

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 SUPPLEMENTAL BRIEF REGARDING THE
EFFECT OF THE FWD OF IPR2023-01344

TABLE OF CONTENTS

I. INTRODUCTION	1
II. GOVERNING LEGAL STANDARD.....	2
III. THE PROPER CONSTRUCTION OF “SINGLE CACHING AGENT”	3
IV. THE PRIOR IPR’S FINDINGS REGARDING SINHAROY	4
V. NO IDENTITY OF ISSUES EXISTS.....	4
A. Similar claim language does not establish identity of issues.....	4
B. The issue previously decided was narrow.....	5
C. The issue presented here is different.....	5
D. This issue was not resolved in the prior IPR.....	5
VI. EVEN IF PARTIAL PRECLUSION APPLIES, IT IS LIMITED	6
VII. NO PRECLUSION APPLIES TO CLAIMS 11 AND 16	6
VIII. CONCLUSION.....	7

TABLE OF AUTHORITIES

CASES

<i>Mercedes Benz USA, LLC v. Daedalus Prime LLC</i> , IPR2023-01344 (PTAB Jan. 24, 2025).....	3, 4
<i>SkyHawke Techs., LLC v. Deca Int’l Corp.</i> , 828 F.3d 1373 (Fed. Cir. 2016).....	2, 4, 7
<i>VirnetX Inc. v. Apple Inc.</i> , 909 F.3d 1375 (Fed. Cir. 2018).....	2

I. INTRODUCTION

Patent Owner submits this Brief pursuant to the Board’s Order issued during oral argument on June 25, 2026. The Board requested briefing on: (1) the proper construction of “single caching agent,” (2) the findings in the Final Written Decision (“FWD”) in IPR2023-01344 (the “prior IPR”), and (3) whether PO is precluded from contesting patentability over Sinharoy in this proceeding.

Collateral estoppel does not apply here. The prior IPR addressed whether Sinharoy’s cache controllers could be characterized as a “single caching agent” based on coordinated behavior and shared logic. It did not resolve—and could not resolve—the distinct issue presented in this case: whether Sinharoy discloses “a plurality of distributed portions each associated with a corresponding one of the plurality of cores.”

Patent Owner has squarely raised that issue in this proceeding, arguing that Sinharoy’s architecture is address-homed rather than core-associated. Because that issue was not actually litigated and necessarily decided in the prior proceeding, collateral estoppel does not apply.

At most, any preclusive effect is limited to the narrow “single caching agent” characterization in Claim 1, and it has no effect on Claims 11 or 16, which recite different limitations.

II. GOVERNING LEGAL STANDARD

Collateral estoppel applies only to issues that were actually litigated and necessarily decided. *SkyHawke Techs., LLC v. Deca Int’l Corp.*, 828 F.3d 1373, 1376 (Fed. Cir. 2016). This requirement applies equally in the IPR context. *VirnetX Inc. v. Apple Inc.*, 909 F.3d 1375, 1377–78 (Fed. Cir. 2018).

Critically, the doctrine requires identity of the issue, not merely similarity in claim language or overlap in subject matter. *SkyHawke*, 828 F.3d at 1376. In the patent context, the relevant issue is defined by the specific claim requirements that must be shown in the prior art. Where a claim turns on a distinct structural or functional limitation, the question whether the prior art satisfies that limitation presents a distinct issue for purposes of collateral estoppel. Accordingly, the relevant inquiry is not whether similar claim language appears in both proceedings, but whether the same issue—properly framed—was actually litigated and necessarily decided. *Id.*; *VirnetX*, 909 F.3d at 1377–78.

III. THE PROPER CONSTRUCTION OF “SINGLE CACHING AGENT”

In the prior IPR, the Board construed “single caching agent” as “one caching agent for the processor, which may be formed from distributed portions.” *Mercedes Benz USA, LLC v. Daedalus Prime LLC*, IPR2023-01344, Paper 31 at 18 (PTAB Jan. 24, 2025). Two aspects of that construction are critical:

(1) Distributed implementation does not eliminate unity. The specification allows that a caching agent may be physically distributed, but only where “these distributed portions form a single caching agent.” *Id.* at 17–18. Thus, distributed implementation is permitted, but only if the resulting structure operates as a unified caching agent.

(2) The claim contains distinct requirements. The Board also confirmed that “single caching agent” and “a plurality of distributed portions each associated with a one of the plurality of cores” are separate limitations, not a single combined concept. *Id.* at 17. This distinction governs the estoppel analysis. Even if the “single caching agent” aspect were previously addressed, the core-association requirement remains an independent issue.

