appelman for teaching the limitations of claim 16 as those relied upon for claim 15.

Patent Owner does not address these specific arguments by Petitioner. Based on our review of the current record, we are persuaded that the combination of Dye and Appelman teaches or suggests the limitations of claim 16 for the reasons discussed with respect to claim 15.

4. Dependent Claim 17

Claim 17, which depends from claim 16, recites "retrieving and transmitting at least a portion of the at least stored one or more portions of the one or more compressed data blocks based upon a user command." Petitioner argues Dye discloses transferring data to and from the IMC (*retrieving and transmitting*) in response to a request from a requesting unit (*user command*). Pet. 37 (citing Ex. 1003, 3:34–50, 4:1–24, 13:44–56). Petitioner argues that Appelman also discloses these limitations. Specifically, Petitioner argues that Appelman discloses a request process, where a request for a file is received (i.e. the claimed "user command") decompressing and recompressing the data and then sending the data to the requestor, which teaches the retrieving and transmitting step of claim 17. Pet. 37 (citing Ex. 1004, 2:30–37, 3:46–62, Fig. 4).

Patent Owner does not address these specific arguments by Petitioner. Based on our review of the current record, we are persuaded that the combination of Dye and Appelman teaches or suggests the limitations of claim 17.

5. Dependent Claim 19

Claim 19 depends from claim 16 and recites "retrieving and transmitting at least a portion of the at least stored one or more portions of the one or more compressed data blocks based upon a user value." Claim 19 differs from claim 17 only to the extent it requires a "user value" rather than a "user command." Petitioner contends Dye teaches this limitation for the same reasons as discussed with respect to claim 17. Pet. 39. Petitioner also argues Appelman teaches this limitation because "*Appelman* discloses a system with a requester, such as a web browser on the Internet, that can

request data and that the system can cache 'popular' files (user value), i.e., files that are most frequently requested by a user." Pet. 39 (citing Ex. 1004, 3:18–30).

Patent Owner does not address these specific arguments by Petitioner. Based on our review of the current record, we are persuaded that the combination of Dye and Appelman teaches or suggests the limitations of claim 17.

6. Dependent Claim 22

Claim 22 depends from claim 16 and recites "wherein the at least stored one or more portions of the one or more compressed data blocks comprises: audio or video information." Petitioner argues Dye teaches this limitation by disclosing that "[t]he IMC may use different compression modes based on the type of data, including digital video and digital audio." Pet. 40 (citing Ex. 1003, 4:1–15, 4:45–58, 35:31–37:63; Ex. 1006 ¶ 87).

Patent Owner does not address these specific arguments by Petitioner. Unlike Petitioner's analysis of anticipation of claim 22 over Dye, which did not sufficiently show that any of the lossy algorithms used in Dye are asymmetric algorithms, here, evidence has been presented, for independent claim 15, that Appelman's MPEG algorithm is both lossy and asymmetric. Accordingly, based on our review of the current record, we are persuaded that the combination of Dye and Appelman discloses the limitations of claim 22.

7. Dependent Claim 23

Claim 23 depends from claim 16 and recites "retrieving and transmitting at least a portion of the at least stored one or more portions of

the one or more compressed data blocks in real-time," and "decompressing a portion of the at least transmitted portion of the at least one or more stored portions of the one or more compressed data blocks after transmission in real-time." Petitioner argues "*Dye* discloses transferring data to and from the IMC (*retrieving and transmitting*) in response to a request from a requesting unit, that occurs in real time or near real time." Pet. 41 (citing Ex. 1003, 3:34–40, 4:1–24, 13:44–56, Figs. 22–23 (steps 808, 814, 818)). Petitioner argues Appelman, when combined with Dye, also teaches this limitation by disclosing a web browser that can request data in real time.

Patent Owner does address these specific arguments by Petitioner. Based on our review of the current record, we are persuaded that the combination of Dye and Appelman discloses the limitations of claim 23.

