

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

GOOGLE LLC
Petitioner

v.

UNILOC 2017 LLC
Patent Owner

IPR2019-01584
PATENT 6,519,005

PATENT OWNER PRELIMINARY RESPONSE TO PETITION

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LIST OF EXHIBITS

No.	Description
2001	Unified Patents Home Page, <i>https://www.unifiedpatents.com/</i> (last visited Dec. 20, 2019)

I. INTRODUCTION

Uniloc 2017 LLC (“Uniloc” or “Patent Owner”) submits this Preliminary Response to Petition IPR2019-01584 for *Inter Partes* Review (Paper 1, “Pet.” or “Petition”) of United States Patent No. 6,519,005 (“the ’005 patent” or “EX1001”) filed by Google LLC (“Google” or “Petitioner”). The instant Petition is defective for at least the reasons set forth herein.

II. THE ’005 PATENT

The ’005 patent is titled “Method of concurrent multiple-mode motion estimation for digital video.” The ’005 patent issued February 11, 2003, from U.S. Patent Application No. 09/303,316 filed April 30, 1999.

The inventors of the ’005 patent observed that different compression algorithms had been developed for digitally encoding video and audio information in order to minimize the bandwidth required to transmit this digital video data stream for a given picture quality. Several multimedia specification committees had established and proposed standards for encoding/compressing and decoding/decompressing audio and video information. The most widely accepted international standards had been proposed by the Moving Pictures Expert Group (MPEG), and are generally referred to as the MPEG-1 and MPEG-2 standards. In general, in accordance with the MPEG standards, the audio and video data comprising a multimedia data stream (or “bit stream”) were encoded/compressed in

a manner using a compression technique generally known as “motion coding”. More particularly, rather than transmitting each video frame in its entirety, MPEG used motion estimation for only those parts of sequential pictures that vary due to motion, where possible. In general, the picture elements or “pixels” of a picture are specified relative to those of a previously transmitted reference or “anchor” picture using differential or “residual” video, as well as so-called “motion vectors” that specify the location of a “macroblock” (e.g., a block of image pixels grouped together for encoding and decoding, such as a 16x16 pixel block) within the current picture relative to its original location within the anchor picture. Three main types of video frames or pictures were specified by MPEG, namely, I-type, P-type, and B-type pictures. EX1001, 1:12-57.

An I-type picture is coded using only the information contained in that picture, and hence, is referred to as an “intra-coded” or simply, “intra” picture. A P-type picture is coded/compressed using motion compensated prediction (or “motion estimation”) based upon information from a past reference (or “anchor”) picture (either I-type or P-type), and hence, is referred to as a “predictive” or “predicted” picture. A B-type picture is coded/compressed using motion compensated prediction (or “motion estimation”) based upon information from either a past and or a future reference picture (either I-type or P-type), or both, and hence, is referred to as a “bidirectional” picture. B-type pictures are usually inserted between I-type or P-type

pictures, or combinations of either. The term “intra picture” is used to refer to I-type pictures, and the term “non-intra picture” is used to refer to both P-type and B-type pictures. EX1001, 1:58-2:8.

In general, the encoding of an MPEG video data stream required a number of steps. The first of these steps consisted of partitioning each picture into macroblocks. Next, in theory, each macroblock of each “non-intra” picture in the MPEG video data stream is compared with all possible 16-by-16 pixel arrays located within specified vertical and horizontal search ranges of the current macroblock's corresponding location in the anchor picture(s). For all MPEG-2 prediction modes, the fundamental technique of motion estimation consisted of comparing the current macroblock with a given macroblock in the anchor picture, estimating the quality of the match according to the specified metric, and repeating this procedure for every such macroblock located within the search range. The hardware or software apparatus that performs this search is usually termed the “search engine,” and there existed a number of well-known criteria for determining the quality of the match. EX1001, 2:17-3:6.

