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| ADELI LLP<br>11859 Wilshire Blvd.<br>Suite 408<br>Los Angeles, CA 90025 |             |                      | LALCHINTHANG, VANNEILIAN |                  |
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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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*Ex parte* JAYANT JAIN, ANIRBAN SENGUPTA and  
MOHAN PARTHASARATHY<sup>1</sup>

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Appeal 2018-001059  
Application 14/569,358  
Technology Center 2400

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Before CAROLYN D. THOMAS, CARL W. WHITEHEAD JR. and  
NABEEL U. KHAN, *Administrative Patent Judges*.

WHITEHEAD JR., *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Appellant is appealing the final rejection of claims 1–19 under  
35 U.S.C. § 134(a). Appeal Brief 2. We have jurisdiction under 35 U.S.C.  
§ 6(b).

We affirm.

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<sup>1</sup> We use the word Appellant to refer to “applicant” as defined in 37 C.F.R. § 1.42(a). Appellant identifies Nicira, Inc. which is a wholly owned subsidiary of VMware of which Dell Technologies is a majority owner, as the real party in interest. Appeal Brief 2.

*Introduction*

According to Appellant, the invention is directed to providing “an elastic architecture for providing a service in a computing system. To perform a service on the data messages, the service architecture uses a service node (SN) group that includes one primary service node (PSN) and zero or more secondary service nodes (SSNs).” Specification ¶ 3.

*Representative Claim*

1. A non-transitory machine readable medium of a primary service node (PSN), the medium storing a program for performing a service on data messages, the program comprising sets of instructions for:

receiving a data message and identifying a service node (SN) in a SN group to perform the service on the data messages that are in a same flow as the received data message, said group comprising the PSN;

when the PSN is the identified SN for the received data message's flow, performing the service on the received data message and on data messages in the same flow as the received data message; and

when another SN is the identified SN for the received data message's flow, directing the received data message to the other SN for the SN to perform the service on the received data message.

*References*

| <b>Name</b>       | <b>Reference</b>   | <b>Date</b>        |
|-------------------|--------------------|--------------------|
| Srivastava        | US 2006/0233155 A1 | October 19, 2006   |
| Sen               | US 2007/0214282 A1 | September 13, 2007 |
| Nandagopal et al. | US 2011/0055845 A1 | March 3, 2011      |
| Ueno              | US 2012/0023231 A1 | January 26, 2012   |

*Rejections on Appeal*

Claims 1–9 and 14–16 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Nandagopal and Ueno. Final Action 5–18.

Claims 10–12 and 17–19 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Nandagopal, Ueno and Sen. Final Action 18–24.

Claim 13 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Nandagopal, Ueno and Srivastava. Final Action 24–26.

**ANALYSIS**

Rather than reiterate the arguments of Appellant and the Examiner, we refer to the Appeal Brief (filed June 28, 2017), the Reply Brief (filed November 7, 2017), the Final Action (mailed October 6, 2016) and the Answer (mailed September 7, 2017), for the respective details.

The Examiner finds that Nandagopal discloses a service node (SN) in a service node group wherein “the PSN (Fig.1 primary load balancer LB<sub>A</sub> in service group A and Fig.2 [0020] lines 8–12, load balancer LB<sub>A</sub> of FIG. 1, multiple-load balancer 210 (i.e., primary service node).” Final Action 6 (emphasis removed).

Nandagopal’s Figure 1 is reproduced below:

