Case Study

BlueStar

BlueStar Optimizes Its DVR Surveillance Capability

Company
Beijing BlueStar Technologies

Location
Beijing, China PRC

Contact
www.bstar.com.cn/english/

Primary Focus
Manufacturer of digital surveillance equipment

Throughout the surveillance industry, the adoption rate of digital surveillance equipment is increasing. The benefits of instant video data retrieval and transfer are fuelling demand for digital solutions in security and safety applications. The high demand for digital surveillance recorders and equipment is being met by leading manufacturers like BlueStar Technologies, a Beijing-based company that manufactures digital video devices and software for the surveillance market, and which has pioneered the development of video compression and network communication.

BlueStar

BlueStar Optimizes Its DVR Surveillance Capability

BlueStar has invested a significant amount of research and development effort into optimizing surveillance devices—and it is certainly paying off. By focusing on ease of use, high resolution and high reliability, BlueStar's surveillance digital video recorders (SDVR) assist in maintaining public security and safety in transportation, office, community, law enforcement, military, entertainment and—especially—the banking industry.

Customers of BlueStar's surveillance solutions, particularly in mission-critical environments like the banking sector, need the provision of 24x7 availability and operation. Balancing the numerous priorities and features that need to be built in, against the harsh and cramped environments where installation takes place, proved challenging for BlueStar. Choosing the correct hard drive made the difference between producing a reliable and high-performing security asset or an underperforming loss-maker. Yang YunFei, product development department manager at BlueStar, elaborates further, "Our customers depend on surveillance DVRs for 24x7 protection and safety. If we cannot provide them with 24x7 reliability, the customer is vulnerable to consequences resulting in business and monetary loss. This is why we strive to ensure that our DVRs are highly reliable, and also why we considered Seagate, which provides industry-leading reliability."

Surveillance Environment Challenges

When it came to designing its SDVR devices, BlueStar faced several constraints. First, BlueStar had to design its SDVRs in the smallest chassis possible. Faced with a small footprint, the design of the air ducts had to be factored in to avoid the device overheating. On top of this, each machine would usually have eight hard drives installed, so the design would have to compensate for the event of any shocks that occur. Provisions for the direction of airflow to prevent overheating also had to be factored in.

There were also performance issues with the previous hard drive units that BlueStar deployed in their systems. BlueStar found that the drivers in its SDVR devices could not recognize all of the hard drive units. The fact that they were made up of different brands did not help. Periodically, some of the hard drives would even fail to be recognized when the SDVR was turned on. There was also a wide disparity when it came to wake-up and sleep times. As Yang explained, "Our major clients have high requirements for stability of the DVR products. Faulty hard drives are the main cause for instability in the SDVR machine."

Faced with these challenges, BlueStar set out to find a hard drive from a single manufacturer that would provide reliable and consistent performance for its SDVRs against the harsh requirements of the SDVR environment. With this in mind, Seagate provided BlueStar with the ideal solution that would meet all its needs.

Challenges

- Poor DVR reliability from faulty hard drives
- Incompatibility between hard drives and DVR drivers
- Limited anti-shock features due to heat constraints

Solution

- The Seagate® SV35 Series™ drive—optimized for surveillance video recording
- Seagate collaboration with BlueStar to optimize its DVRs during pre-production
- The industry's only surveillance-optimized hard drive platform with 3, 2 and 1TB capacity options

Benefits

- Lower power consumption and lower heat emissions simplify BlueStar's DVR design.
- Customers experience lower power consumption, providing significant cost savings.
- Higher storage capacity enables customers to enjoy longer periods of video recording before video archival or deletion becomes necessary.
- BlueStar now offers higher reliability with its DVRs.

BlueStar

BlueStar Optimizes Its DVR Surveillance Capability

Designed to Provide 24x7 Reliability

The Seagate SV35 Series drive is optimized to provide the highest performance for surveillance DVRs. For BlueStar, the surveillance-optimized features were of immense value. For instance, the SV35 Series drive allows the customization of the hard drive for video or data payloads according to the needs of the device. This is made possible through ATA-7 streaming command support. Since surveillance recording involves more writes and fewer reads as compared to normal PC hard drives, the SV35 Series drive offers greater data integrity, thereby allowing simultaneous recording of multiple video streams without risking drive failure in a high-write environment.

