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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte THEODORE C. WHITE, WILLIAM W. DENNIN, and ANGEL G. PEROZO

Appeal 2010-010712
Application 11/232,437
Technology Center 2100

Before JOSEPH L. DIXON, ST. JOHN COURTENAY III, and CARLA M. KRIVAK, *Administrative Patent Judges*.

COURTENAY, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

The Patent Examiner finally rejected claims 12-20 and 22-27. Claims 1-11 and 21 were canceled. (Spec. 3). Appellants appeal therefrom under 35 U.S.C. § 134(a). We have jurisdiction under 35 U.S.C. § 6(b).

We affirm.

INVENTION

This invention relates to streamlining data flow in storage device controllers. (Spec. 1). Claim 12, reproduced below, is illustrative of the claimed subject matter:

> 12. A storage controller, comprising:
>
> a first memory that uses a first data alignment and that stores data that is transmitted between a second memory that uses a second data alignment and a host system that uses one of the second data alignment and a third data alignment, wherein the first data alignment is different than the second data alignment and the third data alignment; and
>
> *a buffer controller* that communicates with the first memory, the second memory, and the host system, that receives the data as incoming data from at least one of the first memory, the second memory, and the host system, *that determines a data block size of the incoming data as the incoming data is received*, that determines a padding requirement of the data based on the determined data block size and a destination of the incoming data, and that one of pads the data and removes padding from the data based on the padding requirement.

(Disputed limitation emphasized).

REJECTION

R1. Claims 12-20 and 22-27 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Slater (U.S. Pub. No. 2002/0095537).

FINDINGS OF FACT

1. Slater discloses:

> [0070] *Upon receipt of any number of payload bytes defined by the write command in variable mode, or calculated from the write command in fixed mode, the firmware determines whether this payload size is an integral number of bytes which fits in with a optimum block size for optimum performance of the tape mechanism.* For example if a payload is written from the host computer, and has 4 data blocks each of 2 kbytes, and if 2 kbytes is an acceptable block size for writing directly to the tape media, then this may be written as a single larger data block size to the tape media of, for example, 8 k bytes.

(¶ [0070], emphasis added).

ANALYSIS

We disagree with Appellants' contentions regarding the Examiner's Anticipation rejection of the claims. We adopt as our own: (1) the findings and reasons set forth by the Examiner in the action from which this appeal is taken and (2) the reasons set forth by the Examiner in the Answer in response to arguments made in Appellants' Appeal Brief. (Ans. 7-10). We highlight and address specific findings and arguments below.

A.

***Issue*:** Under §102, did the Examiner err in finding that Slater discloses a buffer controller "*that determines a data block size of the incoming data as the incoming data is received*," within the meaning of claim 12 and the commensurate language of claim 22?

Appellants contend:

> Merely disclosing that the firmware subsequently calculates the payload size by multiplying the **predetermined block size** by the number of blocks is not analogous to determining the data block size. Specifically, there would be no need for the firmware to determine the data block size when the host already predetermined/defined the data block size.
>
> In the Advisory Action mailed August 7, 2007, the Examiner again changes his position and alleges that Slater discloses a buffer controller that determines **a data block size of incoming data as *it is received*** in Paragraph [0013] (of Slater). Here again, the cited portion discloses comparing a payload data block to the ideal data block size to determine padding. As described above, the host determines the ideal data block size. Further, the host determines the payload **data block size** and this information is included **in the write request** (see Paragraphs [0067], [0069] of Slater). In other words, incoming data block size is not determined **as it is received** at the controller, but instead is predefined in the write request ("every read or write request is defined by a number of bytes," Paragraph [0077] of Slater).

(App. Br. 10).

The Examiner disagrees:

> The write request or a write command 504 of Slater includes N bytes of Payload in fig. 5; in other words, the write request with the payload data is the claimed incoming data

> received by the buffer controller [the tape drive]. *Upon receipt of the write request with the payload as the incoming data is received, not only the host computer but also the tape drive knows or determines the data block size [payload size] defined by the write request* [e.g., "the write command defines how many bytes are to be transferred as the payload" in paragraph 0069; "upon receiving a write command from a host computer, a payload block of data is compared to an ideal block size of data" in paragraph 0013].

(Ans. 10; emphasis added).

Appellants' contentions are not persuasive. We observe Slater discloses: "[t]he input payload to be written to the tape media is converted by the firmware *into block sizes which are more optimal* for reducing write and access times to the tape data storage media" and, further, "[a]s many full input data blocks of the payload as possible, are re-packaged into larger data block sizes of *a data block size which is optimal for the tape media*." (¶ [0072], emphasis added). Thus, we find Slater discloses *determining a data block size of the incoming data as the incoming data is received*, i.e., Slater determines *a data block size which is optimal for writing to the tape media* when the firmware repackages the received payload data into optimal-sized data blocks. (*Id.*). *See also* FF1 (Slater ¶¶ [0013], [0070]).

Even if such optimal data block size is pre-stored in the tape device firmware, we find the optimal data block size must still be *looked up* (i.e., determined) each time payload data is received. *See* Slater ¶ [0088] ("The minimum optimum block size *is determined by the firmware itself*, and can be factory preset as default, to be the minimum data block size which is necessary to keep the tape moving across the tape head without stopping, and without having to reposition." (Emphasis added)). *Cf.* App. Br. 8

regarding Appellants' support for the limitation at issue: Appellants' buffer control determines the "data block size" by *looking up* the "block size of the incoming data" stored in the buffer controller. (*See* Spec. ¶[0040]). *See also* Slater ¶ [0089] ("The host computer is not able to 'see' the optimum block size, but writes to the tape device in standard block size, which can be less than the optimum block size . . . [c]onversion between the transmission block size and the optimum block size is taken care of by storing data in the buffer in the tape drive firmware.")

Appellants do not file a Reply Brief to further address and rebut the Examiner's findings. Notwithstanding Appellants' arguments, on this record, we find the weight of the evidence supports the Examiner's finding of anticipation. Accordingly, we sustain the Examiner's rejection of claim 12 and of claim 22, which recites commensurate language.

B.

Regarding the rejection the remaining claims, Appellants argue these claims are patentable by virtue of their dependency from independent claims 12 and 22. (App. Br. 11). However, we find no defects for the reasons discussed above. Therefore, we sustain the Examiner's rejections of these claims.

DECISION

We affirm the Examiner's rejection of claims 12-20 and 22-27 under § 102.

No time for taking any action connected with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED

peb