

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

META PLATFORMS, INC.,
Petitioner

v.

TIR TECHNOLOGIES LIMITED,
Patent Owner.

IPR2026-00347

U.S. Patent No. 10,484,442

PETITIONER'S PRELIMINARY REPLY

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Cases

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37 C.F.R. § 42.22	4
37 C.F.R. § 42.104	4

EXHIBIT LIST

No.	Exhibit
1001	U.S. Patent No. 10,484,442
1002	File History of the '442 patent
1003	Declaration of Dr. Aviel D. Rubin
1004	Curriculum Vitae of Dr. Aviel D. Rubin
1005	U.S. Patent No. 6,289,358 (“Mattis”)
1006	U.S. Patent Application Pub. No. 2010/0070608 (“Hosur”)
1007	U.S. Patent Application Pub. No. 2009/0119322 (“Mills”)
1008	U.S. Patent Application Pub. No. 2009/0310668 (“Sackstein”)
1009	U.S. Patent No. 7,860,950 (“Menon”)
1010	Gourley, D., Totty, B., <i>HTTP: The Definitive Guide</i> , O’Reilly, (2002)
1011	Dilley, D., et al., <i>Globally Distributed Content Delivery</i> , IEEE Internet Computing (Sep. Oct. 2002)
1012	Buyya, R., Pathan, M., Vakali, A. (Eds.), <i>Content Delivery Networks</i> , Springer (2008)
1013	Dean, M., et al. (Eds.), <i>Web Information Systems Engineering – WISE 2005 Workshops</i> , Springer (2005)
1014	Plaintiff Tir Techs. Ltd.’s Responsive Claim Construction Brief, <i>Tir Techs. Ltd. v. Amazon.com Services LLC, et al.</i> , No. 25-dv-00865 (W.D. Tex. April 22, 2026)
1015	Schneier, B., <i>Applied Cryptography, Second Edition: Protocols, Algorithms, and Source Code in C</i> , John Wiley & Sons, Inc. (1996)

No.	Exhibit
1016	Ball, M., <i>A Quarter Century of Streaming Video</i> , https://www.thestreamingbook.com/chapters/a-quarter-century-of-streaming-video
1017	Ruether, T., <i>History of Streaming Media [Infographic]</i> , https://www.wowza.com/blog/history-of-streaming-media#h-1990-2000-streaming-debuts-as-a-proof-of-concept (Feb. 21, 2023)
1018	U.S. Patent Application Pub. No. 2002/0065926
1019	U.S. Patent Application Pub. No. 2011/0289533
1020	U.S. Patent Application Pub. No. 2004/0015986
1021	U.S. Patent Application Pub. No. 2004/0117455
1022	U.S. Patent Application Pub. No. 2002/0191696
1023	Shen, B., Lee, S-J., Basu, S., <i>Caching Strategies in Transcoding-enabled Proxy Systems for Streaming Media Distribution Networks</i> , HP Laboratories Palo Alto, HPL-2003-261 (2023)
1024	U.S. Patent Application Pub. No. 2003/0035481
1025	Deneke, T., <i>Scalable Distributed Video Transcoding Architecture</i> , Åbo Akademi Univ., Master of Science Thesis (Sep. 2011)
1026	U.S. Patent Application Pub. No. 2007/0198734
1027	U.S. Patent No. 7,941,453
1028	U.S. Patent Application Pub. No. 2004/0101138
1029	U.S. Patent Application Pub. No. 2007/0204064
1030	U.S. Patent Application Pub. No. 2011/0088076
1031	U.S. Patent Application Pub. No. 2004/0010613
1032	Cacheda, F., Plachouras, V., Ounis, I., <i>A case study of distributed information retrieval architectures to index one terabyte of text</i> ,

