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opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.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. 24

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte MATS H. DAHLIN,
MATS E. ERIKSSON,
and LENNART A.N. LOFGREN

Appeal No. 1997-4129
Application 08/237,988[1]

ON BRIEF

Before KRASS, BARRETT, and GROSS, Administrative Patent Judges.

BARRETT, Administrative Patent Judge.

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[1] Application for patent filed May 4, 1994, entitled "Providing A Master Device With Slave Device Capability Information."

DECISION ON APPEAL

This is a decision on appeal under 35 U.S.C. § 134 from the final rejection of claims 1, 4, 7, and 8. Claims 10 and 11 are indicated to be allowable, and claims 2, 3, 5, 6, and 9 are objected to as being dependent upon a rejected base claim.

We affirm.

BACKGROUND

The disclosed invention is directed to an apparatus and method involving a master and slave device in which a control program is downloaded from the master device to the slave device. Capability information defining the functions of the slave device is stored at a predefined portion of the control program in the master device.

Claim 1 is reproduced below.

> 1. In a system having a master device coupled to a slave device by means of an interface, wherein a function of the master device includes downloading a control program to the slave device, an apparatus for providing the master device with capability information corresponding to the slave device, the apparatus comprising:
>
> means for reading the capability information from a predefined portion of the control program; and

means for storing the capability information for use by the master device during a communications operation with the slave device.

The Examiner relies on the following prior art:

Hughes et al. (Hughes) 5,109,484 April 28, 1992

Peterson et al. (Peterson), Operating System Concepts (2d ed. Addison-Wesley Publ. Co. 1985), pp. 412-13.[2]

Claims 1, 4, 7, and 8 stand rejected under 35 U.S.C. § 103 as being unpatentable over Hughes and Peterson.[3]

We refer to the Examiner's Answer (Paper No. 18) (pages referred to as "EA__") for a statement of the Examiner's position and to the Reply Brief (Paper No. 19) (pages

[2] Peterson was cited for the first time in the Examiner's Answer, but was not incorporated into the rejection. The Examiner relies on Peterson for a teaching that it was well known to associate a capability list with a program (Examiner's Answer, pages 4-5). Since Appellants address Peterson in their Reply Brief, we will treat Peterson as part of the rejection. The Examiner should note that references relied on in any way should be made part of the rejection. See In re Hoch, 428 F.2d 1341, 1342 n.3, 166 USPQ 406, 407 n.3 (CCPA 1970) ("Where a reference is relied on to support a rejection, whether or not in a 'minor capacity,' there would appear to be no excuse for not positively including the reference in the statement of the rejection.").

[3] See footnote 2.

referred to as "RBr__") for a statement of Appellants' arguments thereagainst.

OPINION

Grouping of claims

Appellants state that "claims 1, 4, 7 and 8 stand or fall together" (Br4). This means that we should decide the appeal by selecting a single claim from the group. See 37 CFR § 1.192(c)(7) (1996). However, Appellants argue the various limitations of claims 1, 4, 7, and 8 in the Brief. Although Appellants have not complied with the regulations regarding the grouping of claims, we address all of the claims because of the similarity in claim language.

Obviousness

We agree with Appellants' argument (RBr1-2) that the Examiner changes the rejection in the Examiner's Answer to rely for the first time on the subsequent initial program load (IPL) using configuration data sent back from the terminal, rather than relying on general statements about the IPL in Hughes as was done in the Final Rejection. For this reason, the arguments in the Brief are no longer

relevant. The Examiner does not reply to Appellants' Reply Brief and, thus, leaves it to us to sort out the arguments in the first instance. Rather than further delay a decision on the appeal by remanding to the Examiner to address the arguments, we decide the case.

Hughes discloses a system comprising controller 10 and terminals 12, which are controlled by programs stored in their respective RAMs (col. 2, lines 59-60). "In order to operate a terminal, the terminal must know the I/O devices that are connected to it and obtain programs from the controller to control these devices." (Col. 3, lines 47-50.) The programs to control the devices are "loadable drivers" (col. 3, lines 15-17). Hughes discloses that during the IPL, the configuration of the list of I/O devices attached to the terminal is determined and verified by an operator. Once the configuration is verified, "the configuration is stored in the hard totals module [non-volatile memory] of the terminal and is transmitted to the controller where it is stored on the disk" (col. 5, lines 24-26). After a reset and during a subsequent program

load "the controller sends only the load modules required by the terminal when requested" (col. 5, lines 33-37).

We find that Hughes discloses that the controller, which corresponds to the claimed "master device," stores configuration information about each terminal, which corresponds to the claimed "capability information." Hughes also discloses that the controller stores load modules of loadable drivers to be downloaded to the terminals. The configuration information and the load modules together correspond to the claimed "control program." Hughes does not describe how the configuration information and the control program are related. However, there must be configuration information for each terminal and load modules for each type of device capable of being attached to a terminal.

