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14/925,904	10/28/2015	ERIC NORIGE	AB8461-US-C1	2963

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EXAMINER
CHO, HONG SOL

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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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Ex parte ERIC NORIGE and SAILESH KUMAR

————————

Appeal 2018-004914[1]
Application 14/925,904
Technology Center 2400

————————

Before CARL W. WHITEHEAD JR., JEREMY J. CURCURI, and
PHILLIP A. BENNETT, *Administrative Patent Judges*.

CURCURI, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellants appeal under 35 U.S.C. § 134(a) from the Examiner's
rejection of claims 1, 2, 4–8, 10–14, and 16–18. Final Act. 1. We have
jurisdiction under 35 U.S.C. § 6(b).

Claims 1, 2, 4–8, 10–14, and 16–18 are rejected under non-statutory
obviousness-type double patenting as obvious over claims 1–14 and 17 of
U.S. Patent No. 9,185,023. Final Act. 3.

Claims 1, 2, 6–8, 12–14, and 18 are rejected under 35 U.S.C.
§ 102(a)(2) as anticipated by Lecler (US 2013/0174113 A1; published July
4, 2013). Final Act. 4–5.

Claims 4, 5, 10, 11, 16, and 17 are rejected under 35 U.S.C. § 103 as obvious over Lecler and Durkan (US 2013/0174111 A1; published July 4, 2013). Final Act. 6.

We affirm.

STATEMENT OF THE CASE

Appellants' invention relates to "automatically optimize the placement of heterogeneous SoC IP cores within a Network on Chip (NoC) interconnect architecture." Spec. ¶ 2. Claim 1 is illustrative and reproduced below:

1.   A method, comprising:

generating a floorplan for a chip comprising a plurality of hosts and a network on chip (NoC) interconnect configured to communicatively connect the plurality of hosts, the generating of the floorplan comprising determining, by a processor, positions for the plurality of hosts, a first one of the plurality of hosts having a different physical footprint from a second one of the plurality of hosts, wherein the positions for the plurality of hosts are determined based on optimization of one or more efficiency functions; and

generating the NoC interconnect based on the positions for the plurality of hosts;

wherein the generating the NoC interconnect comprises connecting each of the plurality of hosts to an adjacent router based on the determined positions for the plurality of hosts.

PRINCIPLES OF LAW

We review the appealed rejections for error based upon the issues identified by Appellants, and in light of the arguments and evidence

produced thereon. *Ex parte Frye*, 94 USPQ2d 1072, 1075 (BPAI 2010) (precedential).

ANALYSIS

THE OBVIOUSNESS-TYPE DOUBLE PATENTING REJECTION

Appellants explain the "terminal disclaimer filed on October 10, 2017 was approved on the same day, thereby rendering the rejection to be moot." App. Br. 6. We recognize that a proper terminal disclaimer may overcome the obviousness-type double patenting rejection. However, at the Patent Trial and Appeal Board, review of terminal disclaimers does not fall under our purview. Appellants do not dispute any particular findings made in the Final Action. *See* App. Br. 6; *see also Ex parte Frye*, 94 USPQ2d at 1075 ("If an appellant fails to present arguments on a particular issue — or, more broadly, on a particular rejection — the Board will not, as a general matter, unilaterally review those uncontested aspects of the rejection. *See, e.g., Hyatt v. Dudas*, 551 F.3d 1307, 1313–14 (Fed. Cir. 2008) (the Board may treat arguments appellant failed to make for a given ground of rejection as waived)").

We, therefore, summarily sustain the Examiner's obviousness-type double patenting rejection of claims 1, 2, 4–8, 10–14, and 16–18.

THE ANTICIPATION REJECTION OF CLAIMS 1, 2, 6–8, 12–14, AND 18 BY

LECLER

Contentions

The Examiner finds Lecler describes all limitations of claim 1. Final Act. 4–5. In particular, the Examiner finds Lecler's "units" correspond to claim 1's recited "hosts." *See* Final Act. 4–5; *see also* Ans. 3–4.

Appellants present the following principal arguments:

i.   Lecler does not describe "determining, by a processor, positions for the plurality of hosts, a first one of the plurality of hosts having a different physical footprint from a second one of the plurality of hosts, wherein the positions for the plurality of hosts are determined based on optimization of one or more efficiency functions"; and "wherein the generating the NoC interconnect comprises connecting each of the plurality of hosts to an adjacent router based on the determined positions for the plurality of hosts" as recited in claim 1. App. Br. 7. "[I]n the broadest reasonable interpretation consistent with the specification, a person of ordinary skill in the art would understand that the hosts as recited in the independent claims are described in Lecler as agents, and the routers as described in the claims facilitate the functionality of the units that are described in Lecler." App. Br. 8. "[T]he shape of the agents [in Lecler] are provided statically as an input and are not positioned based on any efficiency function." App. Br. 8; *see also* Reply Br. 2–5.

ii.   Lecler's units and agents are not interchangeable. *See* App. Br. 9–10 ("Modifying the implementations [of Lecler] to determine the shape and placement of the agents would require a substantial redesign and reconstruction of the implementations of Lecler, as the implementations of

Lecler are directed to equations and algorithms to determine the shape and placement of units given the shape and placement of the agents from a NoC designer."); *see also* Reply Br. 5.

