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HEWLETT-PACKARD COMPANY
Intellectual Property Administration
3404 E. Harmony Road
Mail Stop 35
FORT COLLINS, CO 80528

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JERRY.SHORMA@HP.COM
ipa.mail@hp.com
brandon.serwan@hp.com

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte BOON SEONG ANG and MICHAEL SCHLANSKER[1]

Appeal 2010-007064
Application 10/892,338
Technology Center 2400

Before JEAN R. HOMERE, BRYAN F. MOORE, and LARRY J. HUME, *Administrative Patent Judges*.

HUME, *Administrative Patent Judge*.

DECISION ON APPEAL

This is a decision on appeal under 35 U.S.C. § 134(a) of the Final Rejection of claims 1, 3-9, and 11-36. Claims 2 and 10 have been canceled. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

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[1] The Real Party in Interest is Hewlett-Packard Development Company, L.P. App. Br. 3.

STATEMENT OF THE CASE [2]

The Invention

Appellants' invention is directed to a generating a service configuration using a service specification and at least one library including at least one of a hardware component and a software component available to be implemented for the service. Spec. p. 41, Abstract.

Exemplary Claims

Claim 1 is an exemplary claim representing an aspect of the invention which is reproduced below (***emphasis*** added):

> 1. A method of generating a service configuration, the method comprising:
>
> receiving a service specification for a service, the service specification including a high-level description of software to be used in a service and ***a high-level description of hardware to be used in the service***, wherein the described software is operable to be implemented using one of a variety of different types of software components configured to perform similar functions ***and the described hardware is operable to be implemented using one of a variety of different types of hardware components configured to perform similar functions***;

[2] Our decision refers to Appellants' Appeal Brief ("App. Br.," filed Jan. 21, 2009); Reply Brief ("Reply Br.," filed Apr. 22, 2010); Examiner's Answer ("Ans.," mailed Feb. 22, 2010); Final Office Action ("FOA," mailed Aug. 21, 2008); and the original Specification ("Spec.," filed Jul. 16, 2004). We note that the correct "Summary of Claimed Subject Matter" portion of the Appeal Brief was filed and accepted by the Examiner on Jan. 19, 2010.

> receiving at least one library including at least one of a hardware component and a software component available to be implemented for the service; and
>
> generating at least one service configuration based on the service specification and the at least one library, the service configuration including a description of specific hardware and software components to be used to deploy the service.

Claim 11 is an exemplary claim representing an aspect of the invention which is reproduced below (***emphasis*** added):

> 11. The method of claim 1, wherein generating at least one service configuration comprises ***generating a plurality of service configurations based on the service specification and the at least one library***.

Prior Art

The Examiner relies upon the following prior art in rejecting the claims on appeal:

Shi	US 5,381,534	Jan. 10, 1995
Jung	US 2004/0184778 A1	Sep. 23, 2004

Rejections on Appeal

1. Claims 1, 3-9, 11-17, and 19-36 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Shi. Ans. 3.

2. Claim 18 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Shi in view of Jung. Ans. 12.

ISSUES AND ANALYSIS

We have reviewed the Examiner's rejections in light of Appellants' arguments that the Examiner has erred. We disagree with Appellants' conclusions with respect to claims 1, 3-9, and 11-36, and 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 and rebuttals set forth by the Examiner in the Examiner's Answer in response to Appellants' Arguments. However, we highlight and address specific findings and arguments regarding claims 1, 11, and 18 for emphasis as follows.

1. Anticipation Rejection of Claims 1, 3-9, 12-17, and 19-36

Issue 1

Appellants argue (App. Br. 9-14; Reply Br. 3-7) that the Examiner's anticipation rejection of claim 1 under 35 U.S.C. § 102(b) over Shi is in error. These contentions present us with the following issue:

> Did the Examiner err in finding that Appellant's claimed method of generating a service configuration is anticipated by Shi, particularly that Shi discloses "a service specification for a service, the service specification including . . . a high-level description of hardware to be used in the service, wherein the . . . described hardware is operable to be implemented using one of a variety of different types of hardware components configured to perform similar functions," as recited in claim 1?