8. Reason to Combine Dye and Appelman

Petitioner argues an ordinary artisan would have been motivated to combine Dye and Appelman "for the purpose of providing more efficient and flexible data compression algorithms for video data blocks." Ex. 1006 ¶ 68. According to Petitioner "a POSITA would have viewed the algorithms identified in *Appelman* as interchangeable with the algorithms disclosed in *Dye*." Pet. 30 (citing Ex. 1006 ¶ 68). Further, Petitioner contends "*Dye* expressly discloses that the system can incorporate different 'lossy compression modes for particular data formats such as image data, texture maps, digital video, and digital audio,'" and that a "POSITA would have been motivated to consider the additional compression modes disclosed in *Appelman* . . . for a particular data format, namely, video." Pet. 31 (quoting Ex. 1003, 4:58–51). Petitioner also alleges that Dye discloses a preference

for asymmetric algorithms, and thus a person of ordinary skill would have been motivated to use MPEG for video data. Pet. 32 (citing Ex. 1003, 47:30–40).

Patent Owner argues "[w]hen an alleged combination rests on the purported motivation to solve a specific problem, the petition ***must*** show that that problem in fact exists in the specific context of that combination." Prelim. Resp. 17. With respect Petitioner's alleged modification of using Appelman's MPEG algorithm as Dye's lossy compression mode, Patent Owner argues that Dye already "expressly teaches a particular algorithm for performing lossy compression on video data." Prelim. Resp. 21 (citing Ex. 1003, 28:49–51, 29:64–30:20, Figs. 17–19). Because Dye teaches a particular algorithm for compressing video data, an ordinary artisan could not have been motivated to combine Dye with Appelman based on the belief that Dye does not identify a particular lossy compression algorithm for video. Prelim. Resp. 24.

Patent Owner also argues Petitioner has not sufficiently explained why an ordinary artisan would have combined Appelman's MPEG video compression with Dye's system. Prelim Resp. 26. Patent Owner argues that the reasons provided by Petitioner are generic and that no explanation is given why implementing Appelman's MPEG encoder would increase the efficiency or acceptance of Dye's system. Prelim Resp. 28. In summary, Patent Owner argues "[t]he Petition's motivation to combine thus rests on a crucial assertion—that adding MPEG compression would be expected to *improve* Dye—which the Petition does nothing to prove or even support." Prelim. Resp. 30.

Finally, Patent Owner argues that Petitioner's allegations fail to ascertain the differences between the prior art and claim 15. Prelim. Resp. 31. Specifically, Patent Owner takes issue with the Petition introducing the obviousness analysis of each limitation with the phrase "[t]o the extent that Patent Owner that argues Dye does not disclose or teach" the limitation, it would have been obvious in view of the alleged combination. Prelim. Resp. 31.

We find Petitioner has "articulated reasoning with some rational underpinning" for combining known elements in the manner required by the claim. *In re Magnum Oil Tools Int'l, Ltd.*, 829 F.3d 1364, 1380 (Fed. Cir. 2016) ("To satisfy its burden of proving obviousness . . . [t]he petitioner must . . . articulate specific reasoning, based on evidence of record, to support the legal conclusion of obviousness." (citing *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 418 (2007)). Petitioner explains that Dye's system uses different compression modes, both lossy and lossless, for different data types, with lossy algorithms being used for video data. Pet. 31 (quoting Ex. 1003, 4:58–51). Petitioner also establishes that using MPEG, an asymmetric lossy algorithm, to compress video data was already known at the time of the invention. Pet. 28–29 (citing Ex. 1004, 2:65–3:14). Petitioner explains that MPEG could readily be interchanged with the lossy algorithms of Dye and identifies a motivation in Dye for doing so—namely Dye's preference for asymmetric algorithms. Pet. 30, 32 (citing Ex. 1003, 47:30–40, Ex. 1006 ¶ 68). Thus, we find Petitioner has provided an adequate reason to combine Dye and Appelman.

We do not find persuasive Patent Owner's argument that Petitioner has failed to ascertain the differences between the prior art and claim 15.

The Petition analyzes claim 15 on a limitation by limitation basis and explains where each limitation can be found in the identified references thus providing an analysis of any differences, to the extent they exist, between the references and the claims.

