

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte CHRISTIAN SCHAEFER, LUTZ SCHMIDT, and
WOLFGANG REICHERT

Appeal 2008-1212
Application 10/101,111
Technology Center 2100

Decided: September 16, 2008

Before JAMES D. THOMAS, JEAN R. HOMERE, and
ST. JOHN COURTENAY III, *Administrative Patent Judges*.

COURTENAY, *Administrative Patent Judge*.

DECISION ON APPEAL

This is a decision on appeal under 35 U.S.C. § 134(a) from the Examiner's rejection of claims 1-43. We have jurisdiction under 35 U.S.C. § 6(b). We affirm in part.

THE INVENTION

The disclosed invention relates generally to creating and maintaining a duplicate copy of data which might be needed at a later point of time. More particularly, Appellants' invention is directed to a method and system for replicating state information stored in a first data processing system to a second data processing system, whereby the state information is kept in a set of records (Spec. 1).

Independent claim 1 is illustrative:

1. A method for parallel replication of state information of a first data processing unit in at least one second data processing unit, each of the at least one second data processing units having a replica of the state information of the first data processing unit, the method comprising:
 - processing a plurality of incoming request messages for changing the state information in the first data processing unit;
 - sending a modification record to at least one storage subsystem, the modification record containing all changes applied during processing of each of the plurality of incoming request messages;
 - sending a response message to a sender of each of the plurality of incoming request messages after confirming a receipt of the modification record for the incoming request message and modification records of all predecessors of the incoming request message by each of the at least one storage subsystems; and

updating state information in the replica of each of the at least one second data processing units based on the modification records,

wherein:

each of the plurality of incoming request messages contains an indicator and the modification record contains the indicator assigned to a corresponding incoming request message and all corresponding changes applied to a set of records used to represent the state information of the first data processing unit; and

the processing of one of the plurality of incoming request messages is performed concurrently with sending of a modification record associated with another one of the plurality of incoming request messages to facilitate parallel processing of the incoming request messages.

THE REFERENCES

The Examiner relies upon the following references as evidence in support of the obviousness rejection:

Norin	US 5,787,247	July 28, 1998
Fleming	US 6,023,772	Feb. 8, 2000
Brown	US 6,148,414	Nov. 14, 2000

THE REJECTIONS

1. Claim 1 stands rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Appellants regard as their invention.

Appeal 2008-1212
Application 10/101,111

2. Claims 1-43 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Fleming in view of Norin and Brown.

PRINCIPLES OF LAW

“What matters is the objective reach of the claim. If the claim extends to what is obvious, it is invalid under § 103.” *KSR Int’l Co. v. Teleflex, Inc.*, 127 S. Ct. 1727, 1742 (2007). Appellants have the burden on appeal to the Board to demonstrate error in the Examiner’s position. *See In re Kahn*, 441 F.3d 977, 985-86 (Fed. Cir. 2006) (“On appeal to the Board, an applicant can overcome a rejection [under § 103] by showing insufficient evidence of *prima facie* obviousness or by rebutting the *prima facie* case with evidence of secondary indicia of nonobviousness.”) (quoting *In re Rouffet*, 149 F.3d 1350, 1355 (Fed. Cir. 1998)). Therefore, we look to Appellants’ Briefs to show error in the proffered *prima facie* case.

FINDINGS OF FACT

The following Findings of Facts (FF) are shown by a preponderance of the evidence.

Brown

1. Brown’s invention “relates in general to systems and methods for eliminating bottlenecks in data storage networks, and in direct server attached storage, and more specifically to systems and methods for

implementing dynamically shared redundancy group management between multiple disk array management functions.” Col. 1, ll. 12-17).

2. Brown teaches an “‘Array Management Function’ (AMF) generally refers to the body that provides common control and management for one or more disk or tape arrays” where the “AMF typically executes in a disk controller, an intelligent host bus adapter or in a host computer.” (col. 2, ll. 32-34, 36-38).
3. Brown teaches receiving a write command by a first AMF from a host to write at least two data sets to two or more of the resources (col. 4, ll. 11-13).
4. Brown teaches “[t]he method also typically includes the steps of writing the first data set to the first resource, and concurrently performing a first replication operation wherein replication data and state information associated with the first resource is sent to the other AMFs, such that if the first AMF fails while performing the write operation, one of the other AMFs is able to complete the write operation.” (col. 4, ll. 15-23).

