

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.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. 30

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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Ex parte RUEY KAO

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Appeal No. 1999-2295  
Application No. 08/418,797

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HEARD: June 13, 2001

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Before KRASS, RUGGIERO, and BLANKENSHIP, Administrative Patent Judges

RUGGIERO, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on the appeal from the final rejection of claims 1-6, 9-14, and 17-22, which are the only claims remaining in the application.

The claimed invention relates to a service module having a buffer queue which includes a plurality of buffers linked together using next pointers. Coupled to the buffer queue are a

first processor including a first cache configured to store a head pointer of the buffer queue and a second processor including a second cache configured to store a tail pointer of the buffer queue. Appellant asserts at pages 8 and 9 of the specification that the caches are made independent of each other, thereby eliminating the need for a shared memory for storing head and tail pointers.

Claim 1 is illustrative of the invention and reads as follows:

1. A service module, comprising:

a buffer queue that stores a data queue, the buffer queue comprising a plurality of buffers being linked to one another as a linked list using next pointers;

a first processor including a first cache coupled to the buffer queue; and

a second processor including a second cache coupled to the buffer queue,

wherein the first processor is configured to store a head pointer of the buffer queue in the first cache and the second processor is configured to store a tail pointer of the buffer queue in the second cache, the first cache being independent of the second cache.

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The Examiner relies on the following prior art:

Walp	4,894,797	Jan. 16, 1990
Chao	5,278,828	Jan. 11, 1994
Koufopavlou et al. (Koufopavlou)	5,493,652	Feb. 20, 1996 (filed Apr. 29, 1994)

Claims 1-6, 9-14, and 17-22 stand finally rejected under 35 U.S.C. § 103 as being unpatentable over Koufopavlou in view of Chao and Walp.

Rather than reiterate the arguments of Appellant and the Examiner, reference is made to the Briefs<sup>1</sup> and Answer for the respective details.

#### OPINION

We have carefully considered the subject matter on appeal, the rejection advanced by the Examiner, the arguments in support of the rejection and the evidence of obviousness relied upon by the Examiner as support for the rejection. We have, likewise, reviewed and taken into consideration, in reaching our decision,

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<sup>1</sup>The Appeal Brief was filed December 23, 1998. In response to the Examiner's Answer dated March 15, 1999, a Reply Brief was filed May 17, 1999, which was acknowledged and entered by the Examiner without further comment as indicated in the communication dated May 24, 1999.

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Appellant's arguments set forth in the Briefs along with the Examiner's rationale in support of the rejection and arguments in rebuttal set forth in the Examiner's Answer.

It is our view, after consideration of the record before us, that the evidence relied upon and the level of skill in the particular art would not have suggested to one of ordinary skill in the art the obviousness of the invention set forth in claims 1-6, 9-14, and 17-22. Accordingly, we reverse.

In rejecting claims under 35 U.S.C. § 103, it is incumbent upon the Examiner to establish a factual basis to support the legal conclusion of obviousness. See In re Fine, 837 F.2d 1071, 1073, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988). In so doing, the Examiner is expected to make the factual determinations set forth in Graham v. John Deere Co., 383 U.S. 1, 17, 148 USPQ 459, 467 (1966), and to provide a reason why one having ordinary skill in the pertinent art would have been led to modify the prior art or to combine prior art references to arrive at the claimed invention. Such reason must stem from some teaching, suggestion or implication in the prior art as a whole or knowledge generally available to one having ordinary skill in

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the art. Uniroyal Inc. v. Rudkin-Wiley Corp., 837 F.2d 1044, 1051, 5 USPQ2d 1434, 1438 (Fed. Cir.), cert. denied, 488 U.S. 825 (1988); Ashland Oil, Inc. v. Delta Resins & Refractories, Inc., 776 F.2d 281, 293, 227 USPQ 657, 664 (Fed. Cir. 1985), cert. denied, 475 U.S. 1017 (1986); ACS Hospital Systems, Inc. v. Montefiore Hospital, 732 F.2d 1572, 1577, 221 USPQ 929, 933 (Fed. Cir. 1984). These showings by the Examiner are an essential part of complying with the burden of presenting a prima facie case of obviousness. Note In re Oetiker, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992).

