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opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.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

Appeal No. 95-1896  
Application 07/649,624<sup>1</sup>

ON BRIEF

**MAILED**

DEC 18 1995

PAT.&T.M.OFFICE  
BOARD OF PATENT APPEALS  
AND INTERFERENCES

Before HARKCOM, Vice Chief Administrative Patent Judge, KRASS and BARRETT, Administrative Patent Judges.

KRASS, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal from the final rejection of claims 1 through 6, constituting all the claims in the

<sup>1</sup>Application for patent filed February 1, 1991.

95-1-196

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application. The reply brief, filed November 3, 1994 (Paper No. 14), has been entered.

The invention is directed to a software product and method enabling a computer to transfer control between two program segments that call one another but operate in different modes.

Representative independent method claim 1 is reproduced as follows.

1. A method for operating a computer, so that a first program operating in a first operating mode having a first memory addressing format may call code located in a second program operating in a second operating mode having a second memory addressing format without changing operating mode, said method comprising the steps of:

converting all arguments in a stack used in inter-program communication from said first memory addressing format used in said first operating mode to said second memory addressing format used in said second operating mode; and

converting a desired return address into said second memory addressing format used by said second operating mode, so that said computer returns from said second program to said first program at said desired return address.

The examiner relies on the following references.

Iwao	4,799,151	Jan. 17, 1989
Letwin	5,027,273	June 25, 1991

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Bealkowski et al.                    5,193,161                    Mar. 9, 1993  
(Bealkowski)

Brumm et al. (Brumm), 80386 - A Programming and Design Handbook,  
No. 2937, TAB Professional and Reference Book, 1-27, 127-142,  
345-365 (1987).

Claims 1 through 4 and 6 stand rejected under 35 U.S.C. § 103. As evidence of obviousness, the examiner cites Brumm, Iwao and Bealkowski with regard to claims 1, 2, 4 and 6, relying on Letwin, Iwao and Brumm with regard to claim 3. Claim 5 stands rejected under 35 U.S.C. § 102(e) as anticipated by Bealkowski.<sup>2</sup>

Rather than reiterate the arguments of appellant and the examiner, reference is made to the briefs and answer for the respective details thereof.

#### OPINION

We will not sustain the rejection of claims 1, 2, 4 and 6 under 35 U.S.C. § 103 based on the applied references because while each of these claims requires, in one form or another, a first program or process operating in a first mode calling a

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<sup>2</sup>The examiner indicates, in the answer, that various objections to the abstract under M.P.E.P. § 608.01(b) and to the claims under 35 U.S.C. § 112 have been overcome by appellant's response after final, filed March 28, 1994 (Paper No. 8).

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second program or process operating in a second mode, we do not find this limitation taught or suggested by the applied references.

The examiner relies on Bealkowski for such a teaching. However, as appellant points out, this reference teaches only that a single program or process which has been written in one mode may be run in another mode without modification [e.g., lines 3-5 of the Abstract]. As specifically stated in column 1, lines 11-14 of Bealkowski,

the invention pertains to . . . a computer system which is capable of running the same applications program in each of plural addressing modes [emphasis ours].

The examiner's reliance on column 6, lines 30 et. seq. is misplaced since this portion of Bealkowski refers to a program making a request to the Advanced Basic I/O system (ABIOS) but there is no indication that the BIOS and the program making a request therefrom are operating in two different modes. It would appear, from column 4, lines 25-27, that the BIOS is capable of operating in either of two modes (real or protected) so that the program making the request may be in either mode. But this certainly is not a teaching of a first process operating in one mode calling a second process operating in another mode as set forth in instant claims 1, 2, 4 and 6.

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Neither Brumm nor Iwao suggests anything which would provide for the deficiency noted supra with regard to Bealkowski.

We also agree with appellant that none of the applied references teaches or suggests the claimed argument conversion from a first addressing format to a second addressing format without changing operation modes. While the examiner relies on pages 135-136 of Brumm for such a teaching, we find nothing thereat indicative of an argument conversion. The examiner also relies on Bealkowski, at column 6, lines 25 et. seq., for such a teaching but we also fail to find anything thereat related to the claimed argument conversion. We do not see the relevance of Brumm's "segment relocation" or Bealkowski's "pointer," which the examiner appears to be citing, to the claimed argument conversion.

We also note the examiner's further argument, at page 8 of the answer, that the "recitation that the conversion take [sic, takes] place without changing operating modes has not been given patentable weight," citing Kropa v. Robie, 187 F.2d 150, 88 USPQ 478 (CCPA 1951), because the limitation appears in the preamble. However, in accordance with the dictates of that case,

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the preamble of instant claim 5 cannot be ignored because the limitations therein give the claim its very life and meaning, i.e., interprocess communication between two processes operating in different operating modes.

Accordingly, we will not sustain the rejection of claims 1, 2, 4 and 6 under 35 U.S.C. § 103 as unpatentable over Brumm, Iwao and Bealkowski, taken together.

