

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

Paper No. 20

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* CLIVE M. FOURMAN

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Appeal No. 2000-0249  
Application No. 08/632,240

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HEARD: November 8, 2001

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Before JERRY SMITH, RUGGIERO, and BARRY, *Administrative Patent Judges*.

BARRY, *Administrative Patent Judge*.

DECISION ON APPEAL

The examiner rejected the appellant's claims 1-10 and 13-22. He appeals therefrom under 35 U.S.C. § 134(a). We reverse.

BACKGROUND

The invention at issue in this appeal replicates a multidimensional, "distributed" database. The database is distributed by storing complete copies thereof at several

locations in a computer network. When data are changed in one copy, the change is made to, i.e., "replicated in," the other copies.

Heretofore, changes have been replicated in a two-dimensional, distributed database such as "Lotus Notes."® In contrast, the appellant's invention replicates changes in a distributed database having at least three dimensions. More specifically, an N-dimensional distributed database is sliced into M-dimensional subarrays, where M is smaller than N. Each subarray stores part of the data from the database and is keyed to the database.

In contrast to the conventional format of a database, the subarrays are arranged as strings of data including control characters, e.g., tab and carriage return characters, to separate adjacent data items and to indicate of the structure of the data in the string. When the string of data of a subarray is applied to update a copy of the database, the control characters and the key included with the data string

are used to identify where in the database to insert the data from the string.

Claim 13, which is representative for present purposes, follows:

13. A method for updating a distributed N-dimensional database in a network of computers having at least one communications link for transferring data entered at one computer to other computers in the network, said method comprising:

(i) organizing a distributed N-dimensional database, N being an integer greater than two, to include:

a) a plurality of M-dimensional arrays where M is an integer greater than one and less than N, and

b) an ordered list of keys, each key being associated with a particular M-dimensional array and having a string of N minus M (N-M) components which identify the associated M-dimensional array, said string defining the order of the key in said list;

(ii) searching for and finding a desired M-dimensional array in response to entry of a key at one of said computers; and

(iii) modifying a found M-dimensional array and replicating such modification to said distributed array over the network.

(Appeal Br. at A3-A4.)

The prior art applied by the examiner in rejecting the claims follows:

Perez	5,319,777	June 7,
1994.		

Claims 1-10 and 13-22 stand rejected under 35 U.S.C. § 103(a) as obvious over Perez.

OPINION

After considering the record, we are persuaded that the examiner erred in rejecting claims 1-10 and 13-22.

Accordingly, we reverse.

Rather than reiterate the arguments of the appellant or examiner *in toto*, we address their main point of contention. More specifically, the examiner asserts, "FIG 7 of Perez in and of itself clearly demonstrates distribution, in which different users work on different slices of a multidimensional database, and so must have copies of different parts of the

global spreadsheet." (Examiner's Answer at 7.) In contrast, the appellant argues, "[t]here is no teaching or suggestion in Perez that the centralized database is distributed to other servers or locations on the network." (Reply Br. at 4.)

In deciding obviousness, "[a]nalysis begins with a key legal question -- *what is the invention claimed?*" *Panduit Corp. v. Dennison Mfg. Co.*, 810 F.2d 1561, 1567, 1 USPQ2d 1593, 1597 (Fed. Cir. 1987)(emphasis in original). "Claim interpretation ... will normally control the remainder of the decisional process." *Id.* at 1567-68, 1 USPQ2d at 1597. Here, claims 1 and 13 specify in pertinent part the following limitations: "a distributed N-dimensional database." Accordingly, the limitations require storing complete copies of an N-dimensional database at several locations in a computer network wherein the copies have the same number of dimensions as the database.

Having determined what subject matter is being claimed, the next inquiry is whether the subject matter is obvious.

"In rejecting claims under 35 U.S.C. Section 103, the examiner bears the initial burden of presenting a *prima facie* case of obviousness." *In re Rijckaert*, 9 F.3d 1531, 1532, 28 USPQ2d 1955, 1956 (Fed. Cir. 1993)(citing *In re Oetiker*, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992)). "'A *prima facie* case of obviousness is established when the teachings from the prior art itself would appear to have suggested the claimed subject matter to a person of ordinary skill in the art.'" *In re Bell*, 991 F.2d 781, 782, 26 USPQ2d 1529, 1531 (Fed. Cir. 1993) (quoting *In re Rinehart*, 531 F.2d 1048, 1051, 189 USPQ 143, 147 (CCPA 1976)).

Here, Perez stores parts of an N-dimensional database at several locations in a computer network. Specifically, "[a] user, e.g., user 1, of one of the personal computers connected to the network, e.g., PC 1, seeking to use in a spreadsheet some of the data stored in the multidimensional array illustrated in FIG. 2, gains access to the table server storing this array, e.g., server 11, ...." Col. 6, ll. 23-27.

"After gaining access, user **1** instructs the transmission of a selected 'slice' of data from the table server to the PC."

*Id.* at ll. 28-30. "At the same time ... a user e.g., user **3**, of one of the other PC's associated with the network, e.g., PC **3**, can select and use a different slice of data from the same multidimensional array ...." Col. 7, ll. 3-7.

The reference's slices of data, however, are not complete copies of the multidimensional array. To the contrary, the slices represent only parts of the multidimensional array. Specifically, a user stores a slice "to use in a spreadsheet **some\_of the data** stored in the multidimensional array ...." Col. 6, ll. 24-25 (emphasis added). Furthermore, the slices of data do not have the same number of dimensions as the multidimensional array. The array is four-dimensional. Specifically, "FIG. 2 illustrates the structure of a multidimensional array of data, in this case an array having four dimensions ...." Col. 5, ll. 17-19. In contrast, the slices are only two-dimensional.

Specifically, "this slice of data is illustrated in FIGS. 7 and 8 as a two-dimensional slice ...." Col. 6, ll. 30-31.

Because Perez stores only two-dimensional parts of its four-dimensional array at several locations in a computer network, we are not persuaded that teachings from the applied prior art would have suggested the limitations of "a distributed N-dimensional database." Therefore, we reverse the rejection of claims 1 and 13. We also reverse the rejection of claims 2-12 and 14-22, which respectively depend from claims 1 and 13.

CONCLUSION

In summary, the rejection of claims 1-10 and 13-22 under § 103(a) is reversed.

REVERSED

JERRY SMITH	)	
Administrative Patent Judge	)	
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	)	
	)	BOARD OF PATENT
JOSEPH F. RUGGIERO	)	APPEALS
Administrative Patent Judge	)	AND
	)	INTERFERENCES
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LANCE LEONARD BARRY	)	
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