

Surveon Megapixel RAID NVR Simplifies Security Upgrade for Hospital

The overwhelming advantages of megapixel cameras in terms of image clarity have pushed the adoption from large-scale projects to any application featuring stringent customer requirements, including schools, government institutions, hotels, hospitals, enterprises and factories.

These advantages were recognized by the City Hospital in Skopje, Macedonia, which adopted Surveon's complete megapixel solution to enhance the hospital's surveillance systems. Compared to the CCTV equipment previously used by the hospital, the active monitoring, RAID NVR and end-to-end integration of the megapixel solutions have effectively increased security for hospital staff, patients, visitors, as well as hospital assets.

Customer

The City Hospital 8th September was built in early 1970s as a major regional military hospital for the former Yugoslavia. The total area of the facility is approximately 40,000 square meters. Located about 2.5 km from the city center, the City Hospital provides secondary and tertiary medical care with first-class, efficient and cost-effective services for the city of Skopje and Macedonia.

Challenges

Complex Application Environment and Sensitive Operations

"Security in and around hospitals is always a major concern due to the open nature of these institutions and the sensitivity of hospital operations", said Nakev Slavco of NIK Sistemi, the project integrator. Looking specifically at the City Hospital, every day more than 1,000 people visit the hospital, including patients and their families, medical professionals, as well as hospital suppliers. In addition, security requirements for many areas in the hospital, such as patient rooms and supply rooms, are much more stringent than in regular surveillance applications. For these reasons, the fact that megapixel cameras can cover an area six times larger than traditional CCTV cameras can be especially beneficial to hospital security in spacious locations like the lobby and parking lots. Furthermore, for some specific operation scenarios, such as payment handling and medicine pickup, the megapixel cameras are used to provide six time better detail.

Solution Stability and I/O Performance

"Many years of experience in the surveillance industry have taught us that the key aspects of a stable security surveillance system are the back-end storage and software/hardware integration of the overall management system", said Slavco. These aspects also affect the integration and compatibility of front-end IP cameras. For the system integrator, the 32 channel megapixel project seemed pretty straightforward, but in terms of CCTV systems this would equal 256 CIF camera recording, and the high bandwidth and storage demand of these cameras could generate major challenges in terms of overall application quality and stability.

Table 1: The I/O and Storage Performance for 32 Cameras

Camera Numbers	Resolutions	I/O (Mbps)	Storage 14 Days	Storage 30 Days
CIF	CIF (320x240)	0.5	2.4T	5.2T
D1	D1 (720x480)	1.5	7.3T	15.5T
1.3 Megapixel	Megapixel (1280x1024)	4	19.4T	41.5T
2 Megapixel	2 Megapixel (1920x1080)	6	29T	62.2T



Summary

Customer:

City Hospital 8th September, Skopje, Macedonia

Facility Size: 40,000 square meters

Hospital Needs:

- Megapixel solutions offering better images for large areas and better details
- Improve monitoring in the open areas and sensitive operations
- Prevent unauthorized entries
- Provide more active managements and instantaneous reactions to incidents
- Remote monitoring from any site in the hospital
- Enhance surveillance management efficiency
- Reduce cost for surveillance system maintenance

Surveon Solution:

- Highly integrated solution with the following:
- CAM4220 megapixel vari-focal dome cameras
 - CAM3260 IP66 outdoor with D/N and IR LED cameras
 - SMR5016 smart megapixel RAID recorders
 - Surveon video analytics

Surveon Solution Benefits:

- The only all-in-one solution that meets 60-day recording
- Exemplary performance, distinguishingly stable HD and zero frame loss
- HW RAID NVR ensures megapixel recording reliability
- Real-time VI detection upgrades security managements
- Complete solution simplifies project integration
- Smart investigation for easy case management
- 100% in-house design and production
- 3 year warranty

System Integration Risks

"Most NVR solutions are purely software-based and require SIs to integrate the software and hardware themselves," said Slavco. "The level of integration in these solutions is often low. With weak system compatibility and integration, the SI has to spend much time on certification and control. In addition, I/O and storage system integration, as well as concerns related to performance and stability, often give SIs pause when working with megapixel solutions."

Solutions

NIK Sistemi, an experienced integrator in the security industry, preferred comprehensive end-to-end megapixel solutions due to their high level of integration and certification. Many leading security companies, such as Bosch, Honeywell, Siemens, IndigoVision, and Nice Vision all offered these types of solutions. However, due to limited budgets and without a need for complex software, NIK Sistemi started looking for a cost-effective, yet reliable solution that could meet the customer's requirements. Following a thorough assessment of other available solutions, the complete megapixel solutions offered by Surveon, which are completely designed and manufactured by Surveon itself, quickly became their primary choice.

