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MARTIN & ASSOCIATES, LLC
P.O. BOX 548
CARTHAGE, MO 64836-0548

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KIM, DONG U	

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte JOSEPH W. CROPPER, JENNIFER D. MULSOW, and TAYLOR D. PEOPLES

Appeal 2018-002749
Application 14/991,938[1]
Technology Center 2100

Before CAROLYN D. THOMAS, DEBRA K. STEPHENS, and IRVIN E. BRANCH, *Administrative Patent Judges*.

STEPHENS, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellants appeal under 35 U.S.C. § 134(a) from a final rejection of claims 1, 2, and 4–19, which are all of the claims pending in the application. We have jurisdiction under 35 U.S.C. § 6(b). Claim 3 has been cancelled.

We REVERSE.

CLAIMED SUBJECT MATTER

According to Appellants, the claims are directed to dynamically setting an order of optimization of physical host machines in a computing

[1] According to Appellants, the real party in interest is International Business Machines Corporation (App. Br. 1).

environment based on policies (Abstract). Claim 1, reproduced below, is illustrative of the claimed subject matter:

> 1. An apparatus comprising:
>
> at least one processor;
>
> a memory coupled to the at least one processor;
>
> an optimizer for optimizing placement of virtual machines on a plurality of physical hosts; and
>
> an ordering policy mechanism residing in the memory and executed by the at least one processor that provides an ordered list of physical hosts to the optimizer with an order for optimizing the physical hosts determined by at least one ordering policy, wherein the at least one ordering policy is defined by a system administrator and when evaluated in conjunction with current conditions indicates a priority for optimizing the plurality of physical hosts.

REFERENCES

The prior art relied upon by the Examiner in rejecting the claims on appeal is:

Hueter	US 2013/0173809 A1	July 4, 2013
Innan	US 2016/0004552 A1	Jan. 7, 2016

REJECTION

The Examiner has rejected claims 1, 2 and 4–19 under 35 U.S.C. § 103 as unpatentable over Innan and Hueter (Final Act. 5–20).

ANALYSIS

Appellants contend their invention as recited in claims 1, 2, and 4–19, is patentable over Innan and Hueter (App. Br. 4–13). Specifically, Appellants contend Innan fails to disclose "provides an ordered list of physical hosts to the optimizer with an order for optimizing the physical hosts determined by at least one ordering policy" and "wherein the at least one ordering policy is defined by a system administrator and when evaluated in conjunction with current conditions indicates a priority for optimizing the plurality of physical hosts," as recited in claim 1 (App. Br. 4–7; Reply Br. 2–4). More specifically, Appellants argue Innan does not teach the recited: "[an] ordering policy [is] defined by a system administrator" and "an ordered list of physical hosts to the optimizer with an order for optimizing the physical hosts" (App. Br. 4–7).

First, Appellants contend Innan fails to disclose an "ordering policy," as recited in claim 1 (App. Br. 4–5; Reply Br. 2–3). According to Appellants, Innan does not use a policy to create the rank in Innan; rather, "[t]here appears to be preset logic in Innan to determine ranking of the servers based on throughput. The Examiner appears to interpret this preset logic to create the rank as the claimed policy" (App. Br. 5).

We are not persuaded by Appellants' contentions. Appellants' Specification does not define explicitly the term "ordering policy"; however, Appellants' Specification describes "ordering policies 422 comprise[ ] fixed policies 530 and dynamic policies 532" (Spec. ¶ 63). Dynamic policies "may be described by an expression 538 which includes[ ] one or more hosts and one or more host conditions" (*id.* at ¶ 64). Examples of host conditions

include time based conditions, economic conditions, or utilization conditions (*id.*).

> In the above example, the list of hosts is first sorted on a dynamic ordering policy. In this case, it is the cost_per_cycle. Note that this ordering policy could be more complex to include sorting by other conditions such as processor utilization and SLA percentage, and other conditions that change over time

(Spec. ¶ 68[2]).

We agree with the Examiner's finding that Appellants' Specification describes the "list of hosts is first sorted on a dynamic ordering policy. In this case, it is the cost_per_cycle. . . . this ordering policy could be more complex to include sorting by other conditions such as processor utilization and SLA percentage, and other conditions that change over time" (Ans. 3 (citing Spec. ¶ 68)).

