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Trim affects the lifespan of the SSD. Most of the cells will lose integrity due to all the time written and erased data from the same NAND . For optimum life, each cell should be utilized at roughly the same rate as other cells. This is called wear levelling . During the process of Trim ,trim command hints to SSD to which cells can be erased during there specified time, so these can be beneficial to drive to allows the drive to organize there remaining data-filled cells and the empty cells to write to avoid unnecessary erasing and rewriting. When file system deleted a file stored on disk ,all it needed to do was updated the files metadata and the file systems freeup the bitmap. When flash drive used with such file system at that time we observed that their drive got slow over time.

The Flash drive (SSDs) which can cannot overwrite existing data . But the HDD can overwrite these data . That’s why we need SSD to erase the unnecessary and invalid data. But there is issue is a larger unit of the memory, a block, must be erased before a smaller unit, a page, can be written. For example, if there are four pages with data in an otherwise empty block and three pages of data are deleted, the remaining page of data must be written to a new block, then all four pages in the old block can be deleted, freeing them up to be rewritten in the future. If the drive were to not go through this process of moving valid information so that invalid information can be deleted, and instead, just keep writing new information to new pages, eventually it would fill up with data, some of it no longer valid. To prevent this, Active Garbage collection goes through the disk and moves each page of valid data to a page in another block so the block with invalid data, which has been identified with Trim, can be cleaned out.

The fundamental reason why TRIM is needed is that the SSD doesn't know whether a sector is still needed or not. ... So the SSD can always do a better job if TRIM is used, since it gives it data that it can't otherwise divine simply by observing the stream of read and write requests.