ON-DRIVE INTEGRATED SECTOR FORMAT RAID ERROR CORRECTION CODE SYSTEM AND METHOD

ABSTRACT

An encoding system and associated method (950) protect against miscorrection due to parity sector correction in, for example, an on-drive RAID system. The system adds a parity cluster block (900), which itself is a complete, C3-protected cluster. Having the cluster level, C4 level correction, by parity sectors, checked and verified by C3 checks that have high reliability level, as well as the capability for checking consistency of a cluster block, even in the presence of "jami" errors, makes this possibility unlikely. A scrub algorithm avoids read-modify-write operations by deferring the completion of the C2 and C3-checks until the storage device is idle.

Fig. 1



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