ANALYSIS

35 U.S.C. §112, second paragraph

We consider the Examiner’s rejection of claim 1 that stands rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Appellants regard as their invention.

The Examiner contends that claim 1 “is incomplete because no steps are given to arrive with a method for parallel replication of state information.” (Ans. 4).

Appellants disagree. Appellants note that “claim 1 recites ‘the processing of one of the plurality of incoming request messages is performed concurrently with the sending of a modification record associated with another one of the plurality of incoming request messages to facilitate parallel processing of the incoming request messages.’” Therefore, Appellants conclude that claim 1 is not indefinite (App. Br. 17).

We agree with Appellants that “parallel” and “concurrently” have essentially similar scope. We note that claim 1 recites the additional limitations of “*updating state information* in the *replica* of each of the at least one second data processing units *based on the modification records*.⁶” (claim 1, emphasis added). These limitations precede the portion of the claim cited by Appellants in the Brief. (App. Br. 17). Therefore, when we consider the language of the claim as a whole, we conclude that claim 1 is not indefinite.

Appeal 2008-1212
Application 10/101,111

Obviousness under 35 U.S.C. §103(a)

Independent claim 1

We consider the Examiner's rejection of independent claim 1 as being unpatentable over Fleming in view of Norin and Brown.

Appellants contend that "Brown is silent as to processing of one of the plurality of incoming request messages concurrently with sending of a modification record associated with another one of the plurality of incoming request messages." (App. Br. 20, emphasis in original).

Appellants note that in the passages cited by the Examiner, Brown indicates the following:

[i]n a typical operation, when a first one of the AMFs desires to perform an operation on a first resource in the redundancy group, the first AMF arbitrates with the other AMFs sharing access to the redundancy group for a lock on the first resource. Thereafter, the first AMF performs the operation on the first resource and concurrently sends replication data and state information associated with the first resource to the other AMFs such that if the first AMF fails while performing the operation, one of the other AMFs is able to complete the operation.

(Brown, col. 3, ll. 8-17; *see also* App. Br. 19-20).

Appellants contend that the aforementioned teaching is insufficient to teach or suggest the concurrent processing as claimed (App. Br. 20).

The Examiner disagrees. The Examiner responds that she is reading the claimed "incoming request message" on Brown's teaching of "receiving a write command by a first AMF." (Brown, col. 4, ll. 11-12) (Ans. 11). The

Appeal 2008-1212
Application 10/101,111

Examiner further states that she is reading the claimed limitation of the “incoming request message is performed concurrently with sending a modification record” (claim 1) on Brown’s teaching of:

writing the first data set to the first resource, and **concurrently** performing a first replication operation wherein replication data and state information associated with the first resource is sent to the other AMFs, such that if the first AMF fails while performing the write operation, one of the other AMFs is able to complete the write operation.

(Brown, col. 4, ll. 16-22, emphasis added by Examiner; *see also* Ans. 11, ¶2).

After considering the evidence before us, and the respective arguments on both sides, we begin our analysis by particularly focusing on the “another one” limitation argued by Appellants in the Brief (page 20) and the Reply Brief (page 3). In both cases, the Examiner has failed to respond to the specifics of Appellants’ argument concerning this claim limitation. Even if we were to find that Brown’s replication data and state data teaches and/or suggests Appellants’ claimed modification record,¹ we nevertheless find that Brown does not teach nor fairly suggest “sending a modification record associated with *another one* of the plurality of incoming request messages,” as claimed (claim 1, emphasis added).

¹ As recited in Appellants’ claim 1, the modification record “contain[s] all changes applied during processing of each of the plurality of incoming request messages.”

We support our finding by noting that the Examiner is reading the claimed “processing of one of the plurality of incoming request messages” on Brown’s teaching of “receiving a write command by a first AMF,” and the processing associated with the subsequent write operation (Brown, col. 4, ll. 11-12, 16) (Ans. 11). Thus, concurrent with any given write operation, Brown teaches that “replication data and state information” (i.e., a “modification record) “is sent to the other AMFs, such that if the first AMF fails while performing the write operation, one of the other AMFs is able to complete *the write operation.*” (Brown, col. 4, ll. 19-22, emphasis added) (*see* FF 2, FF 4).