No.	Exhibit
	Information Processing & Management, Vol. 41, Issue 5, pp. 1141-1161 (Sep. 2005)
1033	U.S. Patent Application Pub. No. 2007/0250900
1034	Complaint, <i>Tir Technologies Limited v. Meta Platforms, Inc.</i> , No. 8:25-cv-2345, Dkt. 1 (C.D. Cal. Oct. 16, 2025)
1035	Stipulation Letter, dated June 23, 2026
1036	Export of search on https://ppubs.uspto.gov/pubwebapp/ (highlighted annotations added)
1037	Docket Navigator, Time to Milestones Report of Judge Robert Pitman
1038	Corporate Records Report of Tir Technologies Limited, <i>available at</i> https://core.cro.ie/e-commerce/company/5192574
1039	Defendant Meta Platforms, Inc. Reply in Support of its Motion to Dismiss the First Amended Complaint, <i>Tir Techs. Ltd. v. Meta Platforms, Inc.</i> , C.A. No. 8:25-cv-2345, Dkt. 38 (Mar. 2, 2026)
1040	Plaintiff Tir Technologies Ltd.'s Notice of Appeal, <i>Tir Techs. Ltd. v. Meta Platforms, Inc.</i> , C.A. No. 8:25-cv-2345, Dkt. 63 (July 23, 2026)
1041	U.S. Court of Appeals for the Federal Circuit Median Time to Disposition Report, <i>available at</i> https://www.cafc.uscourts.gov/wp-content/uploads/reports-stats/FY2025/MedianDispositionTime-Merits.pdf

I. PO FAILS TO SHOW RELEVANT COMMERCIAL SUCCESS

PO's contention that the commercial success of a product called Rocket Optimizer, offered by the '442 patent's prior owner, supports non-obviousness fails for several reasons. First, PO does not establish that Rocket Optimizer was commercially successful, but only that the prior owner—Skyfire Labs—was successfully acquired. Paper 10, 1 (“POPR”) (citing Ex-2007). By PO's own evidence, Skyfire Labs had products other than “Rocket Optimizer.” *See, e.g.*, Ex-2008 (identifying “Rocket Controller”); Ex-2007 (also identifying “Skyfire Horizon”). PO does not associate the acquisition price of Skyfire Labs—which likely embodies all products, patents, other intellectual property, know-how, contractual relationships, and even staff—to the value of Rocket Optimizer.

But even assuming a company-acquisition price reflects Rocket Optimizer's commercial success, PO also makes no effort to show that there is a nexus between Rocket Optimizer and the patent claims. *Ormco Corp. v. Align Tech., Inc.*, 463 F.3d 1299, 1311–12 (Fed. Cir. 2006) (“Evidence of commercial success, or other secondary considerations, is only significant if there is a nexus between the claimed invention and the commercial success.”). PO does not, for instance, try to show that Rocket Optimizer practices the claims or that only the *novel* features of the claims contributed to the commercial success (as opposed to prior-art or unclaimed features). POPR, 1-2; *Ormco*, 463 F.3d at 1312 (noting evidence of “commercial

success is irrelevant” when failing to separate unclaimed or prior-art features).

II. PETITIONER HAS TAKEN A CONSISTENT VIEW OF WHAT THE CLAIMS REQUIRE IN ALL PROCEEDINGS

As explained in its Discretionary Denial Opposition (Paper 9, 11-15), Petitioner has been consistent as to what the claims require. When seeking to dismiss PO’s district court complaint, Petitioner argued that under black-letter antecedent basis law, the plain words of the claim require that a single key from a single request be used to locate at least two pieces of a file. Ex-2004, 11-14; Ex-1039, 6-9. PO, to the contrary, contended that it could rely on separate keys from separate requests to locate each individual piece of a file to allege infringement. Ex-2005, 3-5.

The district court agreed with Petitioner and dismissed the case, finding that the claim’s plain words require that a single key be used to locate the two claimed pieces of a file. Ex-2001, 5. The district court rejected PO’s contention that it was engaging in claim construction, noting “[w]hether or not we classify our analysis as ‘claim construction’ makes no difference. The Court need not review prosecution histories or extrinsic evidence. *The mere plain words of the claims before the Court are alone enough to reach a determination.*” *Id.*, n.4 (emphasis added).

In this IPR, Petitioner advanced the exact same view of the claims it argued in district court and the court ultimately adopted. *See, e.g.*, Paper 1, 21-29 (“Pet.”)

(noting a single object or name key is used to locate multiple “fragments” of a file), 44-51 (same), 68-72 (same).¹

III. THE GROUNDS ARE NOT VOLUMINOUS OR EXCESSIVE

The Petition challenges every claim of the ’442 patent on three primary grounds: (1) Mattis in view of Hosur; (2) Hosur in view of Mattis; and (3) Mills in view of Mattis. Pet., 3. The Petition, however, identifies an additional reference to the extent the primary grounds are not considered sufficiently express as to a narrow claimed feature. PO identifies nothing to suggest that the petition is “voluminous or excessive.”

