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| PATEL, JIGNESHKUMAR C | |

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

*Ex parte* SUBBIAN GOVINDARAJ, JOSEPH BRONIKOWSKI, MICHAEL D. KALAN, STEVEN J. KOWAL, TARYL J. JASPER, KENNETH S. PLACHE, DOUGLAS J. REICHARD, DOUGLAS W. REID, and CHARLES M. RISCHAR

Appeal 2019-000396
Application 13/665,489
Technology Center 2100

Before SHARON FENICK, MICHAEL M. BARRY, and RUSSELL E. CASS, *Administrative Patent Judges*.

BARRY, *Administrative Patent Judge*.

DECISION ON APPEAL

Pursuant to 35 U.S.C. § 134(a), Appellant[1] appeals from the Examiner's decision to reject claims 1–30, which are all the pending claims. *See* Final Act. 1; Appeal. Br. 8–38. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

[1] We use "Appellant" to refer to the "applicant" as defined in 37 C.F.R. § 1.42. Appellant identifies the real party in interest as Rockwell Automation Technologies, Inc. Appeal Br. 2.

*Introduction*

Appellant's disclosure and claimed invention "relate to scaling and distributing a resource oriented architecture (ROA) across automation control and monitoring systems." Spec. ¶ 2. Appellant explains that "[t]raditional approaches have relied upon centralized control and monitoring" and that "[b]y creating a resource oriented architecture (ROA) for the control and monitoring system, the system may be expandable both in functionalities across product lines and in expansion of devices or other components of the system." Spec. ¶ 7.

Claims 1, 14, and 20 are illustrative of the claims on appeal:

> 1. An industrial automation system, comprising:
>
> a set of distributed hardware-based industrial automation system components, configured to receive and implement a distributed set of functionality, the functionality comprising one or more instructions to be implemented by the set of distributed hardware-based industrial automation system components; and
>
> a resource oriented architecture comprising:
>
> a functional area definition that provides a base set of functionalities to be stored and implemented across the set of distributed hardware-based industrial automation system components;
>
> wherein the distributed set of functionality comprises a subset of the base set of functionalities to be stored and implemented across the set of distributed hardware-based industrial automation system components selected based-upon a type of a particular one of the set of distributed hardware-based industrial automation system components, in accordance with the functional area definition;

wherein:

the type comprises one of: a runtime client, a runtime server, a designer client, a designer server, and a controller component;

the set of distributed hardware-based industrial automation system components comprise at least two distributed hardware-based industrial automation system components having different types and distributed sets of functionalities based upon the different types; and

the distributed set of functionalities, when implemented by the set of distributed industrial automation system components, perform one or more industrial automation tasks of the industrial automation system.

Appeal Br. 29 (Claims App'x).

*Rejections and References*

The Examiner rejected claims 1–8, 11–17, 20–22, and 24–30 under 35 U.S.C. § 103 as unpatentable over Frank (US 6,832,120 B1; iss. Dec. 14, 2004) and Bone (US 9,052,941 B1; iss. June 9, 2015). Final Act. 2–21.

The Examiner rejected claim 9 under § 103 over Frank, Bone, and Callaghan (US 7,233,830 B1; iss. June 19, 2007). Final Act. 21–22.

The Examiner rejected claims 10 and 18 under § 103 over Frank, Bone, and Strain (US 2007/0050070 A1; pub. Mar. 1, 2007). Final Act. 22–24.

The Examiner rejected claim 19 under § 103 over Frank, Bone, and Grody (US 2005/0114141 A1; pub. May 26, 2005). Final Act. 24.

The Examiner rejected claim 23 under § 103 over Frank, Bone, and Kamat (US2007/0073813 A1; pub. Mar. 29, 2007). Final Act. 24–25.

