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BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte JATIN SAREEN, WASEEM REYAZ KHAN, KAPIL JUNEJA, and RAJAGOPALAN KANNAN

Appeal 2019-003069
Application 14/489,838
Technology Center 2600

Before JOHN A. EVANS, JOHN P. PINKERTON, and MICHAEL M. BARRY, *Administrative Patent Judges*.

PINKERTON, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellant[1] appeals under 35 U.S.C. § 134(a) from the Examiner's Final Rejection of claims 1 and 3–20, which are all of the claims pending in the application. Claim 2 is canceled. We have jurisdiction under 35 U.S.C. § 6(b).

We reverse.

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[1] We use the word "Appellant" to refer to "applicant" as defined in 37 C.F.R. § 1.42. Appellant identifies the real party in interest as Ciena Corporation. Appeal Br. 2.

STATEMENT OF THE CASE

Appellant's Invention

Appellant generally describes the disclosed and claimed invention as relating to "fast mesh restoration systems and methods that use real time detection of fault location at a source/originating node." Spec. ¶ 2.

Illustrative Claim

Independent claim 1 is illustrative of the subject matter on appeal and provides as follows:

> 1. A method, by a node in a network using a control plane, for fast restoration in the network, the method comprising:
>
> detecting a failure on a link associated with the node; and
>
> providing failure information through in-band data path overhead of an affected connection, wherein the in-band data path overhead is sent over a fast path, wherein the failure information is received at an originating node of the affected connection via the fast path directly from the in-band data path overhead, prior to the originating node receiving the control plane signaling via a slow path relative to the fast path, wherein the failure information comprises control plane identification information which identifies the node and link in the control plane such that the failure information from the in-band data path overhead is provided to the control plane at a receiving node for action based thereon, wherein the originating node is configured to receive the failure information via the fast path and generate and forward associated control plane signaling over the slow path based on the failure and the control plane identification information,
>
> wherein the failure information is sent both over the in-band data path overhead and the control plane, and
>
> wherein the control plane operates in a distributed manner between the node and other nodes in the network via

> control plane signaling to establish and release network resources in an end-to-end manner.

Appeal Br. 17 (Claims App.).

References

The prior art relied upon by the Examiner is:

Name	Reference	Date
Rabie et al. (Rabie)	US 7,333,438 B1	Feb. 19, 2008
Skalecki et al. (Skalecki)	US 7,590,051 B1	Sept. 15, 2009
Saitoh	US 2012/0287778 A1	Nov. 15, 2012
Nuijts et al. (Nuijts)	US 2014/0199072 A1	July 17, 2014
Hussain et al. (Hussain)	US 2015/0334004 A1	Nov. 19, 2015
Applicant Admission/Background		

Rejections on Appeal

Claims 1, 3–5, 9, and 11–20 stand rejected under 35 U.S.C. § 103 as being unpatentable over Saitoh, Hussain, and Nuijts. Final Act. 4–15.

Claims 6 and 8 stand rejected under 35 U.S.C. § 103 as being unpatentable over Saitoh, Hussain, Nuijts, and Skalecki. *Id.* at 16.

Claim 7 stands rejected under 35 U.S.C. § 103 as being unpatentable over Saitoh, Hussain, Nuijts, and Rabie. *Id.* at 16–17.

Claim 10 stands rejected under 35 U.S.C. § 103 as being unpatentable over Saitoh, Hussain, Nuijts, and Applicant Admission/Background. *Id.* at 17–18.

ANALYSIS

Claim 1—"A method, by a node in a network using a control plane, for fast restoration in the network"—requires that

> failure information is received at an originating node . . . via the fast path directly from the in-band data path overhead, prior to the originating node receiving the control plane signaling via a slow path relative to the fast path, . . . wherein the failure

> information is sent both over the in-band data path overhead and the control plane.

Appeal Br. 17 (Claims App.). For the reasons that follow, we are persuaded the Examiner erred in finding the combined teachings of Saitoh, Hussain, and Nuijts suggest these limitations. *See* Final Act. 4, 6–7.