Our Review

Appellants' Specification discloses "NoC [(Network-on-Chip)] is a global shared communication infrastructure made up of several routing nodes interconnected with each other using point-to-point physical links." Spec. ¶ 4.

Appellants' Specification further discloses:

> Messages are injected by the source and are routed from the source node to the destination over multiple intermediate nodes and physical links. The destination node then ejects the message and provides the message to the destination. For the remainder of this application, the terms 'components', 'blocks', 'hosts' or 'cores' will be used interchangeably to refer to the various system components which are interconnected using a NoC. Terms 'routers' and 'nodes' will also be used interchangeably. Without loss of generalization, the system with multiple interconnected components will itself be referred to as a 'multi-core system'.

Spec. ¶ 5.

Thus, Appellants' Specification distinguishes between the hosts and the routers of the NoC. Thus, the broadest reasonable interpretation of claim 1's recited "hosts," "NoC," and "router[s]," in light of the Specification, requires that the "hosts" are interconnected using the "NoC," with the "NoC" composed of the "router[s]."

Lecler discloses:

> A NoC comprises nodes connected by wires. A NoC can include many nodes. Nodes are either agents or units.

>   Agents are nodes with a fixed shape within a floorplan.
> Agents are IP cores such as CPUs and memory controllers.
>
>   Units are nodes of a NoC that are topologically between
> agents. Units generally perform the functions of transporting data
> transactions between agents. Switches, muxes, and buffers are
> examples of units.
>
>   NoC can comprise different numbers and different
> arrangements of nodes.

Lecler ¶¶ 17–20.

Thus, Lecler distinguishes between the agents and units of the NoC. In Lecler, the "agents" are interconnected using the "NoC," with the "NoC" composed of the "units."

Accordingly, when evaluating Lecler as prior art, claim 1's recited "hosts" correspond to Lecler's "agents," and claim 1's recited "router[s]" correspond to Lecler's "units." *See* App. Br. 8.

Thus, we find Appellants' argument persuasive and disagree with the Examiner's finding that Lecler's "units" correspond to claim 1's recited "hosts." Instead, we find that Lecler's "agents" correspond to claim 1's recited "hosts."

Claim 1 requires "determining, by a processor, positions for the plurality of hosts . . . wherein the positions for the plurality of hosts are determined based on optimization of one or more efficiency functions."

Turning to Lecler, Lecler does not determine positions for Lecler's agents based on an optimization; rather, Lecler's entire invention pertains to determining positions for Lecler's units. *See generally* Lecler. The Examiner has not made findings to establish that Lecler's units and agents are interchangeable. *See* Final Act. 4–5; Ans. 3–4. Therefore, Lecler does not describe the limitations of claim 1.

We, therefore, do not sustain the Examiner's anticipation rejection of claim 1. We also do not sustain the Examiner's rejection of claims 2 and 6, which depend from claim 1.

Independent claims 7 and 13 are similar in scope to claim 1, and for the same reasons, we do not sustain the Examiner's rejection of claims 7 and 13. We also do not sustain the Examiner's rejection of claims 8, 12, 14, and 18, which variously depend from claims 7 and 13.

THE OBVIOUSNESS REJECTION OF CLAIMS 4, 5, 10, 11, 16, AND 17 OVER
LECLER AND DURKAN

Claims 4, 5, 10, 11, 16, and 17 variously depend from claims 1, 7, and 13. The Examiner's rejection of these claims does not cure the deficiency discussed above with respect to claims 1, 7, and 13. *See* Final Act. 6.

We, therefore, do not sustain the Examiner's rejection of claims 4, 5, 10, 11, 16, and 17.

ORDER

The Examiner's decision rejecting claims 1, 2, 4–8, 10–14, and 16–18 under obviousness-type double patenting is affirmed.

The Examiner's decision rejecting claims 1, 2, 6–8, 12–14, and 18 under anticipation is reversed.

The Examiner's decision rejecting claims 4, 5, 10, 11, 16, and 17 under obviousness is reversed.

Because we have affirmed at least one ground of rejection for each claim on appeal, we affirm the Examiner's decision to reject the claims. 37 C.F.R. § 41.50(a)(1).

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1). *See* 37 C.F.R. § 1.136(a)(1)(v).

<p style="text-align:center"><u>AFFIRMED</u></p>