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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte KENNETH J. KERPEZ

Appeal 2015-002169
Application 11/341,226
Technology Center 2400

Before ELENI MANTIS MERCADER, CARL W. WHITEHEAD JR., and
ADAM J. PYONIN, *Administrative Patent Judges*.

Per Curiam.

DECISION ON APPEAL
STATEMENT OF THE CASE

This is a decision on appeal under 35 U.S.C. § 134(a) from the Final Rejection of claims 1–20. Appeal Brief 1. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

Introduction

Appellant’s invention relates to “accurately predict[ing] the performance of each different priority or service level on a PON [passive optical network] with multiple different service types and multiple users.”

Abstract.

Representative Claim (Disputed limitations emphasized)

1. A computer-implemented method comprising:
 - receiving, at a computer, actual data associated with a plurality of characteristics of an existing passive optical network (PON) and a broadband service which the existing PON is configured to provide, wherein *the actual data includes a number of subscribers of the existing PON that subscribe to the broadband service and a bit rate of the broadband service*;
 - generating, at the computer, multiple traffic streams based on the actual data;
 - predicting, at the computer, a performance of the existing PON based on a real-time simulation of the existing PON loaded with the multiple traffic streams;
 - determining, at the computer, whether the existing PON has sufficient capacity to provide the broadband service based on the predicted performance of the existing PON.

Rejections on Appeal

Claims 1, 2, 4, 5, 7, 11, 12, 14, 15, and 17–19 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Yantai Shu, *Prediction-Based Admission Control Using FARIMA Models*, 2000 IEEE International Conference on Communications, 1325–29 (2000). Final Rejection 11.

Claims 1–5, 11–15, 18, and 19 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Borella (US 6,442,141 B1; August 27, 2002). Final Rejection 15.

Claims 3 and 13 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Shu in view of J.M. Senior, *Modelling the response of different WDM PON architectures to varying traffic load*, SPIE Conference on All-Optical Networking 1999, 181–87 (September 1999) . Final Rejection 17–18.

Claims 6, 8–10, 16, and 20 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Shu in view of Mario Gerla & Leonard Kleinrock, *On the Topological Design of Distributed Computer Networks*, IEEE TRANSACTIONS ON COMMUNICATIONS, 48–60 (January 1977) . Final Rejection 19.

Claims 6–10, 16, 17, and 20 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Borella in view of Gerla. Final Rejection 21.

Claims 11, 12, 14, 15, and 17 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Shu. Final Rejection 24.

Claims 1, 2, 4, 5–7, 11, 12, 14, and 15–19 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Shu in view of Chadi M. Assi, “*Dynamic Bandwidth Allocation for Quality-of-Service Over Ethernet PONs*,” 21 IEEE JOURNAL ON SELECTED AREAS IN COMMUNICATIONS, 1467–77 (November 2003). Final Rejection 24.

Claims 3 and 13 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Shu in view of Assi and Senior. Final Rejection 27.

Claims 6, 8–10, 16, and 20 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Shu in view of Assi and Gerla. Final Rejection 27.

Claims 1–7 and 11–19 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Borella in view of Assi. Final Rejection 27.

Claims 8–10 and 20 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Borella in view of Assi and Gerla. Final Rejection 29.

ANALYSIS

Rather than reiterate the arguments of Appellant and the Examiner, we refer to the Final Rejection (mailed January 14, 2014), the Appeal Brief (filed July 23, 2014), the Answer (mailed October 3, 2014), and the Reply Brief (filed December 3, 2014) for the respective details. We have considered in this decision only those arguments Appellant actually raised in the Briefs.

We have reviewed the Examiner's rejections in light of Appellant's arguments that the Examiner has erred. We adopt as our own (1) the findings and reasons set forth by the Examiner in the action from which this appeal is taken and (2) the reasons set forth by the Examiner in the Examiner's Answer in response to Appellant's Appeal Brief, except where noted.

Anticipation Rejections of Claims 1, 11, and 18

Regarding the anticipation rejection based on Shu, Appellant argues Examiner error because Shu fails to disclose or suggest that "the actual data includes a number of subscribers of the existing PON that subscribe to the broadband service and a bit rate of the broadband service," as appearing in claim 1. Appeal Brief 12. The Examiner finds that "**(1) Number of Subscribers** is the #Actv the number of active flows" and "**(2) Bit rate or Bandwidth** is % link utilization multiplied by total capacity." Answer 7 (citing Shu, "**Table 2: Single-Hop Simulation Results**"). We find Appellant's arguments persuasive.