## ANALYSIS

In rejecting claim 1, the Examiner finds Frank teaches "a set of distributed hardware-based industrial automation system components, configured to receive and implement a distributed set of functionality, the functionality comprising one or more instructions to be implemented by the set of distributed hardware-based industrial automation system components," as recited. Final Act. 2–3 (citing Frank col. 3, l. 13, col. 8, l. 23, col. 13, l. 7). Appellant contends the Examiner errs in this finding because, *inter alia*, "[t]here is no disclosure or suggestion of distributed instructions to be received and implemented by the clients and/or server." Appeal Br. 9; *see also id.* at 8–10 (contending that Frank, because it teaches centralized processing of objects, "cannot render independent claim 1 . . . obvious" (quoting *id.* at 10)). Appellant's argument is unpersuasive.

The Examiner responds to Appellant's argument by explaining the claim construction used in finding that the disclosure of Frank teaches or suggests the disputed limitation:

> The claimed invention is related to the industrial automation system which includes the distributed hardware components. These hardware components receive[] the instruction[s] to be implemented which [are] defined as a distributed set of functionality. Different objects (basically a set of instructions or functionalities) pre-exist in the control system which is interpreted as [a] set of functionalities. These objects are a set of functionalities that are then distributed in [the] control system for the implementation purpose. Additionally, the different objects having different categories are interpreted as [a] subset of the distributed set.

Ans. 3. We agree with the Examiner's interpretation and explanation of claim scope. There is nothing in claim 1 that excludes client-server

architecture. In other words, the mere fact that Frank discloses a client-server architecture does not mean that Frank's client-server architecture fails to teach or suggest distributed functionality, i.e., functionality distributed among the components within the client-server architecture. Indeed, Frank discloses that described system "maintains the integrity of system data in a distributed system" and "distributes system data as required throughout the distributed system." Frank, col. 3, ll. 16–20. An ordinarily skilled artisan, who "is also a person of ordinary creativity, not an automaton" (*KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 421 (2007)) would have understood "distributed" as recited in claim 1 and discussed in the Specification to encompass apportioning functionality among components, even where the apportioned-among components are also part of a client-server architecture.

Appellant, without contesting the Examiner's claim construction, replies that (regardless) the Examiner erred in finding the cited art

> teach[es] or suggest[s] "a set of distributed hardware-based industrial automation system components, configured to receive and implement a distributed set of functionality, the functionality comprising one or more instructions to be implemented by the set of distributed hardware-based industrial automation system components," as recited by independent claim 1 and recited in generally similar language in the other independent claims. . . . *Frank teaches the opposite of this recitation, by disclosing centralized processing*, from an object database 150, for all objects.

Reply Br. 2 (citing Frank Fig. 9, col. 5, ll. 11–15) (*italic* emphasis added); *see also id.* at 3.

This argument is unpersuasive because, as per *supra*, Frank can (and does) both disclose centralized processing for objects *and* teach the disputed limitation. Regardless of whether there are significant differences between

embodiments of Appellant's Specification and the client-server architecture of Frank, we disagree with Appellant that the "distributed functionality" limitations recited in claim 1 exclude functionality that is distributed among the components of a client-server architecture (e.g., as in the disclosure of Frank). We also note that, to the extent Appellant argues that Frank's focus on client-server architecture in effect teaches away from the claimed invention, "[a] finding that two inventions were designed to resolve different problems . . . is insufficient to demonstrate that one invention teaches away from another." *Nat'l Steel Car, Ltd. v. Canadian Pac. Ry., Ltd.*, 357 F.3d 1319, 1339 (Fed. Cir. 2004). Here, Appellant does not persuade us that the Examiner erred in finding that Frank's disclosure of using "object-oriented" techniques and "distributed control system management of LonMark™ Devices" (*see*, *e.g.*, Frank col. 5, ll. 15–49) teaches the disputed limitation. *See* Final Act. 2–4, 5–28; Ans. 3–12.

Appellant further contends

> the cited references do not teach or suggest "a resource oriented architecture comprising: a functional area definition that provides a base set of functionalities to be stored and implemented across the set of industrial automation system components; wherein the distributed set of functionality comprises a subset of the base set of functionalities to be stored and implemented across the set of hardware-based industrial automation system components selected based-upon a type of the particular one of the set of hardware-based industrial automation system components, in accordance with the functional area definition," as recited by independent claim 1 and recited in generally similar language in the other independent claims. [(hereafter, "the second disputed limitation")]

Reply Br. 3; *see also id.* at 4; Appeal Br. 10–13. These arguments of error for the independent claims are similarly unpersuasive.

