

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

ARM LTD.,

Petitioner,

v.

DAEDALUS PRIME LLC,

Patent Owner.

Case No.: IPR2025-00207

U.S. Patent No. 8,984,228

PATENT OWNER'S REPLY BRIEF REGARDING THE EFFECT OF THE
FWD OF IPR2023-01344

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I. INTRODUCTION

ARM’s supplemental brief confirms that collateral estoppel does not apply. Issue preclusion applies only where the party invoking it establishes, among other things, that the issue now presented is identical to the one actually litigated and necessarily decided in the prior proceeding. *See Google LLC v. Hammond Dev. Int’l, Inc.*, 54 F.4th 1377, 1381 (Fed. Cir. 2022).

The issue here is whether Sinharoy discloses distributed portions “each associated with a corresponding core,” as required by Claim 1. Patent Owner demonstrated that Sinharoy’s distributed structures are address-homed rather than core-homed and routinely service requests from multiple cores depending on address. PO Sur-Reply 15-16. But the prior FWD resolved a different question—logical unity—and did not decide the address-homing question. Independently, this Board may decide only the grounds ARM petitioned; estoppel cannot supply the Agarwal, Blumrich, and Sistla grounds on which the Petition rests. Accordingly, ARM has failed to establish an identity-of-issues necessary for collateral estoppel.

II. ARM’S AUTHORITIES REQUIRE IDENTITY OF ISSUES—THEY DO NOT ESTABLISH IT

ARM’s authorities do not help it. *Hammond Dev. Int’l, VirnetX, Power Integrations, Smart Mobile*, and *Ohio Willow Wood*, ARM Br. 1-2, all require, expressly or implicitly, that the issue presented in the second proceeding be the

same issue previously adjudicated. The defect in ARM’s position is that it never identifies where the prior FWD resolved the issue raised here—whether Sinharoy’s distributed portions are associated with corresponding cores rather than address-homed structures servicing requests from all cores. Instead, ARM assumes that because the Board previously addressed the “single caching agent” limitation, every issue relating to that limitation is necessarily precluded. *Id.* 4-6. That assumption is unsupported and is the central flaw in ARM’s brief.

III. THE PRIOR FWD RESOLVED A “LOGICAL SINGLE CACHING AGENT” ISSUE

The prior FWD resolved one question about Sinharoy: whether its separately-controlled cache structures nonetheless form a “single caching agent.” The Board held that they do. It reasoned that “each cache region has a separate controller does not mean that the cache regions are separate or independent” — “[t]he claim term is ‘single caching agent,’ not a single cache controller” — because Sinharoy’s L2 and L3 regions “share capacity, data flow logic, and control flow logic.” *Mercedes-Benz USA, LLC v. Daedalus Prime LLC*, IPR2023-01344, Paper 31 (“FWD”) at 27–28 (PTAB Jan. 24, 2025). On that basis, the Board found the claim’s “single caching agent . . . distributed portions” language met. *Id.* Patent Owner does not ask the Board to revisit that determination.

Two features of that ruling matter here. First, the Board reached it through a shared-structure rationale — cooperation and shared logic — not through any determination about how coherency is homed. Second, the Board treated the requirement that the distributed portions be “each associated with a corresponding . . . one of the plurality of cores” as “a separate limitation.” FWD 17. As shown below, that separate limitation turns on a question the Board’s unity rationale did not resolve.

IV. THE ISSUE PRESENTED HERE IS DIFFERENT

ARM’s brief never confronts Patent Owner’s actual argument that Sinharoy fails the separate requirement that distributed portions be “each associated with a corresponding one of the plurality of cores.” PO Sur-Reply 15–16.

Specifically, Patent Owner demonstrated that “Sinharoy’s L3 cache . . . regions are address-homed, not core-homed,” and that “[a]ny core may access any L3 region.” *Id.* And, “no L3 region controller . . . is functionally associated with a corresponding core,” because “[a] controller routinely services requests from multiple cores, depending on the accessed address.” *Id.* 16. That functional question—whether each distributed portion is homed to a corresponding core or to addresses accessible by every core—is not the one the prior Board decided.

The prior Board’s decision, as written, resolved only whether Sinharoy’s separately-controlled structures form a single caching agent, and it resolved that on a shared-structure rationale grounded in the L2/L3 coupling. FWD 27–28. That is not the issue Patent Owner presents here. As written, it did not analyze how Sinharoy homes coherency, and it identified the per-core-association requirement as “a separate limitation.” *Id.* 17.

Because the per-core-association question now presented differs from the unity issue the prior Board decided, collateral estoppel does not reach it.

V. ARM’S ATTEMPT TO EXPAND ISSUE PRECLUSION TO CLAIMS 11 AND 16 FAILS

ARM attempts to extend issue preclusion across virtually every challenged claim because related claims appeared in the continuation ’895 patent. ARM Br. 6–7. That argument greatly overstates the doctrine.

Claim 11 does not recite a “single caching agent.” Rather, it recites “a caching agent shared by a plurality of cores.” Claim 16 likewise does not recite a “single caching agent.” It includes limitations directed to a table of requests, a plurality of entries, and dedicated storage for posted transactions. Those are different limitations presenting different patentability issues.