Turning now to the rejection of claim 5 under 35 U.S.C. § 102(e) as anticipated by Bealkowski, we also will not sustain this rejection for the reasons supra. That is, claim 5, although apparently broad in scope, does recite

interprocess communication between a first process operating in a first operating mode having a first memory addressing format and a second process operating in a second operating mode having a second memory addressing format without changing operating mode . . .

as well as an argument conversion step. As pointed out supra, Bealkowski fails to teach or suggest these claimed limitations.

We turn, finally, to the rejection of claim 3 under 35 U.S.C. § 103 over the combination of Letwin, Iwao and Brumm.

We will also not sustain this rejection because, while Letwin does appear to disclose the claimed CPU, I/O circuit, mass storage, data input device and a memory partitioned into two mode

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segments (column 5, lines 65-68), Letwin appears to switch from one mode to the other rather than transferring execution from a first to a second program "without switching from said first mode to said second mode," as claimed. More particularly, instant claim 3 requires an "argument converter" and a "return address converter," forming the "stack converter" which enables the CPU to transfer execution from the first program to the second program without switching from the first to the second mode.

The examiner apparently recognized that Letwin failed to disclose the claimed "return address converter" and turned to Iwao for such a teaching. However, as pointed out by appellant and as is apparent from a reading of Iwao, Iwao teaches a single subroutine which may have two return addresses and the return address is chosen as a result of which branch of the program is taken. Thus, Iwao is of no help in suggesting the conversion of a return address between two differing addressing formats as claimed.

Further, with regard to the examiner's allegation of a teaching by Letwin, at column 9, lines 7-26, of an "argument converter," this portion of Letwin merely describes the conversion of a 32-bit address to a physical location in memory.

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As pointed out earlier in the disclosure (column 8), this 32-bit address is only needed in the protected mode. We find no suggestion therein of appellant's argument converter

for converting arguments passed on a stack used in inter-processor communication from said first memory addressing format to said second memory addressing format,

as claimed.

NEW GROUND OF REJECTION UNDER 37 CFR § 1.196(b)

In accordance with 37 CFR § 1.196(b), we enter the following new ground of rejection. Claims 2, 4 and 6 are rejected under 35 U.S.C. § 101 as being directed to nonstatutory subject matter.

Each of these claims is directed to a "software product." This subject matter does not fall into one of the statutory categories of invention delineated in 35 U.S.C. § 101. It clearly is not an article of "manufacture" since the software product is not "manufactured" in the sense of 35 U.S.C. § 101 and there is not even a disk recited upon which the "software product" is written. It clearly is not a "machine" since, no new "machine" is established until such time as the software product

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is applied to a computer. The claimed "software product" is not a "process" in the statutory sense since it is merely a listing of what is to happen if and when the product is applied to a computer and constitutes a mere abstract idea until such application. It goes without saying that the "software product" is not a "composition of matter." Since the "software product" is not a process, machine, manufacture or composition, it cannot be an "improvement thereof."

Appellant is referred to the Commissioner of Patent and Trademark's (Commissioner['s]) new "Examination Guidelines for Computer-Implemented Inventions." See the Federal Register Notice entitled "Request for Comments on Proposed Examination Guidelines for Computer-Implemented Inventions," 60 Fed. Reg. 28778 (June 2, 1995), reprinted in 1175 Off. Gaz. Pat. & Trademark Off. 86 (June 27, 1995); and the Federal Register Notice entitled "Request for Comments on Proposed Examination Guidelines for Computer-Implemented Inventions; Comment Period Extension," 60 Fed. Reg. 52655 (Oct. 10, 1995), reprinted in 1179 Off. Gaz. Pat. & Trademark Off. 79 (Oct. 24, 1995), announcing the availability of the legal analysis.

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In accordance with present guidelines, while a series of steps to be performed on a computer may result in statutory subject matter as a statutory process, the instant claims 2, 4 and 6 do not positively recite a computer-implemented process but only a computer program, per se, which may or may not actually be applied to a computer. Accordingly, instant claims 2, 4 and 6 are rejected as failing to recite statutory subject matter under 35 U.S.C. § 101.

We have not sustained the rejection of claims 1 through 4 and 6 under 35 U.S.C. § 103 nor have we sustained the rejection of claim 5 under 35 U.S.C. § 102(e). We have also entered a new ground of rejection, in accordance with 37 CFR § 1.196(b), of claims 2, 4 and 6 under 35 U.S.C. § 101. Accordingly, the examiner's decision is reversed.

Any request for reconsideration or modification of this decision by the Board of Patent Appeals and Interferences based upon the same record must be filed within one month from the date of the decision (37 CFR § 1.197). Should appellant elect to have further prosecution before the examiner in response to the new rejection under 37 CFR § 1.196(b) by way of amendment or showing of facts, or both, not previously of record, a shortened statutory period for making such response is hereby set to expire two months from the date of this decision.



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