With respect to independent claims 1, 3, 6, 14, and 19, the Examiner, as the basis for the obviousness rejection, proposes to modify the memory management system disclosure of Koufopavlou. As recognized by the Examiner, Koufopavlou, while providing a linked list buffer queue and a pointer memory which stores head and tail pointers, lacks a disclosure of first and second independent head and tail pointer memories which are accessed by first and second independent processors as in the appealed claims. To address this deficiency, the Examiner turns to Chao and Walp for the teachings of independent head and tail pointer

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memories and independent processor accessing, respectively. According to the Examiner (Answer, pages 6 and 7), the skilled artisan would have been motivated and found it obvious to modify Koufopavlou with Chao and Walp to achieve better control of Koufopavlou's memory management system.

In response, Appellant asserts a lack of establishment by the Examiner of a prima facie case of obviousness. Appellant points out (Brief, page 7; Reply Brief, page 2) that the Examiner has relied on the Figure 9 embodiment of Chao, which utilizes only a single processor, for a teaching of independent head and tail pointer memories. Appellant contends, however, that the Examiner has disregarded the disclosure of the embodiment described with regard to Figure 11 of Chao which utilizes two independent processors. In Appellant's view, the teaching provided to the skilled artisan by the Figure 11 embodiment of Chao is that, contrary to the appealed claims, when plural independent processor are utilized in a buffer queue system, the concept of separate head and tail pointer memories is abandoned in favor of a priority sequencer arrangement.

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After careful review of the applied prior art references in light of the arguments of record, we are in agreement with Appellant's position as stated in the Briefs. While it is proper for an Examiner to consider, not only the specific teachings of a reference, but inferences a skilled artisan might draw from them, it is equally important that the teachings of prior art references be considered in their entirety. See In re Preda, 401 F.2d 825, 826, 159 USPQ 342, 344 (CCPA 1968); W.L. Gore & Associates, Inc. V. Garlock, Inc., 721 F.2d 1540, 1548, 220 USPQ 303, 311 (Fed. Cir. 1983), cert denied, 469 U.S. 851 (1984).

In particular, in order for us to accept the Examiner's conclusions in the present factual situation, we would have to improperly selectively ignore significant portions of the disclosure of the Chao reference. In our view, the skilled artisan, considering the collective teachings of the Koufopavlou, Chao, and Walp references, would be led away from the approach as set forth in Appellant's claims, i.e. the use of independent processors to access independent tail and pointer memories of a buffer queue. We reach this conclusion in view of the express disclosure of the Figure 11 embodiment in Chao. As asserted by

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Appellant, when Chao chooses to introduce plural processors into the disclosed memory management system, the separate head and pointer memories described in Chao's previous embodiments are abandoned and a priority sequencer arrangement is used instead.

In conclusion, we are left to speculate why one of ordinary skill would have found it obvious to modify the applied prior art to make the combination suggested by the Examiner. The only reason we can discern is improper hindsight reconstruction of Appellants' claimed invention. In order for us to sustain the Examiner's rejection under 35 U.S.C. § 103, we would need to resort to speculation or unfounded assumptions or rationales to supply deficiencies in the factual basis of the rejection before us. In re Warner, 379 F.2d 1011, 1017, 154 USPQ 173, 178 (CCPA 1967), cert. denied, 389 U.S. 1057 (1968), rehearing denied, 390 U.S. 1000 (1968). Since we are of the view that the prior art applied by the Examiner does not support the rejection, we do not sustain the obviousness rejection of independent claims 1, 3, 6, 14, and 19, nor of claims 2, 4, 5, 9-13, 17, 18, and 20-22 dependent thereon.

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In conclusion, we have not sustained the Examiner's rejection of any of the claims on appeal under 35 U.S.C. § 103. Accordingly, the decision of the Examiner rejecting claims 1-6, 9-14, and 17-22 is reversed.

REVERSED

ERROL A. KRASS	)	
Administrative Patent Judge	)	
	)	
	)	
	)	BOARD OF PATENT
JOSEPH F. RUGGIERO	)	APPEALS AND
Administrative Patent Judge	)	INTERFERENCES
	)	
	)	
HOWARD B. BLANKENSHIP	)	
Administrative Patent Judge	)	

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