The Board has already recognized that Claims 11 and 16 present different issues. At institution, the Board expressly noted that those claims “include different

language as to ‘caching agent’” and do not recite Claim 1’s “distributed portions.” Paper 15 at 15. Those differences “materially alter the question of invalidity” and independently foreclose ARM’s attempt to extend any Claim 1 estoppel theory to Claims 11 and 16. *Ohio Willow Wood Co. v. Alps S., LLC*, 735 F.3d 1333, 1342 (Fed. Cir. 2013). Accordingly, even under ARM’s authorities governing estoppel across non-identical claims, the issue presented by Claims 11 and 16 is not identical to the issue decided in the prior IPR.

VI. ESTOPPEL CANNOT SUPPLY ARM’S MISSING GROUNDS

Even where a limitation overlaps, preclusion cannot carry the Petition, because—but for one ground—the instituted grounds rest on prior art the prior Board never saw. The prior FWD adjudicated only Sinharoy, Tang, and combinations of those references with Xu and Harikumar. FWD, 9. Yet Ground 1 challenges Claims 1-2, 4-7, and 11-14 over Agarwal alone; Ground 2B challenges Claims 2, 3, and 16-18 over Sinharoy and Blumrich; Ground 2C challenges Claim 5 over Sinharoy and Sistla; and Ground 2D challenges Claim 19 over Sinharoy, Sistla, and Blumrich. Paper 15 at 7-8. Only Ground 2A rests on Sinharoy by itself.

The Board may not decide the remaining grounds by estoppel. The petition “define[s] the contours of the proceeding.” *SAS Inst. Inc. v. Iancu*, 584 U.S. 357, 364 (2018). The Board “may not . . . institut[e] inter partes review based on a

combination of prior art references not advanced in [the] petition,” *Koninklijke Philips N.V. v. Google LLC*, 948 F.3d 1330, 1336 (Fed. Cir. 2020), and must decide the case on “arguments that were advanced by a party.” *In re Magnum Oil Tools Int’l, Ltd.*, 829 F.3d 1364, 1381 (Fed. Cir. 2016).

Nor could estoppel supply what those grounds require: the prior Board never decided whether Agarwal discloses any limitation, or whether a skilled artisan would combine Sinharoy with Blumrich or Sistla. A claim “is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art”; the motivation to combine is an independent inquiry. *See KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 418 (2007). Preclusion therefore cannot dispose of Claims 2, 3, 5, and 16-19, which are instituted only on Agarwal and the never-adjudicated Blumrich and Sistla combinations.

Petitioner’s subsidiary-fact authorities, ARM Br. 5, hold only that estoppel reaches a subsidiary finding that was actually made and on point. But none of the subsidiary findings ARM identifies reaches the coherency homing question, the per-core-association question, nor the Agarwal, Blumrich, and Sistla grounds.

VII. SECTION 42.73(D) DOES NOT EXPAND THE SCOPE OF ISSUE PRECLUSION

ARM also invokes 37 C.F.R. § 42.73(d), asserting that Patent Owner is barred from taking any position inconsistent with the prior FWD. ARM Br. 2.

Patent Owner is not challenging the correctness of the prior FWD. Patent Owner merely argues that the present proceeding raises different issues than the one previously decided. Section 42.73(d) therefore provides no basis for expanding issue preclusion beyond the limits imposed by Federal Circuit precedent. That rule bars a patent owner from “obtaining in any patent” a claim not patentably distinct from a cancelled one; it governs what a patent owner may obtain, not what a petitioner may cancel on grounds never asserted. “[S]eeking to maintain an already issued claim cannot be viewed as circumventing a subsequent decision on related claims.” *SoftView LLC v. Apple Inc.*, 108 F.4th 1366, 1375 (Fed. Cir. 2024).

VIII. CONCLUSION

At most, any preclusive effect is limited to the Board’s prior determination regarding the “single caching agent” aspect of Claim 1. The prior FWD resolved unity, not core association, and did not decide the address-homing question; and estoppel cannot in any event reach the Agarwal, Blumrich, or Sistla grounds or supply the motivation to combine ARM never proved. Moreover, the prior FWD has no application to Claims 11 and 16.

Dated: July 13, 2026
Ascenda Law Group, PC
2150 N First St., Suite 420
San Jose, CA 95131
Tel: 866-877-4883

Respectfully submitted,
/Tarek N. Fahmi/
Tarek N. Fahmi
Reg. No. 41,402
Email: tarek.fahmi@ascendalaw.com

CERTIFICATE OF SERVICE

The undersigned hereby certifies that a copy of the foregoing:

PATENT OWNER'S REPLY BRIEF REGARDING THE EFFECT OF THE
FWD OF IPR2023-01344

was served on 7/13/2026, by filing this document though the PTAB P-TACTS
System as well as by delivering a copy via email directed to the attorneys of record
for the Petitioner at the following addresses:

Kevin Anderson
Patrick D. McPherson
DUANE MORRIS LLP
901 New York Ave. NW
Suite 700 East
Washington, D.C. 20001

Email:
KPAnderson@duanemorris.com
PDMcPherson@duanemorris.com

The parties have agreed to electronic service in this proceeding.

Respectfully submitted,

Dated: July 13, 2026

Ascenda Law Group, PC
2150 N First St., Suite 420
San Jose, CA 95131
Tel: 866-877-4883
Email: patents@ascendalaw.com

/Tarek N. Fahmi/

Tarek N. Fahmi
Reg. No. 41,402