

5 simple changes to reduce hard drive errors

In this article, I will show you five simple changes that you can make your hard drives run smoothly.



Network administration - Hard drive failure is a reality of life: That is why there are backup systems, RAID arrays and an entire infrastructure designed to prevent data loss. and minimize the impact on organizations when hard drives stop working.

However, that does not mean that you cannot do something to minimize the error for the hard drive. In this article, I will show you five simple changes that you can make your hard drives run smoothly.

1. Insert the hard drives into a separate laboratory before using them for production

Hard drives suffer from a very high error rate and that ratio is like 'Infant mortality rate'. In essence, this means that new hard drives often fail in the first months of use. The reason may be because the disadvantages in the production process are not immediately detected but the error only occurs when the hard drive is put into actual use.

For any reason, hard drives that survive the first few months of error-free use will be able to survive for many years.

This implies to remind you that brand new hard drives should not be used on servers to avoid high probability of error at this stage. Another way to identify them is to run them on test computers for a period of about three

months. This testing process will eliminate 'weak' hard drives, and the remaining 'healthy' computers will be put to use in production servers.

2. Detect surface defects before use

Almost all hard drives have magnetic surface surface defects used to store data inside. Data is stored on a sector, if there is a certain surface error, this error can cause readability, in some cases, it may not be possible to read the data at all. When the hard drive detects a faulty sector because it is difficult to read, it will transfer the data if possible and stop using that word to prevent future data loss.

The problem with this method, however, is that it is only able to detect bad sectors after being used, and with expression that is difficult to read the saved data. The method here is to find and mark all bad surface sectors before starting data storage.

Perhaps the most effective utility to implement this idea is the program called SpinRite. This program will write very weak magnetic samples to the disk surface and test whether they can read the data. If you can't read these samples from a certain area on the disk, SprinRite will assume it's a bad sector and will notify the hard drive to mark this bad sector.

Running SpinRite on any hard disk before using - a process that can take up to several hours - will avoid bad sectors using data to save data, reducing unnecessary data loss due to errors cannot read certain sectors in the future.

3. Select the hard drive carefully

Many studies show that the reliability of the drive is completely different and this difference depends on the model and their manufacturing process. However, a model of a manufacturer's hard drive model may prove to be very reliable, but there is still no guarantee for another model of another manufacturer - or even with the manufacturer. there.

This means that you need to keep an eye on the hard drives to see which models are not trusted. The best way to do this is to remove from all the services of a particular model that you're using, but set them up as unreliable hard drives - though there's no guarantee that the hard drives are You replace them to be reliable.

A strategy here - especially for RAID systems - is to use a variety of hard drive models from different manufacturers. In that way, if a certain model is not trusted, this will not affect much as a hard drive in an array of one category.

4. Overheating better than too cool

Studies have shown that temperature does not affect hard disk reliability (the view that people still think is). In the first two years of using the hard drive, the hard drive will be more prone to error if it is run at an average temperature of 350C or lower than the case with an average temperature of 450C. This is a surprise and it shows that the use of an air conditioning system can be counterproductive - a warmer environment will fit into more hard drives.

From the third year on, hard drives running above 400 C will have a higher error rate than hard drives running at cooler temperatures. This raises the question of whether the aftermath of running at high temperatures before is the cause of errors in later years? However, recent studies by Google still conclude that, 'the average temperature range has a worse effect on hard drives than the higher temperature range'.

5. Do not use hard drives for too long

It is completely impossible to predict exactly when a hard drive will be corrupted, but a hard drive with a life span of two or a year will have a greater risk of failure than a new one. If this is a type of hard drive that you have rated unreliable, the risk may be worse. To reduce the risk of hard drive failure in general (to avoid errors that lead to loss of important data), you need to make sure that your average hard drive life is always young.

In addition, you also need to check SMART data or other systems to check the disk's internal workability to indicate which drives are at high risk of failure. When a disk starts to behave suspiciously - for example, reporting scan errors or repositioning one or more sectors and marking old sectors as bad sectors - it is likely that it will fail. in a time not far away.

Reducing the scope of impact on hard drive errors must be an economic balancing act. Consideration should be given to replacing hard drives before they fail (replacement will cost a certain amount of cost), but if a failure occurs at critical times, the impact to the productivity that the organization incurs will be huge.

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