Analysis

We agree with the Examiner's finding that Shi discloses "a service specification for a service, the service specification including . . . a high-level description of hardware to be used in the service, wherein the . . .

described hardware is operable to be implemented using one of a variety of different types of hardware components configured to perform similar functions," as recited in claim 1. Ans. 3-5, 13-15.

Specifically, we agree with the Examiner's interpretation (Ans. 3 and 13) of the scope of the phrase "a high-level description of hardware" as "a high-level description of a service that can be implemented using one of a variety of different types of hardware and software components," in light of Appellants' Specification:

> The service specification 101 and the libraries 102 are descriptions of a service and the specific hardware and software components available for generating the service configuration 111, respectively. The service specification 101 is a high-level description of the service. . . . The high-level description in the service specification 101 is generally broad such that there may be several different hardware and software options for deploying the service.

Spec. 6, ll. 10-20. Thus, we find that the Examiner's interpretation cited above is reasonable.

In addition, we find that Appellants' contention that Shi's Computing Environment Specification Language (CESL) does not provide a high-level description of the desired service is misplaced. App. Br. 11. Instead, we agree with the Examiner's finding that Shi's CESL was appropriately cited in order to illustrate that it is the CESL that specifies the details of hardware and software in the network in a form of a library. Instead, the Examiner finds, and we agree, that Shi's Configuration Specification Language (CSL), along with user inputs such as "dynamic process allocation," provides a high-level description of a service. Ans. 14.

Appellants further argue in the Reply Brief that Shi's disclosure of a user input relied upon by the Examiner for "apportioning the load among the target computers" cannot be the claimed high-level service description because this user input does not include a high-level description of software and hardware to be used in a service, and because the user input indicates specific target computers to use, rather than a high-level description of computers. Reply Br. 5-6.

In response to Appellants' contention, we find that Shi's "dynamic process allocation" (DPC) discloses a "high-level" description of computers/hardware.

> If the user elects to use dynamic process allocation, the DPC 42 includes a ranking of individual computers in the network; for example, ranking individual computers by speed or by suitability for a particular purpose or for a particular operation in the application program, thereby allowing the DPC 42 to choose among several possible computers in the network for the purpose of maximizing efficiency of execution of the application program. The programmed ranking of individual computers in the network is based on the CESL specification 64. Of course, the operator may deliberately choose to have certain software chips executed at certain locations; for example, the software chip for outputting the final results of an application, at a printer or on a display, would typically be executed at the user's own location.

Shi col. 10:53-68. We find that Shi's above-cited disclosure provides a "high-level" description of hardware, e.g., "ranking individual computers by speed or by suitability for a particular purpose or for a particular operation in the application program." We also find that this interpretation of Shi is consistent with Appellants' Specification which states "[t]he high-level

description in the service specification 101 is generally broad such that there may be several different hardware and software options for deploying the service." Spec. 6, ll. 14-16.

During prosecution, "the PTO applies to the verbiage of the proposed claims the broadest reasonable meaning of the words in their ordinary usage as they would be understood by one of ordinary skill in the art, taking into account whatever enlightenment by way of definitions or otherwise that may be afforded by the written description contained in the applicant's specification." *In re Morris*, 127 F.3d 1048, 1054 (Fed. Cir. 1997). In this case, we find that the Examiner's interpretation of the reference teachings is consistent with Appellants' discussion in the Specification, and is therefore reasonable.

Accordingly, Appellants have not convinced us of any error in the Examiner's characterization of the cited art and related claim construction and we therefore sustain the Examiner's anticipation rejection of claim 1. Since Appellants have not provided separate arguments for patentability with respect to independent claims 14, 26, 30, and 33, or dependent claims 3-9, 15-17, 19-25, 27-29, and 34-36, we similarly sustain the Examiner's anticipation rejection of these claims under 35 U.S.C. § 102(b) over Shi.

