

Helping our partners
reach their goals.



Innodisk Long-life iSLC Products Resolve the Challenge of Heavy Write Workloads at a Budget-friendly Price

When it comes to applications with heavy write workloads, we recommend SLC flash as an ideal solution for its high reliability and performance. However, some customers insist on using MLC flash SSD because of cost concerns. In these cases the SSD ends up being overloaded over time causing more problems, and costing the customers much more money and time than they anticipated.

Innodisk iSLC, an exclusive technology, improves SSD endurance up to 20,000 program erase cycles, increasing flash lifespan to at least 7 times longer than MLC-based solutions. Innodisk's iSLC series, boasting excellent flash endurance and reliability at only about half the price of SLC-based solutions, always satisfies our customers on price, endurance and data quality, especially for applications with heavy write workloads.

The situation

An end user in the gaming industry specially requests Innodisk flash products, therefore their Original Design Manufacturer (ODM) purchased our SSD for boot loading and data storage in their casino machine. However, after three months an RMA issue occurred because of intensive write workloads. According to our logs, the write workloads of the casino machine reached 6,000 program erase cycles in three months, which surpasses the MLC SSD's guaranteed lifespan in our warranty policy.

In the beginning, this customer chose MLC flash for its lower cost, but when they ended up needing to return the overloaded MLC SSD and replace it with other SSDs more suitable for their application, it costs them much more in the long run.

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The solution

Although SLC is the ideal solution for heavy write loads such as casino gaming applications, considering the customer's budgeting plan, we replaced the MLC-based solution with Innodisk iSLC SSDs, instead of SLC based flash. For iSLC, Innodisk screens for superior MLC flash and enhances it with our proprietary firmware at the SSD level. The firmware reprograms two bits per cell into one bit per cell, which increases the delta sensitivity between each level. This enables the NAND flash to perform similarly to an SLC flash based solution. In addition, the average endurance of iSLC can surpass 20,000 Program/Erase (P/E) cycles, a huge increase in lifespan over MLC flash based drives.

The payoff

With Innodisk iSLC technology, the performance and data quality of MLC-based SSDs approaches SLC based flash, and extends SSD lifespan 7 times longer than before. At the same time, the cost of the iSLC series is just half of SLC based SSDs or even less. This product not only holds up to heavy usage, but is friendly to the bottom line.

Innodisk Products Used

[Innodisk 2.5" SATA SSD 3IE](#)



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