In accordance with the MPEG-2 standard, any of a number of so-called “prediction modes” may be used for each individual macroblock that is encoded; the optimum prediction mode depends both on the type of picture being encoded and on the characteristics of the portion of the picture in which the given macroblock being

encoded is located. Currently known methods of motion coding allow the use of different prediction modes, but generally require one prediction mode to be specified for a given macroblock before an actual motion estimation is performed. Although such a determination can often be made based upon prior knowledge of the picture or image source characteristics, there are many cases where the optimum prediction mode cannot be known unless more than one motion estimation is performed for the macroblock in question. Since motion estimation usually consists of an exhaustive search procedure in which all pixels of two corresponding macroblocks are compared, and which is repeated for a large number of macroblocks, the latter is not a practical option. EX1001, 3:7-24.

Computation of the motion vector(s) for a given macroblock is typically performed by means of an exhaustive search procedure. The current macroblock in question is “compared” with a macroblock-sized pixel array within the anchor picture that is offset by an amount less than specified vertical and horizontal distances, called the “search ranges,” and an “error” value is computed for this particular “match” of the macroblock using a specified criterion, or “metric,” that gives a measure of how large the error is. This is done for every possible combination of vertical and horizontal offset values within the respective search ranges, and the offset pair that yields the smallest error according to the chosen metric is selected as the motion vector for the current macroblock relative to the anchor picture. Clearly,

this procedure is very computationally intensive. EX1001, 3:25-39.

According to the invention of the '005 Patent, a method is provided for motion coding an uncompressed digital video data stream such as an MPEG-2 digital video data stream. The method includes the steps of comparing pixels of a first pixel array in a picture currently being coded with pixels of a plurality of second pixel arrays in at least one reference picture and concurrently performing motion estimation for each of a plurality of different prediction modes in order to determine which of the prediction modes is an optimum prediction mode, determining which of the second pixel arrays constitutes a best match with respect to the first pixel array for the optimum prediction mode, and, generating a motion vector for the first pixel array in response to the determining step. The method is implemented in a device such as a motion estimation search system of a digital video encoder. EX1001, 4:8-25.

III. RELATED PROCEEDINGS

The following are currently pending proceedings concerning U.S. Pat. No. 6,519,005 (EX1001).

Case Caption	Case Number	District	Case Filed
<i>Unified Patents Inc. v. Uniloc 2017 LLC</i>	IPR2019-01126	PTAB	May 28, 2019
<i>Sling TV LLC et al v. Uniloc 2017 LLC</i>	IPR2019-01270	PTAB	June 25, 2019

Case Caption	Case Number	District	Case Filed
<i>Uniloc 2017 LLC v. AT&T Services, Inc. et al</i>	2-19-cv-00275 (stayed)	TXED	Aug. 12, 2019
<i>Uniloc 2017 LLC v. Verizon Communications Inc. et al</i>	2-19-cv-00274 (stayed)	TXED	Aug. 12, 2019
<i>Uniloc 2017 LLC v. Roku, Inc.</i>	8-19-cv-00295	CACD	Feb. 14, 2019
<i>Uniloc 2017, LLC v. Sling TV, LLC</i>	1-19-cv-00278 (stayed)	COD	Jan. 31, 2019
<i>Uniloc 2017 LLC v. Brightcove Inc. et al</i>	1-19-cv-00180	DED	Jan. 30, 2019
<i>Uniloc 2017 LLC v. Telestream LLC</i>	1-19-cv-00182	DED	Jan. 30, 2019
<i>Uniloc 2017 LLC v. Vudu, Inc.</i>	1-19-cv-00183	DED	Jan. 30, 2019
<i>Uniloc 2017 LLC v. Netflix, Inc.</i>	8-18-cv-02055	CACD	Nov. 17, 2018
<i>Uniloc 2017 LLC v. American Broadcasting Companies, Inc.</i>	8-18-cv-02056	CACD	Nov. 17, 2018
<i>Uniloc 2017 LLC v. Hulu, LLC</i>	8-18-cv-02058	CACD	Nov. 17, 2018

