

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(2) is not binding precedent of the Board.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. 16

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte RASOUL M. OSKOUY,
TOM LYON and PRAKASH KASHYAP

Appeal No. 1996-4025
Application 07/995,591¹

ON BRIEF

Before BARRETT, FLEMING and LALL, **Administrative Patent
Judges.**

¹ Application for patent filed December 22, 1992.

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FLEMING, *Administrative Patent Judge*.

DECISION ON APPEAL

This is a decision on appeal from the final rejection of claims 1 through 9, 11 through 19, and 21 through 30.

Claims 10 and 20 have been objected to for being dependent upon a rejected claim. Appellants filed an amendment after final which was entered by the Examiner. The amendment cancelled claims 7, 9, 10, 17, 19 and 20, and amended claims 5, 8, 11 and 18. The amendment also added new claims 33 through 38. On page 1 of the Examiner's answer, the Examiner states that claims 1, 3 through 6, 8, 11, 13 through 16, 18, 23 through 26, 29 and 30 are rejected, and claims 2 and 12 are objected to as being dependent upon a rejected base claim. The Examiner also states that claims 21, 22, 27, 28, and 31 through 38 are allowed.

The invention relates to high performance cell based network interfaces.

Independent claim 1 is reproduced as follows:

1. In a network of computer systems comprising a plurality of computers and asynchronous transfer mode (ATM) switches, wherein said computers are coupled to each other through said ATM switches, an apparatus for a computer to asynchronously transfer data between itself and at least one other computer through at least one of said ATM switches, said apparatus comprising:

a) direct memory access (DMA) means coupled to said computer for storing a plurality of DMA state blocks for a plurality of memory-based virtual DMA channels for controlling and tracking a plurality of DMAs to memory means of said computer

for asynchronously transferring a plurality of transmit packets from said computer to said ATM switches and a plurality of receive packets from said ATM switches to said computer;

b) Segmentation And Reassembly (SAR) means coupled to said memory means, and said DMA means for asynchronously cellifying said transmit packets into transmit cell payloads and reassembling receive cell payloads into said receive packets on said computer, and SAR means asynchronously causing said transmit and receive cell payloads to be transferred out of and onto said computer, said SAR means further maintaining said DMA state blocks for all the virtual DMA channels;

c) staging means coupled to said SAR means for asynchronously staging said transmit cell payloads for transmission and said receive cell payloads for reassembly, said SAR means asynchronously pushing said transmit cell payloads into said staging means and popping said receive cell payloads from said staging means;

d) media cell management (MCM) means coupled to said DMA means, SAR means, and said staging means for asynchronously transferring said transmit and receive cell

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payloads between said staging means and said ATM switches, said MCM means asynchronously popping said transmit cell payloads from said staging means and packing said transmit cell payloads before transmitting them to said ATM switches, and unpacking said receive cell payloads upon receiving them from said ATM switches before pushing them into said staging means, said MCM means further maintaining said DMA state blocks.

The references relied on by the Examiner are as follows:

Hedlund	5,136,584	Aug. 4, 1992
Yanagi et al. (Yanagi)	5,280,475	Jan. 18, 1994
		(filed Aug. 14,
1991)		
Burrows	5,303,302	Apr. 12, 1994
		(filed June 18,
1992)		

Claims 29 and 30 stand rejected under 35 U.S.C. § 102 as being anticipated by Hedlund. Claims 1, 3 through 5, 8, 11, 13 through 15, 18, and 23 through 26 stand rejected under 35 U.S.C. § 103 as being unpatentable over Hedlund in view of Burrows. Claims 6 and 16 stand rejected under 35 U.S.C. § 103 as being unpatentable over Hedlund in view of Burrows and Yanagi.

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OPINION

After a careful review of the evidence before us, we do not agree with the Examiner that claims 29 and 30 are properly rejected under 35 U.S.C. § 102, nor do we agree with the Examiner that claims 1, 3 through 6, 8, 11 through 15, 18, and 23 through 26 are properly rejected under 35 U.S.C. § 103.

