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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte ROBERT SMITH

Appeal 2019-005086
Application 14/920,465
Technology Center 2400

Before ROBERT E. NAPPI, JEAN R. HOMERE, and JAMES B. ARPIN, *Administrative Patent Judges*.

ARPIN, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellant[1] appeals under 35 U.S.C. § 134(a) from the Examiner's decision rejecting claims 1–7, 9, 10, 12–21, and 23. Final Act. 3.[2] Claims 8, 11, 22, and 24–26 are canceled. *Id.* Oral arguments were heard on July 30,

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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 Level 3 Communications, LLC, a subsidiary of CenturyLink, Inc. Appeal Br. 3.

[2] In this Decision, we refer to Appellant's Appeal Brief ("Appeal Br.," filed January 28, 2019) and Reply Brief ("Reply Br.," filed June 19, 2019); the Final Office Action ("Final Act.," mailed August 30, 2018) and the Examiner's Answer ("Ans.," mailed April 19, 2019); and the Specification ("Spec.," filed October 22, 2015). Rather than repeat the Examiner's findings and determinations and Appellant's contentions in their entirety, we refer to these documents.

2020. A transcript ("Tr.") of the hearing has been added to the record. We have jurisdiction under 35 U.S.C. § 6(b).

We affirm.

STATEMENT OF THE CASE

The claimed methods

> can allow for more automated and timely responses to provide needed routing changes, including changes in response to DDOS and other network attacks. Embodiments can provide a central point to control routing and prevent unqualified people from having access to network control, as well as logging all routing changes made. Embodiments are also provided for capturing and logging routing updates made in a network.

Spec. ¶ 5. As noted above, claims 1–7, 9, 10, 12–21, and 23 are pending. Claim 1 is independent and recites, "[a] method of managing routes of data traffic within a network." Appeal Br. 12 (Claims App.). Claims 2–7, 9, 10, 12–21, and 23 depend directly or indirectly from claim 1. *Id.* at 12–14.

Claim 1, reproduced below with disputed limitations emphasized, is representative.

> 1. A method of managing routes of data traffic within a network, the method comprising performing, by a computer system:
>
> providing a user interface for a user to input a destination address and a routing action, wherein the user interface provides a plurality of routing actions from which to select, wherein the plurality of routing actions includes a discarding routing action to be performed at the plurality of border routers;
>
> receiving a first destination address and a first routing action via the user interface;
>
> *receiving, via the user interface, a future time for which the first routing action is to be used*; and
>
> upon reaching the future time:

updating a configuration file to specify the first routing action to be performed for the destination address;

converting the configuration file into router management commands; and

sending the router management commands to a plurality of border routers of the network.

Id. at 12 (emphases added).

REFERENCES AND REJECTION

The Examiner relies upon the following references:

Name[3]	**Reference**	**Publ'd**	**Filed**
Ferguson	US 2011/0264822 A1	Oct. 27, 2011	June 17, 2011
Scholl	US 2013/0182710 A1	July 18, 2013	Mar. 5, 2013
Hui	US 2014/0372577 A1	Dec. 18, 2014	June 18, 2013

Claims 1–7, 9, 10, 12–21, and 23 stand rejected under 35 U.S.C. § 103 as obvious over the combined teachings of Scholl, Ferguson, and Hui. Final Act. 4–13.

We review the appealed rejection for error based upon the issues identified by Appellant, and in light of the contentions and evidence produced thereon. *Ex parte Frye*, 94 USPQ2d 1072, 1075 (BPAI 2010) (precedential). The Examiner and Appellant focus their findings and contentions on claim 1; so do we. *See* Final Act. 2–4; Appeal Br. 10–11; Reply Br. 4. Arguments not made are waived. *See* 37 C.F.R. § 41.37(c)(1)(iv). Unless otherwise indicated, we adopt the Examiner's findings in the Final Office Action and the Answer as our own and add any additional findings of fact for emphasis. We address this rejection below.

[3] All reference citations are to the first named inventor only.

ANALYSIS

Obviousness of Claim 1 Over Scholl, Ferguson, and Hui

As noted above, claims 1–7, 9, 10, 12–21, and 23 stand rejected under 35 U.S.C. § 103 as rendered obvious over the combined teachings of Scholl, Ferguson, and Hui. Final Act. 4–13. With regard to the disputed limitations, the Examiner finds that Scholl teaches or suggests the step of "***converting the configuration file into router management commands***" (*id.* at 5) and that Hui, in view of the teachings of Scholl, teaches or suggests the step of "***receiving, via the user interface, a future time for which the first routing action is to be used" and taking further steps "upon reaching the future time***" (*id.* at 6).

