Another Glimpse Into the Future of Hard-Drive Technology

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The 2018 IEEE TMRC conference has concluded, providing some interesting insights into what is next for magnetic storage technologies. Far from being dead, there are a number of new advances on the horizon that will potentially prolong the use of magnetic disks.

Air -> Helium -> Vacuum

Just as the industry begins to get used to the idea of helium-filled disks, a new startup has hit on an idea that will change the game again. By creating a vacuum inside the unit, L2 believes that they can significantly reduce “magnetic spacing” (the gap between tracks on the physical platter) thereby increasing the potential capacity by more than 35%.

The vacuum approach means that drive internals cannot corrode, disk lubricant is unnecessary, and the usual carbon overcoat on the head and platters can be eliminated. Early testing by L2 also suggests that idle power consumption drops by 50%.

Rust-free storage

Jokes about “rust-based storage” may be a thing of the past if manufacturer Hoya has their way. During their

presentation, the Hoya team discussed replacing traditional aluminum disk platters with a glass substrate.

According to their manufacturing processes, it is possible to squeeze more platters into the same 3.5” HDD enclosure. Adding 10 or 12 disks will add another 20-40% overall capacity.

Bigger is better

The need for increased capacity means that virtually all the announcements are related to squeezing more information onto each disk. Magnetic recording technologists are predicting that these advances will result in HDDs with capacities of between 20 and 40TB within a few years.

Whether this will be enough to secure the long-term future of magnetic recording remains to be seen, however.

For help and advice on maintaining your current magnetic disk storage systems, please **get in touch**.