

Eliminating Frame Loss

Firmware Optimization for High-level Surveillance Applications



An American manufacturer encountered recording issues with their SSD-based surveillance system. Innodisk identified the issues to be interruptions from firmware processes and designed a customized SSD with firmware optimized for surveillance recording. Testing showed that the SSD ran smoothly without any interruptions.

Introduction

Digitization and the growth of IoT have revolutionized the surveillance market. New features, such as facial recognition and on-the-spot data analytics require high computational power but can deliver almost instantaneous feedback. However, there are always obstacles to new innovations, as one of Innodisk's partners experienced when testing a high-level recording system setup using solid state drives (SSD).

When using a standard SSD for high-quality surveillance recording, the manufacturer noticed periodical drops in data writing speed. This drop led to fewer frames per second, making the video lag and also appear grainy. For an application where just a few seconds of footage can be crucial, this kind of frame loss is unacceptable. The partner turned to Innodisk for help in solving the issue.

Our Roadmap to Success

Optimized Surveillance Solution

3MV2-P InnoREC™ SSD

- 512GB capacity
- mSATA form factor

InnoREC™ Surveillance

Feature Set

- RECLine™ firmware optimization
- iData Guard™ power loss protection
- iCell™ power protection for DRAM-based SSDs
- Quick Erase, complete data erasure in a matter of minutes
- Thermal sensor that issues an immediate warning in case of overheating
- Passive cooling design for maximum heat dispersal

Challenges

- Unknown parameter: the manufacturer was unable to determine the cause of the frame loss
- No alternative: the manufacturer needed a new and customized solution to replace the non-viable SSD
- Large capacity requirements: the SSD would be the main storage for the surveillance setup, which requires extensive capacity

Solutions

- Experienced firmware team: after analyzing the setup, the Innodisk team was able to accurately pinpoint the firmware issues
- Custom-made firmware: based on the manufacturer's input, Innodisk optimized the firmware according to the surveillance system specifications
- Large capacity SSD: Innodisk could provide an SSD module that fulfilled all storage requirements

Result

The SSD is new to the surveillance market, and as such, manufacturers are bound to encounter some unknown hurdles. However, by working together, Innodisk and the manufacturer quickly identified the underlying issues, and created an optimized SSD for surveillance purposes. With extremely promising results from testing and later implementation, Innodisk decided to expand this concept under the new dedicated SSD series InnoREC™. This case shows the importance of close-knit cooperation, and how technical expertise can lead to new and exciting innovations.

Our Promise

We at Innodisk believe that through cooperation we can overcome any challenge. By maintaining a strong line of communication all the way from inquiry to implementation, we ensure a tailor-made solution that fits your application. We remain committed to innovation with our continual focus on hardware, firmware and software integration.