Clustered RAID Storage and Enterprise CMS Protect Capital of Mongolia

City surveillance plays an important role in crime prevention and criminal prosecution. For a mission-critical project like this, it calls for not only high performance and reliable solutions, but the capability to handle the harsh outdoor environment and large data storage for 24/7 non-stop recording for 90 days. "With Surveon's end to end solutions, from 3 megapixel IP66 cameras, hardware RAID NVR, clustered storage, to enterprise VMS, we are now better equipped to monitor the entire district and protect the community against illegal activities, " said the Sükhbaatar district police officer.

Customer

The Sükhbaatar District is situated in the capital Ulaanbaatar in Mongolia. With 18 sub-districts and a population of more than 112,000, this area is the center of the city with major government buildings, embassies, banks, and universities. "With all the residents and visitors, this district needed an advanced and professional video surveillance system to provide additional support for the police force," the officer pointed out.

Challenges

Located in the coldest national capital in the world, the Sükhbaatar District features brief, warm summers and long, bitterly cold and dry winters, with extreme temperatures ranging from −49 °C (−56 °F) to 38.6 °C (101.5 °F) in the year. The harsh weather conditions challenge outdoor cameras to function properly and record clear images day and night.

With all the political and financial activities taking place in the large territory, the police department required a surveillance system that would allow them to remotely monitor the entire area and quickly respond to events in different sections of the district. An advanced TV-matrix wall functionality to see everything around this neighborhood at a glance was the key demand in the implementation.
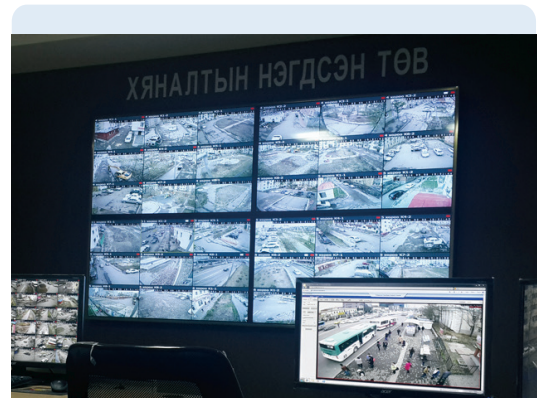
And a reliable storage system that supports 24/7 continuous megapixel recording for 90 days is necessary in city surveillance projects. The Sükhbaatar police department wanted to install enterprise-grade data storage to ensure long data retention period with no video loss.

Solutions

3 Megapixel 30 FPS HDR Outdoor Cameras for Extreme Weathers

Surveon CAM3471 provides 2048 x 1536 resolution at 30fps, true HDR (high dynamic range), IP66-rated weatherproof housing, and wide temperature to combat the harsh conditions. Installed atop streetlight poles, Surveon CAM3471 cameras enable police to monitor the downtown areas, tourist destinations, main roads, busy intersections, and the city's most violent neighborhoods.

With the smart image optimizers, Surveon cameras can analyze lighting changes and automatically adjust the image functions to ensure clarity can be obtained under different lightings. The Smart Auto HDR can be automatically activated or deactivated according to the lighting, refraining images from being too bright or too dark. The Smart Shutter can capture precise images of fast-moving objects by adjusting the shutter speed automatically to avoid captured images going blurry or dragging.

Summary

Customer:
Sükhbaatar District in the capital Ulaanbaatar in Mongolia

Project Needs:
- Outdoor surveillance in extreme weathers
- Excellent image quality under different lighting
- Continuous megapixel recording for 90 days
- Long video retention periods with no video loss
- Enterprise VMS with remote monitoring
- TV-matrix wall and centralized management

Surveon Solutions:
Highly integrated solutions with the following:
- CAM3471 3 megapixel 30 FPS HDR outdoor bullet
- NVR2100 hardware RAID NVR with EonStor storage
- Surveon VMS with real-time video analytics
- Surveon Control Center with advanced TV-matrix wall

Surveon Solution Benefits:
- Certified end to end solutions, from cameras, NVR, VMS, to storage
- 120-day non-stop megapixel recording
- RAID NVR ensures reliability and zero frame loss
- Remote monitoring and centralized management
- Real-time VI detections and smart investigation
- 100% in-house design and production
- 3 year warranty

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Complete Megapixel Solutions

In addition, the Smart Auto Exposure automatically adjusts the exposure based on a targeted area to bring out the proper exposure for the overall image, and the Smart Auto Focus allows users to apply auto focus on a targeted area, showing the clear image of the region that really matters. Surveon cameras also offer ROI (Region of Interest). Users can create up to eight independent regions, each with different video quality and frame rate, saving up to 30% of the network bandwidth.

Enterprise Video Solutions for Centralized Management
For a mission-critical project, an enterprise-grade video management solution is the ultimate choice. Surveon's intuitive VMS provides enterprise-level features such as real-time analytics, live view, instant playback, multiple clients, video bookmarking, remote monitoring, and centralized domain management. The software also adopts PIP, fisheye, back-forward, and frame by frame in live view and playback modes, offering partners the powerful yet easy to use solutions for professional surveillance.