Case Caption	Case Number	District	Case Filed
<i>Uniloc 2017 LLC et al v. Google LLC</i>	2-18-cv-00500 (stayed)	TXED	Nov. 17, 2018
<i>Uniloc 2017 LLC v. Verizon Communications Inc. et al</i>	2-18-cv-00513	TXED	Nov. 17, 2018
<i>Uniloc 2017 LLC v. AT&T Services, Inc. et al</i>	2-18-cv-00514	TXED	Nov. 17, 2018

IV. THE BOARD SHOULD EXERCISE DISCRETION TO DENY INSTITUTION ON THIS THIRD PETITION

A. *The Petition is Cumulative Under 35 U.S.C. § 325(d)*

A petition challenging claims 1–16 and 39–42 of the '005 patent was filed by Unified Patents Inc. on May 28, 2019. *Unified Patents Inc. v. Uniloc 2017 LLC*, IPR2019-01126 (PTAB) (“Unified IPR”), Paper 1. Another Petition was filed by Sling TV on June 25, 2019, challenging claims 1–16 and 39–42. *Sling TV LLC et al v. Uniloc 2017 LLC*, IPR2019-01270 (PTAB) (“Sling IPR”), Paper 2. The Board has instituted trial in the Unified IPR. Unified IPR, Paper 8. The petition in this case should be denied as cumulative of the Unified IPR and the Sling IPR under 35 U.S.C. § 325(d).

The Board may exercise its discretion “to deny a petition when ‘the same or substantially the same prior art or arguments previously were presented to the

Office.” *NHK Spring Co., Ltd., v Intri-Plex Techs., Inc.*, IPR2018-00752, *slip op.* at 11 (PTAB Sept. 12, 2018) (Paper 8) (precedential). The Board considers several non-exclusive factors in deciding whether to deny a petition under § 325(d), including: (a) the similarities and material differences between the currently and previously asserted art; (b) the cumulative nature of the currently asserted art with respect to the previously asserted art; (c) the extent to which the asserted art was previously considered; (d) the overlap between the currently and previously presented patentability challenges; (e) whether Petitioner has pointed out any error in the previously presented patentability challenges; and (f) the extent to which additional evidence and facts presented in the Petition warrant reconsideration of the previously asserted art or patentability challenges. *Id.* at 11–12 (citing *Becton, Dickinson & Co. v. B. Braun Melsungen AG*, IPR2017-01586, *slip op.* at 17–18 (Paper 8) (PTAB Dec. 15, 2017) (informative, precedential as to § III.C.5)).

Despite an opportunity to do so in its Petition, Petitioner has not addressed the *NHK Spring / Becton, Dickinson* factors in light of the two previously-filed petitions against the '005 patent. The Petition should be denied on this basis, and considering the cumulative nature of the petition.

The “Hanami” reference (EX1005) relied on by Google in its Petition includes listed inventor Kazuya Ishihara, who is the lead author on the Ishihara reference relied on by Unified and Sling in their respective petitions (EX1004 in Unified IPR,

EX1006 in Sling IPR). Despite this overlap and the arguments from the petitioners that both of these references teach all elements of claim 1, Google does not distinguish “Hanami” from Ishihara except to state that “the prior art asserted in the instant Petition is different than the prior art asserted in the Unified IPR and the Sling TV IPR,” Pet. 73–74, and to assert that “there is no overlap between the grounds of this petition and the grounds in the Unified IPR and Sling TV IPR,” Pet. 75. Google makes no attempt to explain the extent to which Hanami is cumulative of Ishihara or the other references relied on in the Unified and Sling IPRs.¹ Without so much as an acknowledgment as to the overlapping origin of the references, or comparison of their teachings, Google’s Petition merely seeks to multiply proceedings that the Patent Owner must defend.