With regard to the disputed "converting" step, the Examiner finds "Scholl et al. discloses that based on the policies, the route reflector selects a modified next hop address where the destination address 2.2.2.2. rather than the destination address 3.3.3.3. is selected as the next hop for the shared address 1.1.1.1 at the [provider edge (PE)] router (par [0023]))." *Id.* at 5. Specifically, Scholl discloses:

> If the selected PE routers **120-122** are to have their routing manipulated (e.g., are to route packets directed to the shared address 1.1.1.1 to the destination **110** rather than the default destination **111**) (block **215**), the example route reflector 140 selects a modified next-hop address based on the policy(-ies) 141 (block **220**). In the illustrated example of FIG. 1, the route reflector **140** selects the destination address 2.2.2.2 rather than the destination address 3.3.3.3 as the next-hop for the shared address 1.1.1.1 at the PE router 120. *The route reflector 140 sends a [border gateway protocol (BGP)] route advertisement **150** to the ingress PE router **120** containing the modified next-hop address of 2.2.2.2 for the shared address 1.1.1.1 (block 225), and sends another BGP route advertisement 151 to the*

> *ingress PE router **120** containing routing information for the next-hop address 2.2.2.2 including the label **1234** assigned to the interface **128** associated with the destination **110** (block **230**).*

Scholl ¶ 23 (emphasis added); *see id.* ¶¶ 15 ("To manage, modify and/or query the example route tables **124**, each of the example PE routers **120-122** of FIG. 1 includes a database module, one of which is designated at reference **125**. Based on, for example, a destination address, a next-hop address and/or a label, the example database modules **125** of FIG. 1 locate routing information in the route table **124** by performing one or more queries."), 26 ("Via the example [graphic user interface (GUI)] **142** of FIG. **1** a person such as a technician and/or a network operator can set the policies 141 to manipulate packet routing by selecting which next-hop information is to be modified and to what address(es)."). Thus, the Examiner finds that Scholl's policies teach or suggest the recited "configuration file" and Scholl discloses those policies are converted into route advertisements including, for example, destination addresses or next-hop addresses, which teach or suggest the recited "router management commands." Ans. 17–18; *see* Scholl ¶ 22 ("Based on one or more policies **141**, the example route reflector **140** of FIG. 1 selects one or more ingress PE routers **120-122** that are to receive route advertisements based on the received advertisements **145-147** (block 210)."); *see also* Scholl ¶¶ 11, 14, 21, Abstract (describing the transmission and content of route advertisements).

> With regard to the disputed "receiving" step, the Examiner finds
>
> Hui et al. is directed to dynamically adjusting network parameters using weather forecasts. More specifically, Hui et al. teaches when weather forecast adjusts network parameters and behavior such filtering specific application traffic (par [0036]);

> the weather forecast is received, it indicates time period that represents a time at which the corresponding weather condition is predicted to occur (par [0062]); Network profile table maps a network profile against a weather condition and maps the weather condition against a time period (par [0061]) and that time of day field contains entries for time periods (par [0062]; FIG. 5); a weather forecast is received by [network management system (NMS)/field area router (FAR)], the NMS/FAR determines the weather condition based on the time and then adjust[s] the network-layer parameters such as increas[ing] the capacity dedicated to broadcast traffic and forming additional [directed acyclic graphs (DAGs)] when inclement weather is expected to enable broadcast transmission (par [0075])).

Final Act. 6.

Hui's Figures 4 and 5 are reproduced below.

400

NETWORK PROFILE 304	POWER OUTAGE NOTIFICATION 404	METER CHECKING 406	ENERGY HARVESTING DEPENDENT 408
308 → PROFILE A	• HIGH TRAFFIC PRIORITY • LOW LATENCY TRANSMISSION REQUIREMENT • INCREASED BROADCAST COMMUNICATION CAPACITY 410	• LOW TRAFFIC PRIORITY • HIGH LATENCY TRANSMISSION PERMITTED • SUSPENDED TRANSMISSION AND/OR DROPPED PACKETS 412	• REDUCED ENERGY RESOURCES AVAILABLE • REDUCED NETWORK TRAFFIC 414
PROFILE B	⋮	⋮	⋮
PROFILE C	⋮	⋮	⋮

FIG. 4

Figure 4 depicts "an example network profile table, in which network profiles are mapped against network applications." Hui ¶ 7.