2. Anticipation Rejection of Claims 11-13 and 31-32

Issue 2

Appellants separately argue (App. Br. 15; Reply Br. 7) that the Examiner's anticipation rejection of claims 11-13 and 31-32 under 35 U.S.C.

§ 102(b) over Shi is in error. These contentions present us with the following issue:

> Did the Examiner err in finding that Appellants' claimed method is anticipated by Shi, particularly that Shi discloses that "generating at least one service configuration comprises generating a plurality of service configurations based on the service specification and the at least one library," as recited in dependent claim 11?

Analysis

We agree with the Examiner's finding that Shi discloses "generating multiple different service configurations," as recited in claim 1. Ans. 15, citing Shi Fig. 9 and col. 10:8-11. For example, in Figure 9, component 380, Shi discloses "accept input for selecting among feasible solutions," where "feasible solutions" indicates "multiple different service configurations," among which an optimal solution may be chosen. Ans. 15.

Appellants contend that the Examiner erred, in that the feasible solutions disclosed by this portion of Shi "refer to different protocols that may be used rather than the entire configuration to be deployed by the DPC . . . [such that] the Examiner is inconsistently applying different features of Shi to be the claimed service configurations." Reply Br. 7. We disagree with Appellants, and agree with the Examiner's findings, with respect to claim 11, *supra*, which we adopt as our own.

In further support of the Examiner's interpretation of Shi's disclosure with respect to the recitation of "generating a plurality of service configurations based on the service specification and the at least one

library," we find that the Examiner's interpretation is consistent with Appellants' Specification:

> Figure 1 illustrates a system 100 for compiling and synthesizing service configurations for a service, according to an embodiment. ***A service is a combination of hardware and software components that is functional to meet predetermined requirements***. For large-scale services, this may include one or more servers and the software, e.g., ***an ensemble of programs, needed to implement the desired functionality***. A service configuration is a description of the hardware and software components for the service and is used to deploy the service.

Spec. 4:9-15 (***emphasis*** added). We find that the various protocols disclosed by Shi and which operate in conjunction with Shi's disclosed configurator 40 (*see* Shi cols. 9-10, cited by the Examiner) correspond to Appellants' disclosed and claimed "combination of hardware and software components that is functional to meet predetermined requirements."

Accordingly, Appellants have not convinced us of any error in the Examiner's characterization of the cited art and related claim construction and we therefore sustain the Examiner's anticipation rejection of claim 11. Since Appellants have not provided separate arguments for patentability with respect to dependent claims 12-13 and 31-32, we similarly sustain the Examiner's anticipation rejection of these claims under 35 U.S.C. § 102(b) over Shi.

3. Unpatentability Rejection of Claim 18

Issue 3

Appellants separately argue (App. Br. 17; Reply Br. 8) that the Examiner's unpatentability rejection of claim 18 under 35 U.S.C. § 103(a) over Shi in view of Jung is in error. These contentions present us with the following issue:

> Did the Examiner err in finding that Appellants' claimed method, as recited in claim 18, is unpatentable over the combination of Shi and Jung because Shi and Jung are non-analogous art?

Analysis

Appellants argue that:

> Jung discloses a video recording system completely unrelated to partitioning an application into a distributed application as disclosed in Shi [and] Jung also fails to teach or suggest the features described above with respect to the independent claims. Also, it would not have been obvious to combine any features of a video recording apparatus with an automated application partitioning system at least for the reason that the video recording apparatus of Jung is completely unrelated to Shi.

App. Br. 17. Thus, we find that Appellants' argument is one of motivation, i.e., lack of motivation to combine Shi with Jung because these references are allegedly non-analogous art. We disagree with Appellants' contentions with respect to the combinability of Jung with Shi.