Because two prior petitions have been filed against the ’005 patent, and particularly considering the overlapping origin of the “Hanami” and “Ishihara” references, Google’s lack of explanation as to material differences in this petition should weigh against institution. *See Medtronic, Inc. v. NuVasive, Inc.*, Case

¹ The Ishihara ’798 and Ishihara ’486 references relied on in the Sling IPR also have additional overlap in listed inventorship with the “Hanami” reference relied on by Google. *See* EX1011, EX1012 in Sling IPR.

IPR2014-00487, slip op. at 6 (Paper 8) (Sept. 11, 2014) (informative) (denying institution, explaining in part that “[w]hile Petitioner argues that the grounds are not redundant to those instituted on in the ’506 Proceeding, Petitioner does not provide any specific reasoning to support that argument, other than to state that the grounds are based on different prior art references.”); *Intelligent Bio-Sys., Inc. v. Illumina Cambridge Ltd.*, Case IPR2013-00324, slip op. at 6 (Paper 19) (Nov. 21, 2013) (informative) (“IBS does not distinguish any teaching present in Odedra that is lacking from Ju, Tsien, or any of the other references cited in the 128 Petition.”); *see also Apple Inc. v. Corephotonics Ltd.*, IPR2018-01356, Paper 9 at 7-8 (Feb. 5, 2019) (finding that where a petitioner “merely argues that its Petition ‘is not redundant’” because the asserted reference was not raised in another petition, this circumstance “weigh[s] in favor of exercising our discretion to deny institution . . . on the basis of 35 U.S.C. § 314(a)”).

The Board should exercise its discretion under 35 U.S.C. § 325(d) to deny the Petition.

B. General Plastic Factors Weigh Against Institution

Even if Google’s Petition were not cumulative of the Unified and Sling IPRs, the *General Plastic* factors weigh against institution here.

Under the first factor, Google has a relationship with Unified that weighs against institution here on claims that were challenged in the Unified IPR. Google

argues that it has not previously filed a petition directed to the challenged claims. Pet. 73. Google does not, however, acknowledge its relationship with Unified Patents. The Board’s “application of the *General Plastic* factors is not limited solely to instances when multiple petitions are filed by the same petitioner.” *Valve Corp. v. Elec. Scripting Prods., Inc.*, slip op. at 2, IPR2019-00062 (PTAB 2019) (Paper 11) (precedential). “Rather, when different petitioners challenge the same patent, we consider any relationship between those petitioners when weighing the *General Plastic* factors.” *Id.*

Unified’s home page on its website identifies Google as a member of Unified. EX2001. According to interrogatory responses provided by Unified in the Unified IPR, its members pay a yearly subscription fee to a specific technology zone, which Unified uses to, among other things, prepare post-grant review requests. Unified IPR, EX1010, at 6. Thus, even if Google did not direct the filing of the Unified IPR, of which Patent Owner cannot be certain, Google’s membership fees presumably have been and are being used to fund the Unified IPR. Thus, the filing of the Unified IPR falls directly within the scope of the relationship Google has with Unified, and is exactly the benefit Google would have at least hoped to obtain by paying Unified to become a member. This factor weighs against instituting in this follow-on petition filed directly by Google.

The second *General Plastic* factor also weighs against institution because

Google reasonably should have known of the Hanami reference by the time Unified filed its petition on May 28, 2019. *See Valve Corp.*, slip op. at 11 (“Although Valve may not have known of the . . . references at the time HTC filed its petition in the 1031 IPR, the timing of Valve’s petitions suggests that it could have found the . . . references through the exercise of reasonable diligence around the time of HTC’s petition.”). Google was first sued for infringement of the ’005 patent in a complaint filed on October 31, 2018 (Case 2-18-cv-00454 (E.D. Tex.)), which was re-filed on November 17, 2018 (Case No. 2-18-cv-00500 (E.D. Tex.)). Google does not provide any explanation as to how Hanami was discovered in time to file its Petition but would not have been found by a reasonable search in time for the filing of the Unified IPR. Indeed, as noted above, Hanami shares a named inventor with the lead author of the Ishihara reference relied on in the Unified IPR. In these circumstances, it appears more likely that Google has been aware of Hanami since at least the filing of the Unified IPR, and could have been aware of it much sooner, but chose to stagger the filing of its challenge with that of Unified’s and Sling’s challenges. The second factor weighs against institution.