Innan teaches:

> The management computer stores a *server rank* which is configured for each of the plurality of server apparatuses and represents *a rank of a throughput* of a server apparatus, and a *storage rank* which is configured for each of the plurality of storage apparatuses and represents *of a throughput* of a storage apparatus

(Innan ¶ 11 (emphases added); Final Act. 7–9 (quoting Innan ¶ 11); Ans. 3–4). Innan additionally discloses "the management computer selects . . . a server apparatus having a server rank equal to the required server rank of the target virtual machine (Innan ¶ 11). Thus, we determine Innan's disclosure of ranking servers based on throughput teaches sorting of hosts based on various conditions and choosing a host meeting desired conditions (*see* Final

[2] We note the Examiner cites to the PGPub; however, we cite to the original Specification as filed on January 9, 2016.

Act. 7–8; Ans. 3–4; Spec. ¶ 65). Thus, Innan's sorting and ranking of hosts or servers based on the various host conditions, e.g., throughput of the server, teaches the claimed "ordering policy" (*id.* at ¶ 11, Ans. 3–4).

Second, Appellants contend Innan fails to teach policies are "defined by the system administrator" (App. Br. 5–6; Reply Br. 3–4). Specifically, Appellants argue "[t]he logic to rank the servers as described in Innan is not defined by a system administrator . . . it is preset logic" (App. Br. 5).

We are not persuaded by Appellants' argument (App. Br. 5). Innan teaches a server apparatus has a rank of throughput and a storage apparatus has a rank of throughput (Innan ¶ 11). The Examiner finds (Ans. 3–4) and we agree, Innan describes "management computer 100 configures the server QoS rank" (Innan ¶¶ 44–45; Final Act. 8–9; Ans. 4). Thus, Innan's policy for ranking is defined by an "administrator" just as the recited "ordering policy" described in the Specification, is defined by an administrator (App. Br. 5–6; Ans. 3–4; Reply Br. 3–4). Accordingly, we find Innan teaches "one ordering policy defined by a system administrator," as recited in claim 1.

Appellants next contend Innan fails to teach ordered list "indicates a priority order for optimizing the plurality of physical hosts" (App. Br. 6– 7; Reply. Br. 4). Specifically, Appellants contend Innan's ranking is "used to determine where to place VMs while optimizing a host" which is different from the claimed "ordered list" to "determine an order for optimizing hosts" (App. Br. 6).

We agree with Appellants. In the Final Action, the Examiner seems to indicate that the ranking is an ordered list (Final Act. 7–9), providing quotes from various paragraphs of Innan without any accompanying explanation as to what is being relied upon, or more importantly, what

particular disclosure of Innan teaches the specific elements of the limitations (*id.* at 7–9; *see also* Ans. 3–4). The Examiner does not provide any response to Appellants' contentions in the Answer.

As discussed above, Innan teaches the management computer evaluates the throughput of the servers and ranks the servers based on that throughput (Innan ¶ 11). Thus, the conditions of the computer system are being evaluated based on the throughput of the servers of Innan (*id.*). However, the Examiner has failed to explain with specificity how this ranking is an order *for optimizing the hosts*. Rather, paragraph 11 of Innan describes Innan's "management computer" "determines, on the basis of the load on the plurality of virtual machines, whether or not to migrate the virtual machine . . . [and] selects, . . . a server apparatus having a *server rank equal to the required server rank* of the target virtual machine, from among the plurality of server apparatuses" (Innan ¶ 11 (emphasis added); Final 7–9; Ans. 3–4). Thus, paragraph 11 of Innan describes using the ranking to migrate to a destination having the same ranking, but Innan does not teach creating an ordered list that indicates an order for optimizing the hosts, i.e., the ranking does not indicate an order for optimizing the hosts (Innan ¶ 11; Final 7–9; Ans. 3–4).

Without more of an explanation from the Examiner setting forth with specificity how Innan and Heuter's disclosures teach the disputed limitation, we would be required to speculate as to upon what the Examiner relies. We will not speculate. Accordingly, we are constrained by the record to determine the Examiner has not shown where Innan teaches "an ordered list of physical hosts to the optimizer with an order for optimizing the physical

hosts," as recited in claim 1 and commensurately recited in independent claims 11 and 19.

Claims 2 and 4–10, which depend from claim 1 and claims 12–18, which depend from claim 11, stand with their respective independent claims. Accordingly, we do not sustain the rejection of claims 1, 2, and 4–19 under 35 U.S.C. § 103(a) as being unpatentable over Innan and Hueter.

DECISION

For the reasons above, we reverse the rejection of claims 1, 2 and 4–19 under 35 U.S.C. § 103(a) as being unpatentable over Innan and Hueter.

REVERSED