

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

APPLE INC., HTC CORPORATION, HTC AMERICA, INC.,
SAMSUNG ELECTRONICS CO. LTD,
SAMSUNG ELECTRONICS AMERICA, INC., and
AMAZON.COM, INC.,
Petitioner,

v.

MEMORY INTEGRITY, LLC,
Patent Owner.

Case IPR2015-00172
Patent 7,296,121 B2

Before JENNIFER S. BISK, NEIL T. POWELL, and KERRY BEGLEY,
Administrative Patent Judges.

BEGLEY, *Administrative Patent Judge.*

DECISION
Denying Request for Rehearing
37 C.F.R. § 42.71

Apple Inc., HTC Corporation, HTC America, Inc., Samsung
Electronics Co. Ltd., Samsung Electronics America, Inc., and Amazon.com,
Inc. (collectively, “Petitioner”) timely filed a request for rehearing

(“Rehearing Request”) of our decision denying institution of *inter partes* review of U.S. Patent No. 7,296,121 B2 (Ex. 1001, “the ’121 patent”). Paper 17 (“Req. Reh’g”). Specifically, the request seeks rehearing of our determination to deny institution of *inter partes* review of the following asserted grounds of unpatentability:

Challenged Claim[s]	Basis	Reference[s]
1–3, 8, 11, 12, 16, 19, 20, and 22	§ 102	<i>The Directory-Based Cache Coherence Protocol for the DASH Multiprocessor</i> , in THE 17TH ANNUAL INTERNATIONAL SYMPOSIUM ON COMPUTER ARCHITECTURE 148 (1990) (Ex. 1005, “Stanford DASH”)
7	§ 103	Stanford DASH and ADVANCED MICRO DEVICES, INC., HYPERTRANSPORT TECHNOLOGY I/O LINK (2001) (Ex. 1018, “HyperTransport”)
9	§ 103	Stanford DASH and JOSÉ DUATO ET AL., INTERCONNECTION NETWORKS (1997) (Corrected Ex. 1007, “Duato”)
17–24	§ 103	Stanford DASH and MICHAEL JOHN SEBASTIAN SMITH, APPLICATION-SPECIFIC INTEGRATED CIRCUITS (1997) (Ex. 1008, “Smith”)

Req. Reh’g 1–2. For the reasons given below, we deny the Rehearing Request.

When rehearing a decision whether to institute *inter partes* review, we review the decision for an “abuse of discretion.” 37 C.F.R. § 42.71(c). “The burden of showing [the] decision should be modified lies with the party challenging the decision.” 37 C.F.R. § 42.71(d). The request for rehearing “must specifically identify all matters the party believes the Board misapprehended or overlooked, and the place where each matter was previously addressed in” the petition. *Id.*

In our Decision, we agreed with Patent Owner that Petitioner had not shown sufficiently that Stanford DASH discloses, teaches, or suggests a “probe filtering unit . . . operable . . . to transmit the probes only to selected ones of the processing nodes with reference to probe filtering information representative of states associated with selected ones of the cache memories”—as recited in claims 1 and 16, the independent claims of the ’121 patent. Decision Denying Institution of *Inter Partes* Review (Paper 16, “Dec.”), 11–14, 18–19. We explained that Stanford DASH discloses a system that uses two cache-coherency protocols: a “bus-based snoopy scheme” to maintain cache coherency “within a cluster,” and a “distributed directory-based coherence protocol” to maintain “inter-[cluster] cache coherency.” *Id.* at 7–8 (quoting Ex. 1005, 148). Further, the directory board of the home cluster in Stanford DASH—which Petitioner identifies as the recited “probe filtering unit”—consists of various subsystems, including: (1) the pseudo-CPU, which “issu[es]” incoming read and read-exclusive “requests on the cluster bus,” and (2) the directory controller, which “contains [a] directory memory” and which “forward[s]” requests to “the remote cluster that has a dirty copy of the data” when the requested data block is in the “dirty-remote state.” *Id.* at 9–11 (quoting Ex. 1005, 150, 152); Ex. 1005, 150–53, Fig. 3–5.

In analyzing the relevant limitation of claims 1 and 16, we recognized the function of the directory board of the home cluster, particularly its directory controller subsystem, “to filter [read and read-exclusive] requests in sending them to another cluster” as part of the directory-based coherence protocol. Dec. 14. Yet because, as part of the bus-based snoopy protocol, the pseudo-CPU subsystem issues the “requests on the cluster’s bus[,]”

without consulting the directory memory in the directory controller to filter the requests,” we were not persuaded that Stanford DASH discloses, teaches, or suggests that the directory board of the home cluster (“the probe filtering unit”) is “operable to transmit the[] requests (‘probes’) *only* to selected clusters (‘processing nodes’) based on the directory memory (‘probe filtering information’).” *Id.* at 12–14.

In its Rehearing Request, Petitioner does not dispute that the directory board of the home cluster in Stanford DASH issues read and read-exclusive requests on the home cluster’s bus. *See* Req. Reh’g 4–5; Pet. 24. Instead, Petitioner argues that we “misapprehended the Petition’s application of [Stanford] DASH to the language of claims 1 and 16.” Req. Reh’g 8. In particular, Petitioner contends that our reasoning in the Decision “fails to appreciate that the Petition explicitly *excludes the home cluster* from the recited ‘plurality of processing nodes.’” *Id.* at 5. Petitioner argues that the Petition indicates that in Stanford DASH, the clusters other than the home cluster may act as local clusters with respect to the home cluster, and that these other clusters correspond to the recited “plurality of processing nodes.” *Id.* at 5–6. According to Petitioner, under this mapping of the elements of Stanford DASH to the claim terms of the ’121 patent, Stanford DASH satisfies the claim language. *Id.* at 7–8.

We disagree. Even if the “plurality of processing nodes” excludes the home cluster, we are not persuaded that Stanford DASH discloses, teaches, or suggests a “probe filtering unit . . . operable . . . to transmit the probes only to selected ones of the processing nodes with reference to probe filtering information,” for the reasons stated in our Decision. Because the directory board of the home cluster (“probe filtering unit”)—specifically its

pseudo-CPU subsystem—issues read and read-exclusive requests (“probes”) on the cluster’s bus, it transmits these requests to the bus and, thus, to other processors within the home cluster. *See id.* at 7–14; Ex. 1005, 148, 150–53, Figs. 3–5; Paper 11 (“Prelim. Resp.”), 23. It, therefore, does not “transmit the probes *only* to selected ones of the processing nodes with reference to probe filtering information.” Ex. 1001, 31:1–7, 32:7–16 (emphasis added); *see id.* at 28:49–53 (“If . . . the directory lookup determines the cache line may be cached in the system (2010), the PFU [probe filtering unit] sends out a probe *only* on links corresponding to the nodes that may contain the cache line (2014).”) (emphasis added); Prelim. Resp. 15–19, 23–25. Petitioner’s arguments to the contrary improperly seek to read “only” out of the claim language and to overlook the function of the pseudo-CPU in the directory board of the home cluster in issuing requests on the bus.

In conclusion, we are not persuaded that the Rehearing Request identifies any “matter” that our Decision “misapprehended or overlooked.” 37 C.F.R. § 42.71(d). Nor are we persuaded that we abused our discretion in denying institution of *inter partes* review of claims 1–3, 7–9, 11, 12, and 16–24 of the ’121 patent.

ORDER

Accordingly, it is:

ORDERED that Petitioner’s Request for Rehearing Pursuant to 37 C.F.R. § 42.71 (Paper 17) is *denied*.

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