The Seagate SV35 Series drive also provides the industry's highest storage capacities—3, 2 and 1TB—allowing BlueStar to configure SDVRs based on the different needs of its customers. With these large capacities, customers can record months of high-quality, continuous video recording in 720x480 frame resolution, at 30 frames per second in MPEG4 compressed video before the need to erase or archive video arises.

To help customers further reduce costs, the SV35 Series drive is designed with innovative power-optimization features that reduce power consumption and lower heat dissipation. By using low-cost, high-efficiency power supplies and enabling system spin-down support that sends drives into low-power sleep mode when inactive, the DVR is less prone to overheating and features a less complicated air duct design.

Our customers depend on surveillance DVRs for 24x7 protection and safety. If we cannot provide them with 24x7 reliability, the customer is vulnerable to consequences resulting in business and monetary loss.

Yang YunFei
Beijing BlueStar Technologies

Benefits for Both BlueStar and Its Customers

Since BlueStar adopted the Seagate SV35 Series hard drive for its range of SDVR products, the difference has been significant. BlueStar can now offer anti-shock protection with lower power consumption and lower heat emission, preventing overheating from occurring.

The higher reliability offered by the SV35 Series drive also saves the customer maintenance-related costs and hassle. In fact, BlueStar has noticed a significant drop in the number of drive-related complaints by customers. Yang explained, "With high reliability, the confidence of the customer is enhanced and with lower probability of drive failure, the costs related to maintenance and downtime are reduced."

Another major improvement for customers has been the drop in power consumption. For example, BlueStar installed 600 SDVR machines for the Guangzhou branch of the China Construction Bank. In total, 4000 units of the Seagate SV35 Series hard drive were used. The result of the installation has been a drop of 10% in electrical power consumption, a significant cost savings. BlueStar attributes this saving to the SV35 Series drive's thermal control features; they have seen the temperature inside their SDVR machines drop by between 3 to 5 degrees Celsius. Yang explained, "Thermal control features like the limiting of spin-up current and seek current enabled us to use smaller and lower-cost power supplies."

BlueStar

BlueStar Optimizes Its DVR Surveillance Capability

Customers can now be assured that BlueStar SDVRs equipped with Seagate hard drives offer the highest levels of reliability achievable while maximizing their return on investment.

Partnering for the Future

BlueStar has been thoroughly impressed with the Seagate SV35 Series drive. In working with Seagate during testing and evaluation, BlueStar enjoyed a high level of support and assistance. Yang explained, "Seagate was highly supportive during our testing of the SV35 Series drive. They offered real-time solutions to our compatibility queries, and as a result, we have built a very good working relationship."

Yang is keen to continue using Seagate hard drives in the future. The SV35 Series drives, with surveillance-specific features not found in standard PC hard drives, have contributed immensely to the performance and reliability of BlueStar's DVR applications. With a working partnership between BlueStar and Seagate already proving productive, Yang looks forward to future products from Seagate that will enhance SDVR performance and reliability even more.

www.seagate.com

To Learn More:

Seagate® SV35 Series™ Drives

For more information on utilizing Seagate SV35 Series drives for video surveillance operations, visit www.seagate.com

AMERICAS Seagate Technology LLC 10200 South De Anza Boulevard, Cupertino, California 95014, United States, 408-658-1000
ASIA/PACIFIC Seagate Singapore International Headquarters Pte. Ltd. 7000 Ang Mo Kio Avenue 5, Singapore 569877, 65-6485-3888
EUROPE, MIDDLE EAST AND AFRICA Seagate Technology SAS 16–18, rue du Dôme, 92100 Boulogne-Billancourt, France, 33 1-4186 10 00

©2012 Seagate Technology LLC. All rights reserved. Printed in USA. Seagate, Seagate Technology and the Wave logo are registered trademarks of Seagate Technology LLC in the United States and/or other countries. SV35 Series is either a trademark or registered trademark of Seagate Technology LLC or one of its affiliated companies in the United States and/or other countries. All other trademarks or registered trademarks are the property of their respective owners. When referring to drive capacity, one gigabyte, or GB, equals one billion bytes and one terabyte, or TB, equals one trillion bytes. Your computer's operating system may use a different standard of measurement and report a lower capacity. In addition, some of the listed capacity is used for formatting and other functions, and thus will not be available for data storage. Seagate reserves the right to change, without notice, product offerings or specifications. CS512.2-1202US, February 2012