IV. THE PRIOR IPR'S FINDINGS REGARDING SINHAROY

The prior FWD found that Sinharoy discloses a “single caching agent.” The Board determined that: Sinharoy’s L2 and L3 caches share “capacity, data flow logic, and control flow logic,” the controllers do not operate independently, and they “act in concert as a group.” *Id.* at 27–28. Based on those findings, the Board concluded, “The caches act in concert as a group, i.e., a ‘single caching agent,’ to solve [a] miss.” *Id.* at 28. The Board’s conclusion rested on the idea that distributed controllers can be treated as a logical single agent if they cooperate and share control.

At the same time, the Board recognized that Sinharoy includes separate L2 and L3 controllers, and distributed cache regions. *Id.* at 24–25. The issue in the prior case was therefore how to characterize those structures, not whether they satisfy each structural requirement of the claim.

V. NO IDENTITY OF ISSUES EXISTS

A. Similar claim language does not establish identity of issues

The limitation here is similar to the limitation addressed in the prior IPR, but that is not the test. As the Federal Circuit has made clear, the relevant inquiry is whether the same issue—properly framed—was actually decided. *SkyHawke*, 828 F.3d at 1376.

B. The issue previously decided was narrow

The prior IPR addressed whether Sinharoy's distributed controllers could be characterized as a single caching agent based on coordination.

C. The issue presented here is different

Here, PO has argued that Sinharoy fails the separate requirement that distributed portions be "each associated with a corresponding core." This is a structural and architectural requirement. In the Sur-reply, it was noted that "Sinharoy's L3 cache ... regions are address-homed, not core-homed. Any core may access any L3 region." Sur-reply at 15. Further, "no L3 region controller ... is functionally associated with a corresponding core. A controller routinely services requests from multiple cores, depending on the accessed address." *Id.* at 16. This distinction—between core-based association and address-based routing—requires proof of a different claim limitation than that addressed in the prior IPR and therefore presents a different issue for purposes of collateral estoppel.

D. This issue was not resolved in the prior IPR

The prior FWD did not address whether Sinharoy uses core-based association, or whether its architecture instead relies on address-based mapping. Instead, it focused only on whether those controllers act collectively. These are different questions, and collateral estoppel does not

apply where resolution of the asserted claim requires proof of a distinct structural limitation that was not previously adjudicated. An issue is not identical where it requires proof of a different limitation or a different theory of how the prior art satisfies, or fails to satisfy, the claim. Here, PO's argument turns on a requirement that was not actually decided in the prior proceeding.

VI. EVEN IF PARTIAL PRECLUSION APPLIES, IT IS LIMITED

Even assuming *arguendo* that the prior IPR resolves whether Sinharoy is a "single caching agent," that does not dispose of the full limitation now at issue. As the Board recognized, the claim includes a "single caching agent," and distributed portions "each associated with a corresponding core." Because these are distinct requirements, any prior determination regarding the former does not establish the latter. PO remains entitled to argue that Sinharoy fails the per-core association requirement, which presents a separate issue.

VII. NO PRECLUSION APPLIES TO CLAIMS 11 AND 16

The absence of preclusion is even clearer for Claims 11 and 16. Claim 11 requires a caching agent "shared by a plurality of cores," not "a single caching agent." The issue is therefore different.

For its part, Claim 16 adds entirely different structural limitations, and requires, *inter alia*, a table of requests, a plurality of entries, and a dedicated entry for posted transactions. Ex. 1001, 8:42–64. None of these limitations was addressed by the prior FWD, hence, collateral estoppel cannot apply. *SkyHawke*, 828 F.3d at 1376.

VIII. CONCLUSION

The prior IPR resolved a narrow issue: whether Sinharoy’s distributed controllers can be characterized as a “single caching agent.” It did not resolve the distinct issue raised here: whether Sinharoy discloses distributed portions each associated with a corresponding core. PO has squarely raised that issue in this proceeding, supported it with record evidence, and shown that Sinharoy’s address-based architecture fails the required “associated with” limitation. Because that issue was not actually litigated and necessarily decided in the prior IPR, collateral estoppel does not apply. Moreover, if any preclusion exists, it is limited to the “single caching agent” characterization in Claim 1, and it has no effect on Claims 11 or 16.

Dated: July 6, 2026
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CERTIFICATE OF SERVICE

The undersigned hereby certifies that a copy of the foregoing:

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

was served on July 6, 2026, by filing this document through 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:

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