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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte DUNCAN MATTHEW CLOUGH, ROLAND ALEXANDER
PATERSON-JONES, MARTIN STEPHEN VAN TONDER,
GAVIN ALEXANDER BRAMHILL, ANDRIES PETRUS JOHANNES
DIPPENAAR, RICHARD ALAN HAMMAN, GIDEON JAN-WESSEL
REDELINGHUYS, MATHEW DANIEL, and ALMERO GOUWS

Appeal 2018-007951
Application 14/500,198
Technology Center 2100

Before JEREMY J. CURCURI, JAMES B. ARPIN, and
MICHAEL M. BARRY, *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 1–19. Final Act. 1. We have jurisdiction under 35 U.S.C. § 6(b).

Claims 1–4, 6–8, 11–13, 15–17, and 19 are rejected under 35 U.S.C. § 103 as unpatentable over Kawashima (US 2007/0180314 A1; Aug. 2, 2007) and Gondi (US 2015/0212910 A1; July 30, 2015). Final Act. 4–13.

Claims 5, 9, 10, 14, and 18 are rejected under 35 U.S.C. § 103 as unpatentable over Kawashima, Gondi, and Cheng (US 2015/0127920 A1; May 7, 2015). Final Act. 13–17.

We affirm.

STATEMENT OF THE CASE

Appellants' recited methods, systems, and computer-readable storage media relate to prioritized computing node recovery "provid[ing] prioritization for more critical computing nodes over other non-critical computing nodes." Spec. ¶ 11. Claim 1 is illustrative and reproduced below:

1. A computer-implemented method for prioritizing the recovery of a plurality of computing nodes associated with a web services platform when the plurality of computing nodes are contemporaneously subjected to one or more events that cause the plurality of computing nodes to function improperly, comprising:

determining that a first computing node and a second computing node of the plurality of computing nodes are functioning improperly;

receiving a characteristic of the first computing node and a characteristic of the second computing node, wherein the characteristic of the first computing node and the characteristic of the second computing node are received from at least one of a database, the first computing node, or the second computing node;

analyzing at least the received characteristic of the first computing node and the received characteristic of the second computing node;

determining an order in which to recover the first computing node and the second computing node, based at least in part on the analyzing at least the received characteristic of the first computing node and the received characteristic of the second computing node; and

initiating recovery of the first computing node and the second computing node based on the determined order, wherein the recovery comprises returning the improperly functioning first computing node and the second computing node to a proper functioning state in a prioritized manner based at least in part on at least the determined order.

PRINCIPLES OF LAW

We review the appealed rejections for error based upon the issues identified by Appellants, and in light of the contentions and evidence produced thereon. *Ex parte Frye*, 94 USPQ2d 1072, 1075 (BPAI 2010) (precedential).

ANALYSIS

THE OBVIOUSNESS REJECTION OF CLAIMS 1–4, 6–8, 11–13, 15–17, AND 19 OVER KAWASHIMA AND GONDI

The Examiner finds Kawashima and Gondi teach all of the limitations as recited claim 1. Final Act. 5–7. The Examiner finds Kawashima teaches most limitations as recited in claim 1. Final Act. 5–6. The Examiner finds Gondi teaches

determining an order in which to recover the first computing node and the second computing node, based at least in part on the analyzing at least the received characteristic of the first computing node and the received characteristic of the second computing node; and

initiating recovery of the first computing node and the second computing node based on the determined order, wherein the recovery comprises returning the improperly functioning first computing node and the second computing node to a proper functioning state in a prioritized manner based at least in part on at least the determined order

as recited in claim 1. Final Act. 6–7 (citing Gondi ¶¶ 18, 32, 34). The Examiner reasons

it would have been obvious to the one of ordinary skill in the art at the time of filing to incorporate teaching of Gondi’s high availability across geographically disjoint clusters into

Kawashima’s method because one of the ordinary skill in the art would have been motivated to provide efficient recovery and high availability by prioritizing the failover of a subset of a plurality of the VMs to facilitate an expedient recovery of a critical service.

Final Act. 7.

Appellants present the following principal contentions:

i.

[A] prioritization of a subset of nodes to failover [in Gondi] does not constitute determining an order in which to *recover* a plurality of the failed nodes, themselves. In fact, the example explicitly provided by Gondi describes replacing a protected VM in one datacenter with a new VM in a second datacenter, which is understood as a failover analogous to the teaching in Kawashima, and not a “recovery” of the failed node, as claimed.

App. Br. 7; *see also* Reply Br. 2–3.

ii. “[T]he portions of Gondi relied upon by the Office Action [for claim 1’s ‘determining as order. . .’] only reference manual priority or default settings.” App. Br. 7. “Gondi does not describe any details relating to how the order for powering VMs on and off is selected or determined.” App. Br. 8.

iii. The combination is improper because “the Examiner recognizes that the cited art is concerned with fail over and not the recovery of the improperly functioning nodes.” App. Br. 8.

We do not discern error in the contested findings. Nor do we discern error in the conclusion of obviousness.