Specifically, although the references in each primary ground describe transcoding and searching for pieces of files across multiple servers, the Petition additionally relies on Sackstein for its express disclosure that *distributing* transcoding and subsequent searching for a piece of the same file on multiple servers was well-known. *See, e.g.*, Pet., 16-17, 41, 64-65.

Despite the Petition’s narrow reliance on Sackstein, PO summarily likens the Petition to *Adaptics Ltd. v Perfect Co.*, IPR2018-01596, Paper 20 (Mar. 6, 2019). POPR, 4-5. But, there, the grounds presented combinations of up to ten references

¹ The Petition also contended that, for Ground 2, a single set of parameters (which constitutes “a key”) is used to locate multiple portions of a file. Pet., 46-47.

using “and/or,” without setting forth specific combinations of specific art for specific limitations. *See Adaptics*, Paper 20, 8-9, 18-19. PO fails to suggest the same situation is present here (and it is not). *Cf. Suzhou Mojawa Intelligent Elec. Co. v. Shenzhen Shokz Co.*, IPR2025-00843, Paper 15, 20-21 (Nov. 19, 2025) (distinguishing *Adaptics* and rejecting arguments that a petition lacked specificity simply based on the number of references). At base, the Petition “specif[ies] where each element of the claim is found in the prior art,” (37 C.F.R. § 42.104(b)(4)) and provides “a detailed explanation of the significance of the evidence” (37 C.F.R. § 42.22(a)(2)), as required.

IV. PO’S PIECEMEAL ASSESSMENT OF THE GROUNDS AND MISREPRESENTATIONS OF THE ART SHOULD BE REJECTED

Finally, PO argues that the Grounds fail because no single reference teaches every limitation, addressing each reference in isolation. POPR, 5-11. The Petition did not raise anticipation. Instead, the Petition raised *combinations* of references, supported by motivations to combine that PO does not address, instead summarily proclaiming the Petition rests on hindsight without explanation. *Id.*, 12.

PO also misrepresents the art in its piecemeal analysis. The Petition, for instance, relies on Mattis as teaching a database for storing “keys.” *See, e.g., Pet.*, 22-25. PO argues that Mattis teaches away from storing *keys* in a database (POPR, 7-8), but this misreads Mattis. The portion of Mattis that PO relies upon criticizes storing *objects* (the files themselves) in a database. Mattis, 3:37-41 (“Generally,

databases are structured to achieve goals that make them inappropriate for use *as an object cache* [D]atabases are not naturally good at storing a vast variety of *object sizes* while supporting streaming”) (emphasis added). That is not a criticism of databases, generally, or storing fixed-sized “keys” that are used to *locate* objects stored elsewhere. *Id.*, 8:13-15 (“Keys are used to index into directories *that point to the location of objects on disk*”) (emphasis added).

Finally, PO contends that Sackstein’s discussion of “cache snooping” eliminates any need for a cache database. POPR, 10-11. Sackstein describes that, in a distributed system, “cache snooping” is one *optional* way to locate different pieces of a file, not the only way. Ex-1008, ¶47. The Petition did not propose incorporating “cache snooping” into the combination, and PO’s arguments that “cache snooping” would eliminate the need for a database is unsupported attorney argument. *Tesla, Inc. v. Intell. Ventures II LLC*, IPR2025-00221, Paper 29, 34 (July 6, 2026) (rejecting patent owner’s unsupported analysis of prior art). PO identifies nothing to undermine the proposed combination that uses Mattis’s database and keys to locate pieces of a file in a distributed cache system that Sackstein shows was well known.

Dated: September 9, 2026

Respectfully submitted,
/ Jessica Kaiser /

Jessica Kaiser
Reg. No. 58,937
Attorney for Petitioner

CERTIFICATE OF SERVICE

The undersigned hereby certifies that true copies of Petitioner's Preliminary
Reply were served upon the below listed counsel by electronic mail:

bcooper@bc-lawgroup.com
robert@auchterlaw.com
Tir_Counsel@bclgpc.com

Dated: September 9, 2026

Respectfully submitted,
/ Jessica Kaiser /

Jessica Kaiser
Reg. No. 58,937
Attorney for Petitioner