It is axiomatic that anticipation of a claim under § 102 can be found only if the prior art reference discloses every element of the claim. **See In re King**, 801 F.2d 1324, 1326, 231 USPQ 136, 138 (Fed. Cir. 1986) and **Lindemann Maschinenfabrik GMBH v. American Hoist & Derrick Co.**, 730 F.2d 1452, 1458, 221 USPQ 481, 485 (Fed. Cir. 1984). "Anticipation is established only when a single prior art reference discloses, expressly or under principles of inherency, each and every element of a claimed invention." **RCA Corp. v. Applied Digital Data Sys., Inc.**, 730 F.2d 1440, 1444, 221 USPQ 385, 388 (Fed. Cir.),

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cert. dismissed, 468 U.S. 1228 (1994), *citing Kalman v. Kimberly-Clark Corp.*, 713 F.2d 760, 772, 218 USPQ 781, 789 (Fed. Cir. 1983).

On page 10 of the brief, Appellants argue that Hedlund fails to teach or suggest the retrieval, recomputation and updates of the CRC values responsive to cellified payloads of said transmit packets being packed for transmission as recited in Appellants' claims 29 and 30. We note that the Examiner never addressed this issue.

Upon our review of Hedlund, we fail to find that Hedlund teaches the above claim limitation. Furthermore, we fail to find that the Examiner has established a *prima facie* case of why this claim limitation would be inherent. Therefore, we will not sustain the Examiner's rejection of claims 29 and 30 under 35 U.S.C. § 102.

Claims 1, 3 through 5, 8, 11, 13 through 15, 18 and 23 through 26 stand rejected under 35 U.S.C. § 103 as being unpatentable over Hedlund in view of Burrows. Appellants argue on pages 13 and 14 of the brief that Hedlund fails to

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teach or suggest performing the operations asynchronously as claimed by Appellants.

On pages 3 and 4 of the answer, the Examiner states that Hedlund discloses an apparatus and method for synchronously transferring data. On page 8 of the answer, the Examiner argues that Hedlund expressly discloses that the Hedlund interface can handle both synchronous and asynchronous data. The Examiner points us to column 2, lines 66 through 68, and column 3, lines 36 through 42. The Examiner argues that this teaching suggests that the system could be operated asynchronously.

The Examiner has failed to set forth a ***prima facie*** case. It is the burden of the Examiner to establish why one having ordinary skill in the art would have been led to the claimed invention by the express teachings or suggestions found in the prior art, or by implications contained in such teachings or suggestions. ***In re Sernaker***, 702 F.2d 989, 995, 217 USPQ 1, 6 (Fed. Cir. 1983). "Additionally, when determining obviousness, the claimed invention should be considered as a whole; there is no legally recognizable

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'heart' of the invention." *Para-Ordnance Mfg. v. SGS Importers Int'l, Inc.*, 73 F.3d 1085, 1087, 37 USPQ2d 1237, 1239 (Fed. Cir. 1995), *cert. denied*, 519 U.S. 822 (1996) *citing W. L. Gore & Assoc., Inc. v. Garlock, Inc.*, 721 F.2d 1540, 1548, 220 USPQ 303, 309 (Fed. Cir. 1983), *cert. denied*, 469 U.S. 851 (1984). In addition, the Federal Circuit states that "[t]he mere fact that the prior art may 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 n.14, 23 USPQ2d 1780, 1783-84 n.14 (Fed. Cir. 1992), *citing In re Gordon*, 733 F.2d 900, 902, 221 USPQ 1125, 1127 (Fed. Cir. 1984).

We fail to find that the Examiner has shown any reason for making the modification of the Hedlund system. In particular, Hedlund teaches in column 4, lines 18 through 43, that the system operates according to the synchronous optical

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network (SONET) communication protocol. We fail to find any suggestion as to any desirability or reason for those of ordinary skill in the art to modify this protocol to obtain an asynchronous system. Therefore, we will not sustain the Examiner's rejection of the claims under 35 U.S.C. § 103.

Claims 6 and 16 stand rejected under 35 U.S.C. § 103 as being unpatentable over Hedlund in view of Burrows as applied to claims 1 and 11 and further in view of Yanagi. We note that the Examiner is relying on the same reasons as above. Furthermore,

we find that Yanagi does not supply the missing teaching or suggestion to modify Hedlund's synchronous system to become an asynchronous operating system.

In view of the foregoing, the decision of the Examiner rejecting claims 29 and 30 under 35 U.S.C. § 102, and claims 1, 3 through 6, 8, 11, 13 through 16, 18 and 23 through 26 under 35 U.S.C. § 103 is reversed.

REVERSED

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	LEE E. BARRETT)	
	Administrative Patent Judge)	
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)	BOARD OF
PATENT)	
	MICHAEL R. FLEMING)	APPEALS AND
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