Based on the client-server architecture, the Surveon Control Center (SCC) works on a simple yet compelling platform. With a single login from any PC/client at any remote location to the SCC central domain server, the SCC can take controls of monitoring, playback, configurations, and log management of all connected appliances, including cameras, NVRs, monitors, and I/O devices to ease the complications of configuration and maintenance.

The SCC supports the advanced TV-matrix wall that allows the police to know what is happening in the district in a glimpse inside the control room. In addition, the central alarm monitors not only events but overall hardware and software system status from one single platform to control operations, ease maintenance, and shorten response time.
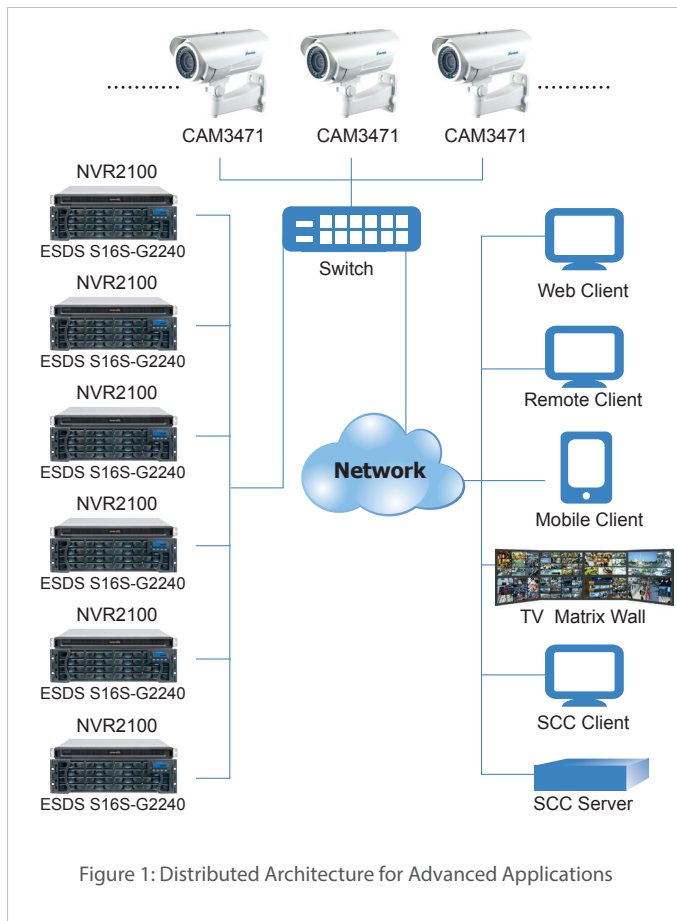

Figure 1: Distributed Architecture for Advanced Applications

Premium-Level Storage for Data Recording
Supporting up to 64 channels of Full HD video recording, the Surveon NVR2100 with subsystem storage was chosen to provide large capacities up to 448 TB for longer video retention periods, overall system stability and zero video loss.

The EonStor RAID storage is an advanced data storage system designed for server, PC and NVR. The controller-based system with a dedicated "RAID controller" provides the highest performance and reliability with all data protected and backed up. Surveon's NVR2100 also comes with the SANwatch storage monitoring suite which helps the police easily manage and monitor the status of the storage, ensuring the high availability of recorded video.

Benefits

End to End Solutions for Mission-Critical Projects
Surveon provides proven, fully integrated solutions for large-scale projects. From megapixel cameras, NVRs to storage systems, the solutions are based on the same VMS framework, allowing partners to keep the investment on existing projects for future expansions.

Ready for Harsh Environments
"Surveon's cameras are designed and manufactured in house with industrial-grade components to ensure the lowest failure rate for the 24/7 operations," said Casper Wu, product manager of Surveon. The IP66 standard, vandal proof design and in-house high quality control production process allow Surveon cameras to perform well in the extreme outdoor conditions. The advanced image functions, such as Smart Auto HDR and Smart Shutter, ensure quality images even in the light changing situations.

Secured Data Storage & Easy Video Management
Surveon's NVR2100 with RAID storage ensures non-stop recording with stability and reliability. Paired with Surveon's scalable enterprise VMS, the solution not only improves safety and security, but provides robust prevention, preparedness, detection, and quick response measures for the police department.

With the SCC remote monitoring and centralized management, operations become easier and surveillance costs can be reduced. The TV-matrix wall allows the police to notice incidents quickly and thus shorten the response time. The best of all is the SCC is scalable, making it possible to expand to unlimited numbers of cameras, NVRs, storage, and devices.

"We can view the footage in real-time to determine what resources are needed before dispatching the team. The result is faster and more effective crime prevention and security management. We are pleased to have deployed Surveon's end to end professional solutions," said the Sükhbaatar district police officer.

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