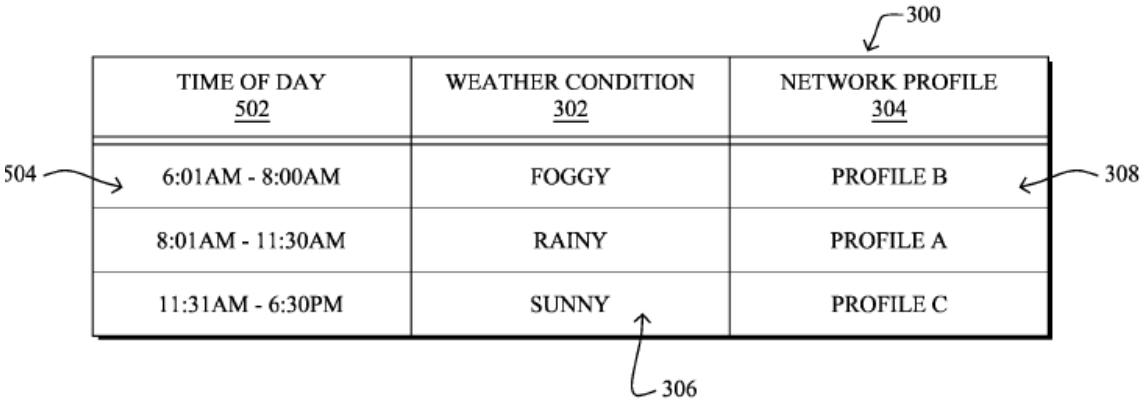

FIG. 5

Figure 5 depicts "an example network profile table, in which network profiles are mapped against weather conditions and time of day indicators." *Id.* ¶ 8; *see id.* ¶¶ 13 ("Network parameters are then selected for adjustment *based on the predicted weather condition*. The selected network parameters may then be adjusted to improve performance of the network in response to the predicted weather condition." (emphasis added)); 36 ("The weather forecasts/traffic profiles may be provided by an NMS or FAR. [Low power and lossy networks (LLN)] devices may provide their capabilities to the NMS/FAR to assist in adjusting parameters."), 61–62 (discussing adjusting network parameters in response to predicted weather conditions). Thus, the Examiner finds Scholl teaches adjusting routes via a GUI (Scholl ¶ 26) and Hui teaches selecting routes, e.g., "network profiles," based on a *predicted* weather condition, i.e., a forecast for weather conditions at *future* "times of day" (Hui ¶¶ 61 ("In other words, network parameters to be adjusted may be selected based on the predicted weather condition and/or the selected

network profile without actual formation of the network profile table 500 in memory 240, or otherwise."), 75 ("As described above, the end-user may prioritize [Power Outage Notifications (PONs)] and [Power Restoration Notifications (PRNs)] *when inclement weather is expected*." (emphasis added))). *See* Tr. 7:25–12:5.

Appellant contends the Examiner errs in finding that Scholl alone teaches the "converting" step and Scholl in combination with Hui teaches or suggests the "receiving" step. Appeal Br. 6–10; Reply Br. 2–4. For the reasons given below, we are not persuaded by Appellant's contentions.

First, Appellant contends,

> there is no indication in Scholl that the advertisement is synonymous with a command. Even if the command is similar to the advertisement, Scholl does not teach that the policy of Scholl is converted into the advertisement of Scholl. Thus, Scholl does not teach "converting the configuration file into router management commands," as recited in claim 1.

Appeal Br. 10; *see* Reply Br. 4. However, as noted above, Scholl discloses that "*[b]ased on one or more policies **141***, the example route reflector **140** of FIG. **1** selects one or more ingress PE routers **120-122** that are to receive route advertisements based on the received advertisements **145-147** (block **210**)." Scholl ¶ 22 (emphasis added). Moreover, Scholl discloses, "a person such as a technician and/or a network operator *can set the policies **141** to manipulate packet routing* by selecting which next-hop information is to be modified and to what address(es)." *Id.* ¶ 26 (emphasis added). Thus, Scholl teaches or suggests the policies may manipulate the routing of packets by means of the router advertisements and that the advertisements effectively command the routing of packets.