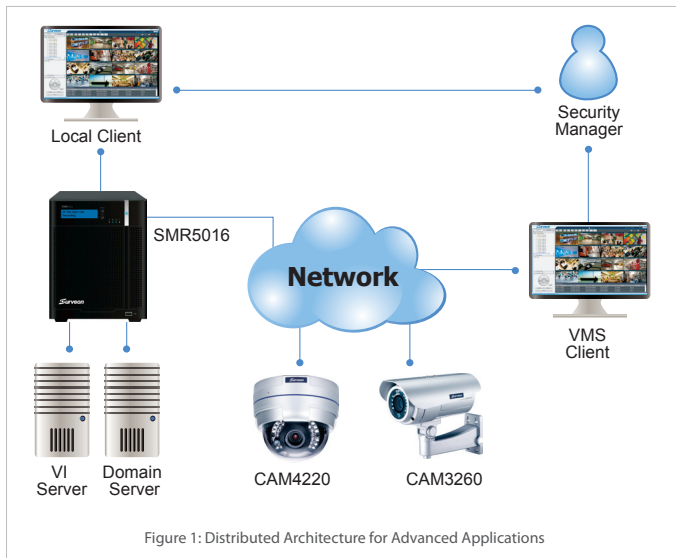


Figure 1: Distributed Architecture for Advanced Applications

For the hospital project, NIK Sistemi adopted two Surveon SMR5016 smart megapixel recorders, 30 megapixel vari-focal dome CAM4220 cameras and two IP66 outdoor CAM3260 cameras with D/N and IR LED for installation in different areas of the hospital. Besides the embedded display function of the SMR5016, with Surveon's VMS client server structure users can also easily monitor images from a remote site by installing a client program. This structure greatly enhances surveillance management efficiency for the hospital.

Furthermore, with the real-time video analytics engine of the SMR5016, the hospital has also been able to upgrade from a traditional passive surveillance management model to an active model featuring intelligent detection.



Benefits

Simple Integration, Proven Solutions

The complete solutions offered by Surveon helped the City Hospital deploy a highly integrated solution. In addition, the SI was able to significantly reduce the risks and installation complexity often encountered in traditional system integration. For example, the SMR5016 system adopted in this project offers support for five hot-swappable disk drives and RAID protection, decreasing installation efforts and making maintenance extremely easy. The embedded hardware RAID5 accelerator ensures that the multi-channel megapixel cameras have access to the required bandwidth when recording images, reducing the instability often seen when systems are conducting high I/O operations for extended periods of time.

Professional Megapixel CCTV Solutions

Besides the stable and high-performance mpixel video recording offered by the Surveon solutions, features such as active monitoring, smart investigation, as well as different professional CCTV functions, were able to meet the surveillance demands of the City Hospital. Taking real-time video analytics as an example, the solution can detect forbidden areas for patient rooms, supply rooms, etc. The HTML integration can easily combine different aspects into a virtual matrix. Advanced electronic maps and expansion up to eight screens at the user-end can easily meet future demand growth.

Easy Management

With megapixel surveillance moving towards the mainstream market, Surveon's wide range of product offerings, from 6- to 300-channel recording and from two to 112 disk drives, help integrators easily generate solutions for end-customers to meet camera and storage demand. Surveon's solutions also greatly reduce the integration risks for SIs and the costs involved in installing and maintaining surveillance networks. With Surveon's comprehensive solutions and high quality based on 100% in-house design and manufacturing, integrators can fully focus on meeting demand of end-customers.

Table 2: Surveon NVR Selection Table

Model Name	SMR2000	SMR5000	SMR8000	NVR2000
Max Channels	16	20	32	64
Max Hard Disks	2	5	8	80
RAID Level	HW, 0, 1, 5	HW, 0, 1, 5	HW, 0, 1, 5 & 6	HW, 0, 1, 5 & 6
SW Features	Local Live, Real-time VI, eMAP, HTML, Remote Monitoring, Domain Management, Smart Investigation, Instant Playback, Video Bookmark, Multi Display			
Recording Days	7+ Days	14+ Days	14+ Days	7 - 120 Days
Form Factor	Desktop	Desktop	Desktop	Rack Mount

"Different from traditional PC+software or COTS solutions, the unique advantages of Surveon's SMR solutions offers much better integration and stability. Combined with easy management and excellent cost efficiency, Surveon's solutions have enabled us to greatly enhance security around our premises and thereby boost the overall operations of the hospital," said Nakev Slavco.

About NIK Sistemi

NIK Sistemi DOOEL Skopje was founded in 1991 and for 20 years, it has been a leader in installation and integration in the businesses of surveillance, alarm, access control, automation, and healthcare.

About Surveon

Surveon Technology offers end-to-end network video surveillance solutions that showcase expertise in professional camera design, high-availability video storage, embedded firmware and video management software. All our products are designed in-house and manufactured at ISO 9001 and ISO 14001 certified production sites.