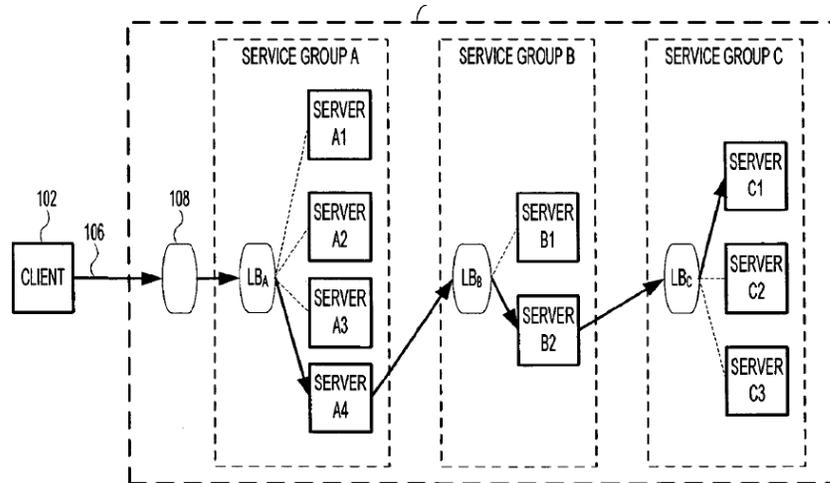


FIG. 1 illustrates a typical network arrangement **100** where client **102** requests a service from server system **104**. The latter includes service-chain selector **108** and three service groups A, B, and C. Service group A includes load balancer  $LB_A$  and four backend servers **A1**, **A2**, **A3**, and **A4**. Service group B includes load balancer  $LB_B$  and two backend servers **B1** and **B2**. Service group C includes load balancer  $LB_C$  and three backend servers **C1**, **C2**, and **C3**. Dotted lines connecting a load balancer to a backend server indicate that the load balancer can route a packet to the backend server, depending on its share of workload. Nandagopal ¶ 8.

Appellant argues, “the Office Action cites [Nandagopal’s] Figure 1 (a prior art ‘typical arrangement’) and Figure 2 (a ‘network arrangement embodying principles of the invention’) to identify the PSN.” Appeal Brief 8–9. Appellant contends, “[A]ny attempt to combine features of Figures 1 and 2 must explain how and why the prior art and the inventive embodiment, which is explicitly distinguished from the prior art, would be combined.” Appeal Brief 9. We find Appellant’s argument persuasive. The Examiner improperly combines Nandagopal’s disclosure of a typical network arrangement shown in Figure 1 with an embodiment of the invention shown in Figure 2. *See* Final Action 6; Nandagopal ¶¶ 8, 20.

In fact, Nandagopal distinguishes Figure 1’s typical network arrangement from an embodiment of the invention shown in Figure 2:

In balancing the loads, balancer **210** [of FIG. 2] determines the entire server path, i.e., the sequence of specific backend servers in the respective clusters, through which packet **206** is to be routed before it sends the packet to the server clusters for processing thereof. Thus, unlike a typical load balancer, e.g., load balancer LB<sub>A</sub> of FIG. 1, which determines only the next hop or server in the server path, multiple-load balancer **210** determines the entire server path for packet **206**, e.g., server path **A4-B2-C1** in a single process.

Nandagopal ¶ 20 (*emphasis added*).

However, focusing on Nandagopal's Figure 1 illustration of a typical network arrangement 100, there is one load balancer, PSN or SN per service group. Ueno addresses Nandagopal's deficiency of having only one SN instead of a group of SNs by disclosing a network system where "each of the load balancers LBI and LB2 selects one of the plurality of subordinate real servers **30** and distributes the received packet to the real server (the processing is possible in any real server)." Ueno ¶ 125; *see* Final Action 7. Ueno further discloses, "[T]he destination IP address is common among the plurality of servers SV, and the single destination IP address is associated with the two load balancers LBI and LB2. This is equivalent to that each server SV is assigned to the two load balances LBI and LB2." Ueno ¶ 125. Accordingly, we agree with the Examiner that it would have been obvious to one of ordinary skill in the art to modify Nandagopal's network arrangement 100 to perform service<sup>2</sup> of data messages that is in the same flow as a

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<sup>2</sup> "[T]he services can be any one of the traditional middlebox services, such as load balancing, firewall, intrusion detection, intrusion protection, network address translation (NAT), WAN (wide area network) optimizer, etc." Specification ¶ 10.