Claim 1 recites "means for reading the capability information from a predefined portion of the control program." Claim 4 contains a similar limitation. Claim 7 recites "inseparably associating the capability information with the control program," where dependent claim 8 recites that this step "comprises storing the capability information

at a predefined portion of the control program." We examine the disclosure to determine what is meant by these limitations.

The specification discloses, in connection with Figure 1, that the master device 101 includes control software 107, 107', 107" for each of the slave devices 103, 103', 103" which is to be downloaded to the slave devices (specification, page 7, line 29 to page 8, line 7). The specification further discloses (page 8, line 26 to page 9, line 9):

> In accordance with the present invention, the control software 107 is inseparably associated with a portion that contains capability information 109 regarding the functions supported by the corresponding slave device 103. For example, the start of the capability information 109 may be located at a known position within the control software 107 so that the master device 101 is able to locate it, and distinguish it from the rest of the control software 107. In a preferred embodiment of the invention, the capability information 109 is readily identifiable because the control software 107 for the slave device 103 is divided into files which are retained in a data base at the master device 101. In this embodiment, it is important that this set of files be treated as a single package within the master device 101. One or more of these files contains only data representing the capability information 109.

Figure 1 shows that control software 107 for a slave device 103 has its own capability information 109, and there

is separate control software 107 and capability information 109 for each slave 103.

In our opinion, the limitation of "a predefined portion of the control program" in claims 1, 4, and 8 is broad enough to read on the configuration information in Hughes, where the configuration information for the terminals and the load modules together correspond to the claimed "control program." The "predefined portion" limitation does not positively require the structure of a single program of consecutive lines of control software instructions concatenated with (or "appended to") capability information, because the specification indicates that "inseparably associating" includes storing the capability information and the control software as separate files in a database of the master device (specification, pages 8-9). Thus, the Examiner's reasoning that it would have been obvious to append the configuration information to the load modules is unnecessary in view of the breadth of the claims. One of ordinary skill in the art would appreciate that the system in Hughes distinguishes between configuration information and the load modules and reads the configuration information

(the "predefined portion of the control program") for use in sending the relevant load modules to the terminals.

Since claim 8 is considered unpatentable over Hughes, independent claim 7 from which it depends is also considered unpatentable thereover. Further, the step of "inseparably associating the capability information with the control program" in claim 7 is broad enough to read on the fact that the configuration information ("capability information") in Hughes is related to or associated only with the load modules and not some other programs. As already discussed, "inseparably associating" includes storing the capability information and the control software as separate files in a database of the master device (specification, pages 8-9).

For the reasons stated, we conclude there is sufficient evidence to establish a prima facie case of obviousness of claims 1, 4, 7, and 8. We next look to Appellants' arguments.

Appellants argue that before one can say it would have been obvious to append configuration data to a control program, it is first necessary to identify the control program. Appellants argue that they disclose a separate

control program for each slave device, whereas in Hughes there is no one control program for a given terminal, but rather the device drivers are stored individually (RBr4). Therefore, it is argued that associating a configuration file with a driver would require that "each configuration file would have to be appended to each of the device drivers" (RBr4), which is a waste of storage space.

The claims do not require a separate control program for each slave as illustrated by Figure 1. Moreover, the claims only require a master and a single slave. As discussed, we conclude that the claim language is broad enough to encompass Hughes and that it is unnecessary to rely on the Examiner's "append" reasoning. We find the configuration information for the terminals in Hughes to correspond to the claimed "capability information" and the configuration information and the load modules together to correspond to the claimed "control program." When the system in Hughes reads the configuration information, it is reading "from a predetermined portion of the control program" since the claims do not recite the structure of the "predetermined portion."

Appellants argue that Peterson does not disclose or suggest appending or otherwise associating capability information with a control program to be downloaded to a slave device and that Peterson's capability information is not the same thing as the claimed capability information (RBr5-6).

It is true that Peterson does not disclose downloading programs to a slave device and that Peterson's "capability lists" (defined as a "list of objects and the operations allowed on those objects") are the objects and operations to which the program has access, not functions performed by a slave device. Nevertheless, Peterson discloses that the capability list is inseparably associated with the program and that principle is capable of broad application. In our opinion, one of ordinary skill in the computer art would have been motivated to inseparably associate the configuration information in Hughes with the load modules because the configuration information refers only to the load modules. Thus, Peterson is considered to additionally support the obviousness rejection.

For the reasons stated above, we conclude that a prima facie case of obviousness exists with respect to claims 1, 4, 7, and 8. Accordingly, the rejection of claims 1, 4, 7, and 8 is sustained.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a).

AFFIRMED

ERROL A. KRASS)
Administrative Patent Judge)
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) BOARD OF PATENT
LEE E. BARRETT) APPEALS
Administrative Patent Judge) AND
) INTERFERENCES
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