Appellants’ contentions dispute the Examiner’s findings with respect to claim 1’s recitation of “initiating recovery of the first computing node and the second computing node . . . wherein the *recovery* comprises returning the

improperly functioning first computing node and the second computing node to a proper functioning state in a prioritized manner” (Emphasis added.)

Our analysis for this recitation hinges on the interpretation of the term “recovery.” Appellants’ Specification describes “[a]fter such an anomalous event one or more computing nodes associated with the improperly functioning web services platform may be recovered (e.g., *launched*, *restored*, *brought back online*, etc.)” Spec. ¶ 11 (emphasis added). Appellants’ Specification further describes “[t]he node manager 107 may be configured to manage *the launch* (e.g., *initialization*, *start-up*, *recovery*, *configuration*, *registration*, *bringing online*, etc.) of one or more computing nodes such as computer racks 106A, 106B and virtual machine instances 116 (depicted here as VM instance 116A and VM instance 116B).” Spec. ¶ 15 (emphasis added). Thus, we conclude that the broadest reasonable interpretation of “recovery” in light of the Specification includes initialization and start-up of a new node.

Gondi discloses “VIM server B 145 *restarts* stopped protected VMs 135 *as recovered* VMs 160 within datacenter B 140 using recovery logical units 198.” Gondi ¶ 34 (emphases added).

Thus, contrary to Appellants’ contention (i), we find Gondi teaches claim 1’s recitation of “initiating recovery of the first computing node and the second computing node . . . wherein the recovery comprises returning the improperly functioning first computing node and the second computing node to a proper functioning state in a prioritized manner” because Gondi discloses recovered VMs 160. Gondi ¶ 34; *see also* Ans. 17–18 (citing Gondi ¶¶ 33–35).

Appellants' contentions also dispute the Examiner's findings with respect to claim 1's recitation of "determining an order in which to recover the first computing node and the second computing node, based at least in part on the analyzing at least the received characteristic of the first computing node and the received characteristic of the second computing node"

Gondi discloses

recovery manager A 175 may be configured (by a manual or default setting) to prioritize the failover of a subset of the plurality of VMs 135 to facilitate an expedient recovery of a critical service. The remainder of the plurality VMs 135 may be failed over separately, subsequently, or not at all.

Gondi ¶ 32.

Gondi further discloses "a recovery plan may control the steps of the recovery process, including the order in which VMs are powered off or powered on, the network addresses that recovered VMs use, etc." Gondi ¶ 18.

Thus, contrary to Appellants' contention (ii), we find Gondi teaches claim 1's recitation of "determining an order in which to recover the first computing node and the second computing node based at least in part on the analyzing at least the received characteristic of the first computing node and the received characteristic of the second computing node" because Gondi prioritizes recovery of nodes related to a critical service over other nodes, and Gondi controls the order of recovery. Gondi ¶¶ 18, 32; *see also* Ans. 16–17 (citing Gondi ¶ 35).

Finally, contrary to Appellants' contention (iii), the cited art is concerned with "recovery" given our interpretation of "recovery" explained above. The Examiner articulated a reason to combine the references that is

rational on its face and supported by evidence drawn from the record. *See* Final Act. 7; *see also* Gondi ¶¶ 18, 32.

We, therefore, sustain the Examiner’s rejection of claim 1. We also sustain the Examiner’s rejection of claims 2 and 3, which are not separately argued with particularity.

Appellants’ contentions with respect to independent claims 4 and 13 present the same issues for review as Appellants’ contentions with respect to claim 1. *See* App. Br. 9–10; *see also* Reply Br. 3.

We, therefore, sustain the Examiner’s rejection of claims 4 and 13. We also sustain the Examiner’s rejection of claims 6–8, 11–13, 15–17, and 19, which variously depend from claims 4 and 13, which are not separately argued with particularity.

THE OBVIOUSNESS REJECTION OF CLAIMS 5, 9, 10, 14, AND 18 OVER
KAWASHIMA, GONDI, AND CHENG

The Examiner finds Kawashima, Gondi, and Cheng teach all of the limitations of claims 5, 9, 10, 14, and 18. Final Act. 13–17.

Appellants present the following principal contention:

[T]he generally presented rationale ignores that Kawashima relies on failover tables to determine failover and Gondi relies on prescribed recovery plans. Thus, to simply suggest that one of skill in the art would adapt Gondi and/or Kawashima using Cheng to arrive at the claimed invention relies on information gleaned solely from the Appellant[s’ S]pecification.

App. Br. 10; *see also* Reply Br. 4.

As explained above, contrary to this contention, the cited art is concerned with “recovery” given our construction of “recovery” explained above. The Examiner articulated a reason to combine the references that is

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rational on its face and supported by evidence drawn from the record. *See* Final Act. 14; *see also* Gondi ¶¶ 18, 32.

We, therefore, sustain the Examiner's rejection of claims 5, 9, 10, 14, and 18.

DECISION

The Examiner's decision rejecting claims 1–19 is affirmed.

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).

AFFIRMED