SMR8000 Surveon Megapixel Recording Optimization Technology Application Notes

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Preface

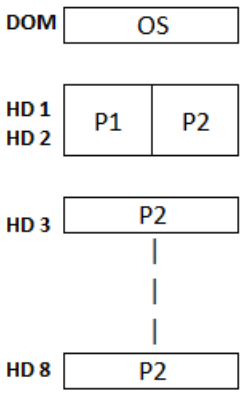
The high bitrates and heavy I/O requirement is a well-known challenges for the megapixel recorder. It usually makes the SI facing the unstable NVR, dropping frame and disk failure. As storage leading provider with years' experience on storage technology, Surveon has release its 2nd gen Surveon Megapixel Recording Optimization technology on its new SMR8000 series. The SMRO empower the SMR8000 series to support up to 40 channel, full frame rate (30FPS), high bitrates up to 6Mbps to all channels. With the optimization on the hardware architecture and the advanced I/O management, the SMR8000 series provide the outstanding reliability especially for full HD megapixel recording project.

Detail information

1. Previous SMR8000 Hardware Architecture

DOM: Disk On Module, which is a flash drive and is installed on the SMR.

HD: Hard drives, which are inserted in the SMR drive tray.



Hardware Architecture

- DOM is used to store the OS (operation system).
- Partial HD1 and HD2 are used to create RAID 1 which said P1.
- OS will be cloned from DOM to the P1 (RAID 1).
- The rest space of HD1 and HD2 will be combined to HD 3~8 to create another RAID which said P2.

Mechanism

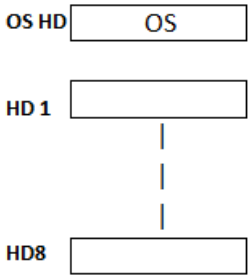
- OS/AP will run on the P1.
- Log and page memory will be written in the P1.
- The video data will be stored in P2.

2. Performance Impact

Since on the first two hard drives (HD1~2), there are two RAID groups (P1 and P2) which have different writing and reading access operations. This might cause response time of user operation is slow.

3. New SMR8000 Hardware Architecture

To prevent the performance impact, an OS HD (2.5 inch HD) is introduced to replace DOM.

	**Hardware Architecture** • OS HD is used to store the OS (operation system). • Use the HD 1~8 to create RAID. **Mechanism** • OS/AP will run on the OS HD. • Log and page memory will be written in the OS HD. • The RAID created using HD1~8 will be used to store the video files.

4. Benefit of the New Hardware Architecture

- This new hardware Architecture and mechanism can prevent OS and RAID to interfere each other, which will improve the user operation responding time.
- Even the OS is busy, the video can still be recorded and playback from disk without drop frame or lag.