The first limitation at issue recites that "the failure information is received at an originating node via the fast path directly from the in-band data path overhead." The Examiner finds Saitoh's method for handling a signal failure in an Optical Transport Network ("OTN") teaches this limitation. Final Act. 4 (citing Saitoh ¶ 81, Fig. 4). According to the Examiner, however, "Saitoh does not teach that the signaling towards the originating nodes is performed over the slow path and that the signaling generated by the originating nodes is performed over the slow path, wherein the failure information is sent both over the in-band data path overhead and the control plane." *Id.* at 6.

The Examiner cites Hussain for teaching that "in-band control may also be used in networks that have an out-of-band control channel to provide redundant in-band control channel functionality." *Id.* (citing Hussain ¶ 97). The Examiner determines that "it would have been obvious . . . to use both in-band and out-of-band signaling simultaneously to provide redundant control channel functionality . . . taught by Hussain . . . in the method of Saitoh because it improves the reliability of the signaling and fault notification across the network and thus increases the network robustness." *Id.* But, the Examiner finds that "Saitoh in view of Hussain . . . does not expressly teach that out-of-band channel is slower that the in-band channel." *Id.*

The Examiner then cites Nuijts as teaching "it is known in the art to use a supervisory/signaling channel at a much lower bit rate than that used in channels carrying data." *Id.* (citing Nuijts ¶ 42). The Examiner then determines that "it would have been obvious . . . to use a supervisory/ signaling channel at a much lower bit rate than that used in channels carrying data, as taught by Nuijts . . . , in the modified method of Saitoh for the benefit of increasing the bandwidth utilization efficiency." *Id.* at 7.

Appellant contends that "[n]one of the references including Saitoh suggest[s]" claim 1's requirement that the failure information is received via the overhead or "fast path" "***prior to the originating node receiving the control plane signaling via a slow path relative to the fast path***." Appeal Br. 11, *see also id.* at 9–12. Appellant contends further that Hussain's suggestion of failover redundant control channels does not suggest that "the originating node receive[s] this failure information from both the overhead (fast path) and control plane signaling (slow path)." *Id.* at 12, *see also id.* at 12–13.

In response to Appellant's contentions, the Examiner explains that "[i]t is common knowledge in the art, as taught by Nuijts . . . , that out-of-band signals are allocated slower transmission rates than that allocated to data transmission (i.e., in-band signals)," and "[t]hus, it logically follows that if fault indications signals are sent using both in-band and out-of-band signals, fault indications signals sent via in-band signals (i.e., fast path) will arrive at the desired destination (i.e., the originating node) prior to those sent via out-of-band signals (i.e., slow path)." Ans. 17 (citing Nuijts ¶ 42). The Examiner explains further that "providing redundant control channel functionality," as taught by Hussain, "means that the two signaling

approaches are used to signal the same information." *Id.* at 17–18 (citing Hussain ¶ 97).

Appellant argues that the Examiner is incorrect for several reasons. Reply Br. 2–3. First, the "Examiner is making assumptions based on his knowledge of the art, not what the references suggest." *Id.* at 2. Second, the "Examiner agrees that Saitoh does not suggest 'prior to the originating node receiving the control plane signaling via a slow path relative to the fast path.'" *Id.* at 2. Third, there is no suggestion that Hussain's failover redundant control channels work at the same time or at different speeds. *Id.* Rather, according to Appellant, ordinarily skilled artisans would have recognized that in Hussain, "redundant means one works when the other fails. . . . [n]ot that they are used simultaneously." *Id.* at 3. And fourth, Nuijt's "lower bit rate means less data can be sent at a time, not that one piece of data arrives prior to another." *Id.* at 2 (emphasis omitted).