Regarding the anticipation rejection based on Borella, Appellant argues Examiner error because "[s]imulating or measuring 'delay and loss

conditions’ as in Borella is not the same as using a ‘number of subscribers’ and ‘a bit rate’ as claimed” and “[t]he Examiner has not explained his rationale for how ‘bandwidth and users’ are inherently disclosed.” Appeal Br. 15. The Examiner finds “the trace intrinsically contains both the bandwidth and the subscriber information to perform the simulation.”

Answer 14. We find Appellant’s arguments persuasive.

Accordingly, we reverse the Examiner’s anticipation rejections of independent claim 1, as well as independent claims 11 and 18 not separately argued, as well as the claims dependent therefrom. We also reverse the following Examiner’s obviousness rejections for the same reasons:

1. claims 3 and 13 (Shu in view of Senior);
2. claims 6, 8–10, 16, and 20 (Shu in view of Gerla);
3. claims 6–10, 16, 17, and 20 (Borella in view of Gerla); and
4. claims 11, 12, 14, 15, and 17 (Shu alone).

Obviousness Rejections of Claims 1, 11, and 18 in View of Various Combinations of References

Regarding all obviousness rejections of claim 1, Appellant argues that “[a]lthough pages 24-29 of the final Office Action have further rejected the claims in the alternative, the rejections in the alternative do not allege that all elements of independent Claims 1, 11, and 18 are disclosed in the additional references.” Appeal Brief 15. Appellant additionally contends that “[b]ased on Appellant’s review . . . Appellant submits that Shu, Borella, Assi, Gerla, and Senior, alone or in combination, fail to disclose or suggest at least one element in each of independent Claims 1, 11, and 18.” Appeal Brief 16.

We are not persuaded by Appellant’s arguments. Regarding the combination of Shu and Assi, the Examiner finds, and we agree, that Assi discloses a simulation considering “a PON architecture with 16 ONUs [(optical network units)] connected in a tree topology” and that “[t]he channel speed is considered to be 1 Gb/s.” Final Rejection 25 (citing Assi § VI (page 1473)). Assi further indicates “[e]ach ONU supports three priority queues” and refers to this configuration as a “traffic model.” Assi 1473. One skilled in the art would understand that Assi’s traffic model would have an upper bound on the maximum traffic that could be simulated, based on the number of subscribers of the PON to be simulated.

The Examiner additionally finds, and we agree, that:

[a] person of ordinary skill in the art at the time of invention would have utilized the simulation methodology and characteristics disclosed in Assi with the simulation of Shu by including the simulation inputs of Assi in the alternative or in addition to those of Shu . . . in order to simulate system scheduling performance.

Final Rejection 26 (citing Shu §§ 3, 3.1, 3.3 and Assi § II).

Similarly, with respect to the combination of Borella and Assi, the Examiner finds, and we agree, that “[a] person of ordinary skill in the art at the time of invention would have utilized the simulation methodology and characteristics disclosed in Assi with the simulation of Borella by including the simulation inputs of Assi . . . in order to simulate system scheduling performance.” Final Rejection 29 (citing Borella Figure 5 and Assi § II).

We conclude the Examiner’s articulated reasoning provides a rational underpinning to support the legal conclusion of obviousness. *See KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 418 (2007). Appellant fails to address, with any degree of specificity, the deficiency of (1) the addition of Assi to

Shu, or (2) the addition of Assi to Borella, relied upon by the Examiner to establish obviousness under 35 U.S.C. § 103(a), and Appellant similarly fails to address the obviousness rejections based on the following additional combinations of references:

1. Shu in view of Assi and Senior;
2. Shu in view of Assi and Gerla;
3. Borella in view of Assi; and
4. Borella in view of Assi and Gerla.

Once the Examiner has satisfied the burden of presenting a prima facie case of obviousness, the burden then shifts to Appellant to present evidence and/or arguments that persuasively rebut the Examiner's prima facie case. *See In re Oetiker*, 977 F.2d 1443, 1445 (Fed. Cir. 1992). Appellant did not particularly point out errors in the Examiner's reasoning to persuasively rebut the Examiner's prima facie case of obviousness and therefore the following obviousness rejections are sustained:

1. claims 1, 2, 4, 5–7, 11, 12, 14, and 15–19 (Shu in view of Assi);
2. claims 3 and 13 (Shu in view of Assi and Senior);
3. claims 6, 8–10, 16, and 20 (Shu in view of Assi and Gerla);
4. claims 1–7 and 11–19 (Borella in view of Assi); and
5. claims 8–10 and 20 (Borella in view of Assi and Gerla).

DECISION

We affirm the Examiner's rejections of claims 1–20.

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)(iv).

Appeal 2015-002169
Application 11/341,226

AFFIRMED