During the hearing, Appellant contended the Specification defines command as a Border Gateway Protocol (BGP) command. Tr. 17:7–14 (citing Spec. ¶ 33). Further, Appellant asserts a BGP command and a BGP advertisement are different. *Id.* at 21:1–2. Consequently, Appellant contends Scholl's advertisement does not teach the recited command. *See* Appeal Br. 17; Reply Br. 4. Initially, the Specification's Paragraph 33 does not disclose that a BGP command is different from a BGP advertisement. *See* Spec. ¶ 33. Moreover, claim 1 does not recite that "commands" are BGP commands. *See* Appeal Br. 12 (Claim App.) Instead, claim 5 recites "wherein the router management commands are Border Gateway Protocol (BGP) commands." *Id.* Thus, claim 1 is not limited to BGP commands. In addition, although Scholl discloses *an example* using BGP advertisements (*see* Scholl ¶ 14 (discussing Scholl's Figure 1)), Appellant does not persuade us that Scholl's teachings are limited to BGP advertisements or that Scholl's advertisements are different from the recited commands of claim 1.

Therefore, we are not persuaded the Examiner errs in finding that Scholl teaches or suggests the "converting" limitation.

Second, Appellant contends:

> Paragraph [0036] of Hui teaches that some or all of NMS, FAR, and LLN devices determine weather forecasts and adjust parameters. However, determining weather forecasts and adjusting parameters is not the same as receiving a future time. Indeed, there is no reference to a future time in paragraph [0036] of Hui. Furthermore, the future time is not being received via a user interface. Thus paragraph [0036] of Hui does not teach "receiving, via the user interface, a future time for which the first routing action is to be used," as recited in claim 1.

Appeal Br. 7; *see* Reply Br. 2–4. We disagree.

Appellant contends, "determining weather forecasts and adjusting parameters is not the same as receiving a future time." Appeal Br. 7. However, a weather "forecast" is a prediction of the weather conditions at a future time. *See* Hui ¶¶ 13, 36, 41–43, 62, Fig. 5. Thus, we are persuaded that Hui's weather forecasts teach or suggest "receiving . . . a future time for which the first routing action is to be used." Ans. 14–15.

In addition, Appellant contends Hui does not teach or suggest the future time is received via a user interface. Appeal Br. 7; *see* Reply Br. 3–4. Nevertheless, Appellant misunderstands the Examiner's combination of the teachings of Scholl and Hui. Claim 1 recites, "providing *a user interface* for a user to input a destination address and a routing action" (Appeal Br. 12 (Claims App.) (emphasis added)), and the Examiner finds – and Appellant does not contest – that Scholl teaches or suggests this limitation (Final Act. 4 (citing Scholl ¶ 26)). Moreover, the Examiner finds that Hui teaches or suggests controlling network parameters (*id.* (citing Hui ¶ 72)), and Hui discloses, "the NMS/FAR, *or any other suitable node/device of the network*, may select nodes of the network to control" (Hui ¶ 72 (emphasis added); *but see* Tr. 12:6–13:14). Further, Hui explains that an end-user may modify the network parameters. *See* Hui ¶¶ 68 ("The NMS/FAR may also receive additional input from a user/administrator based on whether the user/administrator was satisfied with the parameter(s) selected for adjustment."), 75 ("As described above, the end-user may prioritize PONs and PRNs when inclement weather is expected."). Given the combined teachings of Scholl and Hui, we are persuaded the Examiner has shown that the references teach or suggest "receiving, via the user interface, a future time for which the first routing action is to be used." *See* Ans. 15–16.

We are not persuaded the Examiner errs in determining that the methods recited in claim 1 are obvious over the combined teachings of Scholl, Ferguson, and Hui. Further, Appellant does not argue dependent claims 2–7, 9, 10, 12–21, and 23 separately, and, on this record, we determine that the Examiner has shown that claims 2–7, 9, 10, 12–21, and 23 also are obvious over the combined teachings of Scholl, Ferguson, and Hui. *See* Final Act. 7–13; Appeal Br. 10–11. Consequently, we are not persuaded that the Examiner errs in rejecting claims 1–7, 9, 10, 12–21, and 23, and we sustain the rejection thereof under 35 U.S.C. § 103.

DECISION

1. The Examiner does not err in rejecting claims 1–7, 9, 10, 12–21, and 23 under 35 U.S.C. § 103 as obvious over the combined teachings of Scholl, Ferguson, and Hui.
2. Thus, on this record, claims 1–7, 9, 10, 12–21, and 23 are not patentable.

CONCLUSION

We affirm the Examiner's rejections of claims 1–7, 9, 10, 12–21, and 23.

In summary:

Claims Rejected	35 U.S.C. §	Basis/Reference(s)	Affirmed	Reversed
1–7, 9, 10, 12–21, 23	103	Scholl, Ferguson, Hui	1–7, 9, 10, 12–21, 23	
Overall Outcome			1–7, 9, 10, 12–21, 23	

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a). *See* 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED