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**Surveon**  
**Region of Interest (ROI) Encoding Technology**

**Application Note**

Version <1.0>



Technical Support Team

## 1. Challenges

Megapixel cameras can bring 6~9 times clear images than traditional analog cameras do. However, it comes with several downsides the system installers have to face, for example, the increasing bandwidth and expanded storage usage.

	Analog Solutions	Surveon 2M @ 30FPS Solution
Total Cameras	32	32
Average Bit rate	1 Mbps	4 Mbps
Total Storage (30 Days)	10.5 TB	42 TB

Table 1 - Comparison Chart of an Analog and Full HD Solutions

## 2. Solutions

With the Region of Interest (ROI) technology, things can be different now! By using Surveon's ROI technology can save more than 30% of bit rate and therefore demand less bandwidth and reduce the storage usage.

Surveon provides you with ROI technology, 8 independent regions in 1 image. That means 8 different image qualities can be set in 1 image. Set the less important regions to lower qualities and focus only on the important ones. ROI can be further defined to different qualities and sizes to meet your demands.

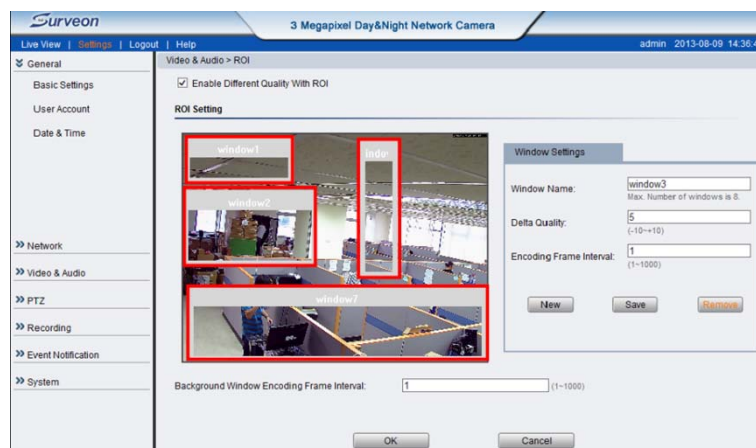


Figure 2 – Surveon ROI Setting Page

### 3. Target Applications

The ROI technology can be used for dramatic environments, indoor and outdoor surveillance applications, such as traffic monitoring, street monitoring, campus monitoring, hospital monitoring, entrance monitoring and so on.

### 4. Case Reference

For a traffic monitoring project as below, the most important region is the pulling-in cars, and the least important one is the sky. Having set the priorities, we can now set the most important region (in the yellow bracket) with higher FPS and bit rate to have an excellent image quality, while the least important one (in the green bracket) with lower settings. This way bandwidth can be cut down and attentions can be narrowed down to the most important region.



Figure 3 – Example of ROI Application

With ROI technology, a Surveon 3M IP Camera uses only 2/3 bit rate of a 2 Megapixel IP Camera's but can see at least 1.5 times wider.



Figure 4 – Surveon 3M 30FPS Camera

ROI technology can really benefit system installers (SI) in costs. From the comparison chart below, you can see it only takes 2 if using Surveon 3M@30FPS IP Cameras with the ROI functionality but it takes 3 general 2M@30FPS IP Cameras to have a complete view of a bi-directional lane.

As for storage, it only takes 130TB to save a 30-day file from 2 Surveon 3M@30FPS IP Cameras, but with the same amount it takes up 294TB from 3 general 2M@30FPS IP Cameras. As a result, using Surveon 3M IP Camera empowers SI to work more effectively and cut big in costs and thus have more profits in the long run.

	Surveon 3M @ 30FPS +ROI Solution	Surveon 2M @ 30FPS Solution
Cameras Used For a Bi-Directional Lane	2	3
Total Cameras (50 Sites)	100	150
Average Bitrate	4 Mbps	6 Mbps
Total Storage (30 Days)	130 TB	294 TB
Total Cameras Cost	49000 USD	57000 USD
Total Storages Cost	12900 USD	30100 USD

Table 2 - Comparison Chart of 3M IP Cameras with ROI and 2M IP Cameras

## **5. Conclusion**

Using Surveon's ROI technology can help save bit rate and therefore demand less bandwidth and reduce the storage usage.

For more information, please contact [support@surveon.com](mailto:support@surveon.com), or visit [www.surveon.com](http://www.surveon.com).