We are persuaded by Appellant's arguments that the Examiner erred. As an initial matter, while Nuijts' disclosure of transferring signals at a lower bit rate may suggest that less data is sent over time, the Examiner does not adequately explain why data sent at a higher bit rate would arrive at the originating node "prior to" data transmitted with a lower bit rate. Indeed, the Examiner does not explain why the proposed combination suggests that fault data sent in the operator identifier field of an FTFL[2] message between the nodes of Saitoh's OTN would arrive "prior to" data sent "at a much lower bit rate" over one of the out-of-band channels described in Hussain or Nuijts. The Examiner also does not provide any persuasive evidence as to when

[2] In Saitoh, FTFL stands for "fault type and fault location reporting channel." Saitoh ¶ 48.

data is sent over Hussain's in-band and out-of-band communication channels, let alone that both are sent *at the same time*. Nor does the Examiner persuasively rebut Appellant's assertion that, in Hussain, only one channel is being used at a time—either the out-of-band channel or the redundant in-band channel when the out-of-band-channel fails.

Moreover, the Examiner has not convinced us that the cited prior art teaches or suggests sending data over a "slow path" as claimed. Appellant's Specification describes a "slow path" as "operating sequentially and in software," "a RELEASE message being processed on each hop in the call path." Spec. ¶¶ 4, 31, *see also id.* ¶ 7 ("[T]he slow path can operate in software based on processing and forwarding the control plane signaling sequentially through the intermediate nodes to the originating node and is delayed based on the number of the intermediate nodes."). But the Examiner does not identify any persuasive evidence that either of the out-of-band channels taught by Nuijts or Hussain constitutes a "slow path," nor that either channel would result in a "slow" path when modified to include Nuijts' disclosure of transferring signals at a lower bit rate.

In view of the foregoing, the Examiner has not shown that the proposed combination teaches or suggests all the limitations of claim 1. We decline to resort to speculation to fill in the gaps in the Examiner's rejection. *See Ex parte Braeken*, 54 USPQ2d 1110, 1112 (BPAI 1999). We therefore determine that the Examiner erred in rejecting claim 1 under 35 U.S.C. § 103 for obviousness over Saitoh, Hussain, and Nuijts.

Accordingly, constrained by this record, we decline to sustain the Examiner's § 103 rejection of independent claim 1. For similar reasons, we decline to sustain the Examiner's § 103 rejections of claims 3–20, which

include one or more similar limitations. For these claims, the Examiner fails to provide any finding or reasoning that cures one or more of the defects discussed above. *See* Final Act. 7–18; *cf. In re Fritch*, 972 F.2d 1260, 1266 (Fed. Cir. 1992) ("dependent claims are nonobvious if the independent claims from which they depend are nonobvious").

CONCLUSION

We do not sustain the Examiner's rejection of claims 1, 3–5, 9, and 11–20 under 35 U.S.C. § 103 as being unpatentable over the combination of Saitoh, Hussain, and Nuijts.

We do not sustain the Examiner's rejection of claims 6 and 8 under 35 U.S.C. § 103 as being unpatentable over the combination of Saitoh, Hussain, Nuijts, and Skalecki.

We do not sustain the Examiner's rejection of claim 7 under 35 U.S.C. § 103 as being unpatentable over the combination of Saitoh, Hussain, Nuijts, and Rabie.

We do not sustain the Examiner's rejection of claim 10 under 35 U.S.C. § 103 as being unpatentable over the combination of Saitoh, Hussain, Nuijts, and Applicant Admission/Background.

DECISION SUMMARY

Claims Rejected	35 U.S.C. §	Reference(s)/Basis	Affirmed	Reversed
1, 3–5, 9, 11–20	103	Saitoh, Hussain, Nuijts		1, 3–5, 9, 11–20

6, 8	103	Saitoh, Hussain, Nuijts, Skalecki		6, 8
7	103	Saitoh, Hussain, Nuijts, Rabie		7
10	103	Saitoh, Hussain, Nuijts, Applicant Admission/ Background		10
Overall Outcome				1, 3–20

REVERSED