THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

The opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.

Paper No. 18

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte ANDREW J. SCHOFIELD and ANTHONY R. WASHER

Appeal No. 1997-1933
Application No. 08/299,715

ON BRIEF

Before KRASS, FLEMING, and GROSS, Administrative Patent Judges.
GROSS, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal from the examiner's final rejection of claims 12 and 13, which are all of the claims pending in this application.

Appellants' invention relates to a fault-tolerant transaction-oriented data processing system and method in which, for a resource which is to be updated within a transaction, an exclusive semaphore lock is obtained and

subsequently released in response to an indicator being set, prior to completion of the transaction. Claim 12 is illustrative of the claimed invention, and it reads as follows:

12. A method of fault-tolerant transaction-oriented data processing in which resource updates performed by processes within a transaction are backed out atomically following occurrence of a failure before resolution of said transaction, or are committed on successful completion of said transaction, said method comprising the steps of:

for each resource updating operation to be performed within said transaction, obtaining a mutually exclusive semaphore lock for a resource which is to be updated;

performing a resource updating operation within said transaction in response to an operation request;

setting an indicator signifying that said resource updating operation has been performed within said transaction, said indicator making said operation request inaccessible to said processes;

in response to said indicator being set, releasing said mutually exclusive semaphore lock prior to completion of said transaction;

in response to successful completion of said transaction, committing all operations within said transaction for which said indicator has been set; and

in response to an occurrence of a failure before resolution of said transaction, backing out all operations within said transaction for which said indicator has been set.

The prior art references of record relied upon by the examiner in rejecting the appealed claims are:[1]

Oracle RDBMS, SQL Language Reference Manual, Version 7.0, May 1992, pp. 5-101 to 5-105 and 5-314 to 5-320. (Oracle SQL)

Oracle RDBMS, Database Administrator's Guide, Version 7.0, May 1992, chapters 1, 12, 14, and 26. (Oracle DBA)

Claims 12 and 13 stand rejected under 35 U.S.C. § 103 as being unpatentable over Oracle SQL and Oracle DBA.

Reference is made to the Examiner's Answer (Paper No. 14, mailed September 30, 1996) for the examiner's complete reasoning in support of the rejections, and to appellants' Brief (Paper No. 13, filed July 1, 1996) and Reply Brief (Paper No. 15, filed November 13, 1996) for appellants' arguments thereagainst.

OPINION

We have carefully considered the claims, the applied prior art references, and the respective positions articulated by appellants and the examiner. As a consequence of our

[1] The examiner lists several references in the prior art section of the Answer which were not actually relied upon in the rejection of the claims under appeal. We have considered only those references that were applied against the appealed claims.

review, we will reverse the obviousness rejection of claims 12 and 13.

Appellants' invention as set forth in claim 12 involves setting an indicator to effectively lock out other processes from the operation request. In response to the indicator, a mutually exclusive semaphore lock can be released prior to completion of the transaction. Appellants' arguments are all directed to the claimed indicator and the relationship between the indicator and the mutually exclusive semaphore lock. Therefore, we will limit our discussion to those elements.

As asserted by appellants (Brief, page 6), in the rejection, the examiner makes no mention of an indicator, and, therefore, fails to point to where such an indicator is suggested by Oracle SQL or Oracle DBA. Similarly, appellants contend (Brief, page 5) that in the rejection, the examiner fails to indicate any portion of Oracle SQL or Oracle DBA which suggests that the mutually exclusive semaphore lock is released in response to the setting of the indicator and prior to completion of the transaction. We agree with appellants. The explanation of the rejection is completely devoid of any

references to an indicator or its relationship to the mutually exclusive semaphore lock.

In response to appellants' Brief, the examiner argues (Answer, page 8) that "[t]he claimed functions of semaphores and indications to save each and every transaction, are functionally equivalent to SQL savepoints and savepoints (embedded SQL), at 5-319 and 5-3-120 [sic, 5-320]." The savepoints on pages 5-319 and 5-320 of Oracle SQL, "identify a point in a transaction to which you can later roll back." Further, Oracle DBA (page 1-27) discloses that "[b]y using savepoints, you can arbitrarily mark your work at any point within a long transaction." In other words, a savepoint preserves changes up to the savepoint and then acts as a marker for where the rollback should stop. However, the claimed indicators must "mak[e] said operation request inaccessible to said processes," not save the transaction. Nowhere does Oracle SQL or Oracle DBA disclose any such function for savepoints. Therefore, the savepoints are not functionally equivalent to the claimed indicators.

The examiner further asserts (Answer, page 8) that Oracle DBA discloses that locks are "<u>released when the transaction no</u>

longer requires the resources, not only when the transaction is complete." The examiner concludes that Oracle DBA teaches the release of the lock prior to completion of the transaction. However, the page referenced by the examiner states that the lock is released "when certain events occur and the transaction no longer requires the resource" (emphasis ours). Further, on page 12-6, 12-11, and 12-16, Oracle DBA states that all locks "are released when the transaction is either committed or rolled back." Thus, the "certain events" appear to be the committing or rolling back of the transaction. In other words, viewing the disclosure as a whole, we find that Oracle DBA does not release the locks before the transaction is complete, but rather releases them when the transaction is committed or rolled back.

Furthermore, the examiner states (Answer, page 9) that the portions of Oracle DBA and Oracle SQL relied upon "demonstrate the current state in the art of software programming in a data transaction processing environment; which is the ability to release an exclusive lock while enabling a transaction and process to continue without corrupting a shared resource." Besides the fact that the

reference indicates just the opposite of what the examiner says, the examiner appears to be confused as to the standard for obviousness. Merely that the prior art can be modified in the manner suggested by the examiner does not make the modification obvious unless the prior art suggested the desirability of the modification. In re Fritch, 972 F.2d 1260, 1266, 23 USPQ2d 1780, 1783-4 (Fed. Cir. 1992). Oracle's ability to release an exclusive lock prior to completion of the transaction is not the same as either the disclosure of actually releasing the lock early or the obviousness of doing so. Accordingly, the examiner has failed to establish a prima facie case of obviousness, and we cannot sustain the rejection of claim 12.

Claim 13 parallels claim 12 with means for accomplishing each of the method steps of claim 12. Thus, claim 13 includes the same indicator and relationship between the indicator and the mutually exclusive semaphore lock found above to be lacking from Oracle DBA and Oracle SQL. Therefore, the rejection of claim 13 suffers from the same deficiencies as claim 12. Consequently, we cannot sustain the rejection of claim 13.

CONCLUSION

The decision of the examiner rejecting claims 12 and 13 under 35 U.S.C. § 103 is reversed.

REVERSED

ERROL A. KRASS Administrative Patent Judge	)	
MICHAEL R. FLEMING Administrative Patent Judge	)	BOARD OF PATENT APPEALS AND INTERFERENCES
ANITA PELLMAN GROSS Administrative Patent Judge	)	

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ANDREW J DILLON
FELSMAN BRADLEY GUNTER & DILLON
SUITE 350, LAKEWOOD ON THE PARK
7600B NORTH CAPITAL OF TEXAS HIGHWAY
AUSTIN, TX 78731