9. Conclusion

At this stage of the proceeding, having reviewed Petitioner's contentions and associated evidence, we are persuaded Dye and Appelman teach or suggest the limitations of claims 15, 16, and 22. Accordingly, we find Petitioner has demonstrated a reasonable likelihood that it will succeed in showing claim 15, 16, 17, 19, 22, and 23 are unpatentable over Dye.

F. Obviousness over Dye and Riddle

1. Overview of Riddle

Riddle describes that in teleconferencing applications between computers, data is generally compressed. Ex. 1005, 1:7–9. A large number of compression algorithms are available, however, and the computers involved in the teleconferencing application may not use the same type of algorithm. If one algorithm is used to compress data before being sent to a receiving computer and the receiving computer does not have a compatible algorithm to decompress the data, incompatibility issues may arise. Ex. 1005, 1:16–30. Riddle addresses this incompatibility by providing a compressor selector that determines what decompressors are available on each message recipient, determines what compressors are available on the transmitting processor, and selects the best codec possible. Ex. 1005, 1:48–54. The best codec is determined based on factors such as efficiency and bandwidth. Ex. 1005, Fig. 5, 8:42–45.

2. Independent Claim 15

Claim 15 recites "[a] method comprising: determining a parameter of at least a portion of a data block" and "selecting one or more asymmetric compressors from among a plurality of compressors based upon the determined parameter or attribute." Petitioner argues Riddle selects the compression algorithm based in part on the throughput/bandwidth of the data in the network, which Petitioner contends is the claimed "parameter of at least a portion of a data block." Pet. 45–47 (citing Ex. 1005, 9:40–10:5, 12:4–11; Ex. 1006 ¶¶ 98, 101).

Patent Owner argues "Riddle teaches that throughput is a property of the network, not the data block." Prelim. Resp. 32.

Based on the current record, we are not persuaded that Riddle's disclosure of bandwidth or throughput teaches the claimed "parameter of at least a portion of a data block." The Petition states in conclusory fashion that "a transmission rate/capacity of data blocks disclose *a parameter of at least a portion of the data block*." Pet. 46. The only support Petitioner offers is to refer to Patent Owner's litigation infringement allegations that relate to different claims from a different patent altogether. Pet. 46 (citing Ex. 1008 ¶¶ 49, 122, 126–129). Petitioner does not provide any claim construction or other evidence to support its arguments. We agree with Patent Owner, however, that the infringement allegations cited by Petitioner are not persuasive because they do not relate to the '535 Patent.

3. Conclusion

Based on the current record, we do not find Petitioner has demonstrated a reasonable likelihood that it will succeed in showing claim

15, and claims 16, 17, 19, 22, and 23, which depend from claim 15, are unpatentable over Dye and Riddle.

III. CONCLUSION

For the foregoing reasons, we are persuaded that Petitioner has demonstrated a reasonable likelihood that it will succeed in showing claims 15 and 16 as unpatentable over Dye under 35 U.S.C. §§ 102 and 103. We are also persuaded that Petitioner has demonstrated a reasonable likelihood that it will succeed in showing claims 15, 16, 17, 19, 22, and 23 over Dye and Appelman under 35 U.S.C. § 103. The Supreme Court has held that a final written decision under 35 U.S.C. § 318(a) must decide the patentability of all claims challenged in the petition. *SAS Institute, Inc. v. Iancu*, 138 S.Ct. 1348 (2018). Accordingly, we institute an *inter partes* review of all challenged claims under all grounds set forth in the Petition.

Our determination at this stage of the proceeding is based on the evidentiary record currently before us. This decision to institute trial is not a final decision as to patentability of any claim for which *inter partes* review has been instituted. Our final decision will be based on the full record developed during trial.

ORDER

For the reasons given, it is:

ORDERED that an *inter partes* review is instituted on all challenged claims under all challenged grounds; and

FURTHER ORDERED that pursuant to 35 U.S.C. § 314(a), *inter partes* review of the '535 Patent is hereby instituted commencing on the

entry date of this Decision, and pursuant to 35 U.S.C. § 314(c) and 37 C.F.R. § 42.4, notice is hereby given of the institution of a trial.

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