We disagree that "Frank merely provides visualization of all resources in the system. Thus, the cited reference is deficient." Reply Br. 4. Appellant construes Frank too narrowly. Artisans of ordinary skill would have understood the functionality of the LonMark devices in Frank would be distributed among components of various types, as required by the second disputed limitation. *See, e.g.,* Frank col. 2, ll. (explaining that "[t]he BACnet/LonMark/Internet CORBA architectures are combined in the invention . . . to effectuate distributed control and information management). Although Frank does not discuss "sets" or "subsets" of functionalities using the same language as the claims, "[a] reference must be considered for everything it teaches by way of technology and is not limited to the particular invention it is describing and attempting to protect." *EWP Corp. v. Reliance Universal Inc.*, 755 F.2d 898, 907 (Fed. Cir. 1985) (emphasis omitted); *see also Merck & Co. v. Biocraft Laboratories, Inc.*, 874 F.2d 804, 807 (Fed. Cir. 1989) ("The question under [35 U.S.C. § 103(a)] is not merely what the references expressly teach but what they would have **suggested** to one of ordinary skill in the art at the time the invention was made.") (emphasis added) (quoting *In re Lamberti*, 545 F.2d 747, 750 (Fed. Cir. 1976).

Here, vis-à-vis the second disputed limitation, Appellant does not persuade us the Examiner erred. Frank discloses that its device objects (which are distributed within Frank's client-server architecture) are categorized by type, which improves configuring and updating groups of devices. Frank col. 5, ll. 19–49. Frank teaches using a "common object

model application environment" for managing the devices. Frank col. 12, ll. 15–32. An artisan of ordinary skill would have understood Frank's disclosure of object model applications for managing devices as a teaching of using an object-oriented model in which objects and object types correspond to various functional devices and sets of devices that have common functionality. In view of such disclosures, Appellant does not persuade us the Examiner erred in finding Frank teaches "a functional area definition that provides a base set of functionalities to be stored and implemented across the . . . system components," as recited in the second disputed limitation. *See* Final Act 3–4; Ans. 5–6. Appellant also does not persuade us the Examiner erred in finding Frank, by its disclosures such as dividing "object categories" into "sub-categories" that may be separately created and manipulated (Frank col. 10, ll. 22–62), teaches "wherein the distributed set of functionality comprises a subset of the base set of functionalities," as recited by the second disputed limitation. *See* Final Act 3–4; Ans. 5–6.

Thus, Appellant does not persuade us of Examiner error in the § 103 rejection of claim 1. Appellant offers substantially similar contentions of Examiner error for the other independent claims 14, 20, 24, 28, and 29; for the reasons discussed above, these contentions are similarly unpersuasive. Appellant offers no separate contentions for the dependent claims, which therefore fall with their respective parent independent claims.

Accordingly, we sustain the § 103 rejections of claims 1–30. In doing so, as consistent with our discussion *supra*, we adopt as our own the Examiner's findings and reasoning in the § 103 rejection of the independent claims as set forth in the Final Action and in the Answer.

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

## CONCLUSION

In summary:

| Claims Rejected | Basis | Affirmed | Reversed |
|---|---|---|---|
| 1–8, 11–17, 20–22, and 24–30 | § 103<br>Frank and Bone | 1–8, 11–17, 20–22, and 24–30 | |
| 9 | § 103<br>Frank, Bone, and Callaghan | 9 | |
| 10 and 18 | § 103<br>Frank, Bone, and Strain | 10 and 18 | |
| 19 | § 103<br>Frank, Bone, and Grody | 19 | |
| 23 | § 103<br>Frank, Bone, and Kamat | 23 | |
| **Overall Outcome** | | 1–30 | |

AFFIRMED