"Two separate tests define the scope of analogous prior art: (1) whether the art is from the same field of endeavor, regardless of the problem addressed and, (2) if the reference is not within the field of the inventor's endeavor, whether the reference still is reasonably pertinent to the particular problem with which the inventor is involved." *In re Klein*, 647 F.3d 1343, 1348 (Fed. Cir. 2011) (citation omitted).

We agree with the Examiner's finding that Shi in combination with Jung, particularly Jung, teaches or suggests requesting user input for value of parameters when the parameter is originally set to be unbounded, as recited in claim 18. Ans. 12, citing Jung ¶ [0052].

We also adopt as our own the Examiner's finding with respect to the combinability of Shi with Jung, i.e., "[b]oth systems in Shi and Jung are electronic systems having user interfaces, therefore Jung reference is considered analogous art when replied upon to teach the concept of requesting user input for value of parameters when the parameters is originally set to be unbounded." Ans. 16.

In *KSR*, the Court stated "[t]he combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results." *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 416 (2007).

> When a work is available in one field of endeavor, design incentives and other market forces can prompt variations of it, either in the same field or a different one. If a person of ordinary skill can implement a predictable variation, § 103 likely bars its patentability. For the same reason, if a technique has been used to improve one device, and a person of ordinary

> skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill. . . . [A] court must ask whether the improvement is more than the predictable use of prior art elements according to their established functions.

Id. at 417.

Finally, we note that the U.S. Supreme Court has held that "[t]he obviousness analysis cannot be confined by a formalistic conception of the words teaching, suggestion, and motivation, or by overemphasis on the importance of published articles and the explicit content of issued patents." *Id.* at 419. Instead, the relevant inquiry is whether the Examiner has set forth "some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness." *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006) (cited with approval in *KSR*, 550 U.S. at 418). We find that the Examiner has met his burden by providing an articulated reason with a rational underpinning for combining Shi with Jung. Ans. 16.

Appellants further argue, for the first time in the Reply Brief, that

> Jung fails to teach or suggest substituting the at least one value from the user for the at least one parameter, as recited in claim 18 . . . [and f]urthermore, the combination of Jung with Shi would include combining user input to prompt changing from one image to a next image in a slideshow with the application partitioning system of Shi . . . [and] the application partitioning system of Shi does not use image slide shows and the user input of Jung is unusable by Shi [so that] the combination is improper.

Reply Br. 8.

We do not consider Appellants' supplemental arguments cited above regarding claim 18, presented for the first time in the Reply Brief (*see* Reply Br. 8), since these arguments are untimely. "Any bases for asserting error, whether factual or legal, that are not raised in the principal brief are waived." *Ex parte Borden*, 93 USPQ2d 1473, 1474 (BPAI 2010) (internal citation omitted) (informative); *see Optivus Tech., Inc. v. Ion Beam Appl'ns S.A.*, 469 F.3d 978, 989 (Fed. Cir. 2006) ("[A]n issue not raised by an appellant in its opening brief . . . is waived.") (citations and quotation marks omitted); *see also Fuji Photo Film Co. v. Jazz Photo Corp*., 394 F.3d 1368, 1375 n.4 (Fed. Cir. 2005) (Arguments first raised in the reply brief and not properly raised in the opening brief are not addressed.).

Accordingly, Appellants have not convinced us of any error in the Examiner's characterization of the cited art and related claim construction and we therefore sustain the Examiner's unpatentability rejection of claim 18 under 35 U.S.C. § 103(a) over Shi in view of Jung.

CONCLUSIONS

(1) The Examiner did not err with respect to the anticipation rejection of claims 1, 3-9, 11-17, and 19-36 under 35 U.S.C. § 102(b) over Shi, and the rejection is sustained.

(2) The Examiner did not err with respect to the unpatentability rejection of claim 18 under 35 U.S.C. § 103(a) over Shi in view of Jung, and the rejection is sustained.

DECISION

The decision of the Examiner to reject claims 1, 3-9, and 11-36 is affirmed.

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) (2011).

AFFIRMED

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