Google argues that the second factor is inapplicable because Google did not file a previous petition and because the prior art is “different.” Pet. 73–74. Google’s analysis of the first factor fails, for the reasons given above, and a nominally different reference shows nothing about whether Google should have known of the

Hanami reference at the time of filing of the first petition. *See Valve Corp.*, slip op. at 11 (“Although Valve may not have known of the . . . references at the time HTC filed its petition in the 1031 IPR, the timing of Valve’s petitions suggests that it could have found the . . . references through the exercise of reasonable diligence around the time of HTC’s petition.”).

The third factor does not apply because Google filed its petition just prior to the filing of Patent Owner’s preliminary response in the Unified IPR.

The fourth and fifth *General Plastic* factors weigh against institution. Google argues they are inapplicable because it is Petitioner’s first petition and “there is no overlap between the grounds of this petition and the grounds in the Unified IPR and Sling TV IPR.” Pet. 75. As noted above, Google misstates the scope of the first factor, and uses that as an excuse not to address these factors. The fourth and fifth factors apply to Google, as they did in *Valve Corp.* Like Valve, and as discussed above, Google “could have found the prior art asserted in its Petition through the exercise of reasonable diligence at or around the time of [Unified’s] petition.” *Valve Corp.*, slip op. at 14. The fact that Google waited more than three months after Unified’s petition to file its own favors denying institution.

The sixth and seventh factors also weigh against institution, and favor denying institution. “In general, having multiple petitions challenging the same patent, especially when not filed at or around the same time as in this case, is inefficient and

tends to waste resources.” *Valve Corp.*, slip op. at 15.

As discussed above, the evidence of record shows that six *General Plastic* factors weigh against institution. Accordingly, the Petition should be denied.

V. CONCLUSION

For at least the reasons set forth above, Uniloc respectfully requests that the Board deny all challenges in the instant Petition.²

Date: December 26, 2019

Respectfully submitted,

By: /Ryan S. Loveless/
Ryan S Loveless; Reg. No. 51,970
Attorney for Patent Owner

² Patent Owner does not concede, and specifically denies, that there is any legitimacy to any arguments in the instant Petition that are not specifically addressed herein.

CERTIFICATE OF COMPLIANCE

Pursuant to 37 C.F.R. § 42.24(d), we certify that this Preliminary Response to Petition complies with the type-volume limitation of 37 C.F.R. § 42.24(b)(1) because it contains fewer than the limit of 14,000 words, as determined by the word-processing program used to prepare the brief, excluding the parts of the brief exempted by 37 C.F.R. § 42.24(a)(1).

Date: December 26, 2019

Respectfully submitted,

By: /Ryan S. Loveless/
Ryan S Loveless; Reg. No. 51,970
Attorney for Patent Owner

CERTIFICATE OF SERVICE

Pursuant to 37 C.F.R. §§ 42.6(e), we certify that we served an electronic copy of the foregoing PATENT OWNER’S PRELIMINARY RESPONSE PURSUANT TO 37 C.F.R. § 42.107(a) along with any accompanying exhibits via the PTAB E2E system to Petitioner’s counsel at the following addresses identified in the Petition’s consent to electronic service:

Lead Counsel	Naveen Modi	PH-Google-UnilocIPR@paulhastings.com ; naveenmodi@paulhastings.com
Back Up Counsel	Joseph E. Palys	josephpalys@paulhastings.com
Back Up Counsel	Quadeer Ahmed	quadeerahmed@paulhastings.com

Date: December 26, 2019

Respectfully submitted,

By: /Ryan S. Loveless/
Ryan S Loveless; Reg. No. 51,970
Attorney for Patent Owner