Because Brown expressly refers to “the write operation” (col. 4, ll. 21-22) in reference to the *same* write operation initiated by the received write command, we find that Brown does not teach nor fairly suggest sending replication data and state data (i.e., “a modification record”) associated with *another* write operation (i.e., “*another one* of the plurality of incoming request messages,” claim 1) (FF 4). This reasoning holds regardless of whether the claimed “another one” is construed to read on an “additional” write command or a “different” write command. Moreover, we find nothing in the primary Fleming and secondary Norin references that overcomes the aforementioned deficiencies of Brown.

Appeal 2008-1212
Application 10/101,111

Accordingly, we conclude that Appellants have met their burden of showing that the Examiner erred in rejecting independent claim 1.

Therefore, we reverse the Examiner’s rejection of independent claim 1 as being unpatentable over Fleming in view of Norin and Brown.

Because the independent claims 6, 11, 23, and 33 each recite equivalent limitations to those discussed above regarding independent claim 1, we also reverse the Examiner’s obviousness rejection of these claims for the same reasons previously discussed regarding claim 1. Because we have reversed the Examiner’s rejection of each of these independent claims on appeal, we also reverse the Examiner’s rejection of associated dependent claims 2-5, 7-10, 24-32, and 34-43 as being unpatentable over Fleming in view of Norin and Brown.

Claims 12-22

We consider the Examiner’s rejection of claims 12-22 as being unpatentable over Fleming in view of Norin and Brown. Since Appellants’ arguments have treated these claims as a single group which stand or fall together, we select independent claim 12 as the representative claim for this group. *See* 37 C.F.R. § 41.37(c)(1)(vii).

Appellants contend that the Examiner’s proffered combination of Fleming, Norin, and Brown does not disclose or suggest the claimed limitation of “wherein at least two of the above steps are performed concurrently.” (App. Br. 22; *see also* claim 12). Appellants further contend that Brown’s teaching of “sending replication and state information

Appeal 2008-1212
Application 10/101,111

concurrently with performing an operation on a resource is insufficient to teach or suggest performing at least two of the claimed steps of receiving, assigning, processing, sending, and checking concurrently, as required by claim 12.” (App. Br. 22; *see also* claim 12).

In response, we note that Appellants have not provided a basis for either of the aforementioned assertions. Regarding the two steps that must be performed concurrently, Appellants have merely recited the language of the claim without providing any meaningful analysis (*see* App. Br. 22). We note that a statement which merely points out what a claim recites will not be considered an argument for separate patentability of the claim. *See* 37 C.F.R. § 41.37(c)(vii); *see also* 37 C.F.R. § 1.111(b).

Regarding Appellants’ second assertion that Brown does not teach “at least two of the claimed steps of receiving, assigning, processing, sending, and checking concurrently, as required by claim 12,” we note that it is Appellants’ burden on appeal to specifically point out which two of the claimed steps are not taught and why (*see* App. Br. 22). Thus, we find Appellants’ arguments are merely conclusory and do not meet the burden of showing error in the Examiner’s *prima facie* case of obviousness. Moreover, we note that independent claim 12 does not recite the “another one” limitation discussed *supra* regarding each of independent claims 1, 6, 11, 23, and 33.

Appeal 2008-1212
Application 10/101,111

For at least the aforementioned reasons, we conclude that Appellants have not sustained the requisite burden on appeal in providing arguments or evidence persuasive of error in the Examiner's rejection of representative claim 12 (and claims 13-22 that fall therewith) as being unpatentable over Fleming in view of Norin and Brown.

CONCLUSION OF LAW

Based on the analysis above, we conclude that Appellants have shown the Examiner erred in rejecting claim 1 under 35 U.S.C. § 112, second paragraph, as being indefinite.

Based on the findings of facts and analysis above, we conclude that Appellants have shown the Examiner erred in rejecting claims 1-11 and 23-43 under 35 U.S.C. § 103(a) for obviousness.

However, we conclude that Appellants have not shown the Examiner erred in rejecting claims 12-22 under 35 U.S.C. § 103(a) for obviousness.

DECISION

We reverse the Examiner's decision rejecting claims 1-11 and 23-43.

We affirm the Examiner's decision rejecting claims 12-22.

Appeal 2008-1212
Application 10/101,111

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).

AFFIRMED-IN-PART

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