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received data message by using multiple load balancers (SNs) as disclosed by Ueno. *See* Final Action 7, 8 and 16.

Applicant further contends in regard to Nandagoal, “The disclosed server groups do not include the load balancer and the load balancer **is not disclosed as being capable of directing messages to itself**. Thus, the rejection fails to address the limitation that the PSN identifies itself as the service node to perform a service.” Appeal Brief 9. Claim 1 only recites, “when the PSN is the identified SN for the received data message’s flow, performing the service on the received data message and on data messages in the same flow as the received data message.” (*emphasis added*). It is noted that claim 1 does not physically distinguish a PSN from a SN. Accordingly, we find Appellant’s argument is not commensurate with the scope of the claim. There is no requirement in claim 1 that the PSN directs messages to itself nor is there a requirement that the PSN identifies itself. Consequently, we sustain the Examiner’s obviousness rejection of independent claims 1 and 14 argued together, as well as, the obviousness rejections of dependent claims 2, 4–13 and 16–19 not argued separately. *See* Appeal Brief 12–14. We note that while we affirmed the Examiner’s rejection based upon the prior cited art of record, Nandagopal and Ueno, we relied upon Nandagopal’s Figure 1 only and altered the rationale of the obviousness rejection of independent claims 1 and 14. Accordingly, we designate the rejection as a new ground of rejection pursuant to 37 C.F.R. § 41.50(b).

*Dependent claims 3 and 15*

Appellant contends that both claims 3 and 15, which depend upon independent claims 1 and 14 respectively, recite that “the service is a non-load balancing service.” Appeal Brief 13. In claims 1 and 14, a service,

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which is unspecified, is performed on the received data message and on data messages in the same flow as the received data message. Appellant argues that “[Ueno’s] paragraph 59 discusses a relay processing device being one of a load balancer or firewall, only the load balancing embodiment is used to reject the limitations of claims 3 and 15.” Appeal Brief 13. Appellant contends, “[E]ither LB2 is a SSN [secondary service node] and the service is a load balancing service or the servers are the SSNs and the SN group is providing the service of servers SV2-1 to SV2-10 (not the load balancing service of LB2).” Appeal Brief 13–14. We do not find Appellant’s argument persuasive because Ueno discloses, “The policy information POL indicates a policy of the relay processing device 20 (load balancer, fire wall).” Ueno does not draw the distinction that the processing device has to offer one or the other service. The processing device can offer more than one service. *See* Ueno ¶ 59. We sustain the Examiner’s obviousness rejection of claims 3 and 15.

#### CONCLUSION

| <b>Claims Rejected</b> | <b>35 U.S.C. §</b> | <b>Reference(s)/Basis</b>    | <b>Affirmed</b> | <b>Reversed</b> |
|------------------------|--------------------|------------------------------|-----------------|-----------------|
| 1–9, 14–16             | 103                | Nandagopal, Ueno             | 1–9, 14–16      |                 |
| 10–12, 17–19           | 103                | Nandagopal, Ueno, Sen        | 10–12, 17–19    |                 |
| 13                     | 103                | Nandagopal, Ueno, Srivastava | 13              |                 |
| <b>Overall Outcome</b> |                    |                              | 1–19            |                 |

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This decision contains a new ground of rejection pursuant to 37 C.F.R. § 41.50(b). 37 C.F.R. § 41.50(b) provides that “[a] new ground of rejection..., shall not be considered final for judicial review.”

37 C.F.R. § 41.50(b) also provides that the Appellant, WITHIN TWO MONTHS FROM THE DATE OF THE DECISION, must exercise one of the following two options with respect to the new ground of rejection to avoid termination of the appeal as to the rejected claims:

*(1) Reopen prosecution.* Submit an appropriate amendment of the claims so rejected or new evidence relating to the claims so rejected, or both, and have the matter reconsidered by the examiner, in which event the proceeding will be remanded to the examiner ....

*(2) Request rehearing.* Request that the proceeding be reheard under § 41.52 by the Board upon the same record ....

AFFIRMED