

WATERPARK SURVEILLANCE SOLUTIONS REQUIRE INTELLIGENT STORAGE

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Video surveillance can help waterparks evaluate how attractions are being used and then optimize how they are managed.

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VIDEO SURVEILLANCE is undergoing a transformation, and that's good news for the waterpark community. The expense of liability insurance for waterpark and aquatic facility operators has always been a major cost of doing business. Insurance carriers now offer significant discounts to operators who have the proper systems in place to limit the costs of claims—and those systems include video surveillance and the data storage need-

ed to support it. New camera technology, increasing data retention times and more advanced analytics are combining to create more effective surveillance systems that don't break the bank. In fact, with the savings on insurance premiums, it's possible to pay back an investment in these systems in a very short time. Operators seeking more from their surveillance solution than just improved security are exploring the capabilities of the latest technologies, and the role storage plays in enabling them.

THE EVOLUTION OF SURVEILLANCE STORAGE.

Surveillance solutions have come a long way from the days of fixed cameras and video tape devices. Since the introduction of IP-based cameras in the 1990s, technology has steadily migrated away from analog systems to network solutions. And camera technology continues to get smarter—with on-board analytics, higher resolutions and faster frame rates—resulting in a massive increase in video data, and with it, the need for better storage.

More surveillance cameras are in use today than ever before, capturing unprecedented amounts of video images, and the trend is expected to continue as more high-definition, multi-sensor cameras are deployed. According to IHS, high definition camera unit shipments are projected to grow at 43 percent compound annual growth rate (CAGR) from 2014-2019. And by 2020, over 3 trillion hours of surveillance video will be captured, resulting in 859 petabytes of surveillance data being produced—and stored—every day.

MOVING BEYOND SURVEILLANCE IMAGES TO VIDEO-BASED DATA.

Surveillance solutions—once considered specialized—are now becoming more integrated with IT solutions. Cameras are being deployed onto IT networks, and as such, coming under more traditional IT discipline. That fact, along with the dramatic increase in data being stored and managed, has captured the attention of more than security professionals.

As video analytics applications become more feature-rich and sophisticated, non-traditional businesses are recognizing that video—when integrated and correlated with data from other systems—can be used to make better business decisions. For example, retail companies are using video to observe shopper behavior to make better decisions regarding product placement, store layout and advertising. Waterparks can similarly use surveillance data to evaluate how attractions are being used and optimize them for safety.

By using video-based data to drive improved business outcomes, some companies are reaping real business value, shifting the expense of their surveillance solution from a cost center to an investment. In these cases, the money spent on surveillance is doing more than keeping people and property safe; it's producing business benefits and financial returns. To realize this kind of value, video data must be kept for a long time. And that requires a storage infrastructure capable of providing cost-effective, long-term retention of data without sacrificing performance.

START WITH A SOLID FOUNDATION AND BUILD FROM THERE.

The combination of more high-definition cameras, the integration of video with other systems and data elements—such as audio data, metadata tagging, access control information and proximity sensors—and the size and volume of data assets being stored and managed is forcing the system architecture to change. For example, with all these changes, a network video recorder (NVR) that may have been able to support 100 cameras in the past may only be able to support 20 cameras in the future. Adding more servers to keep up can quickly become expensive and difficult to manage. Something must change. And it begins with storage.

A surveillance infrastructure capable of delivering maximum business value rests on a firm foundation of “intelligent” storage. As more cameras are deployed and the business use for video data becomes more wide-spread, performance matters.

In addition, the storage infrastructure must be flexible to handle growth. It must be able to grow as litigation and regulatory requirements drive changes in data retention policies. It must adapt to new image formats when needed. And it must easily scale in size as sensor and stream counts increase and new cameras are added to the network.

Waterpark operators know that controlling cost is vital. By retaining video-based data, waterparks

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can strengthen their protection against litigation. Insurance carriers are looking for a storage system that will archive video footage for an extended period (a year or more) because a lot of time can elapse between when an accident occurs and when the claim is filed. It's simply cost prohibitive to hold this volume of data on spinning disk. To minimize storage costs, the storage management system must keep content at the most cost-efficient medium of storage, as well as manage the movement of the data according to policy-based criteria. High priority, frequently-used files should be stored on high performance disk while lower priority files should be stored on tape or in the cloud. A multi-tiered storage solution utilizing disk, tape and cloud storage can actually make more financial sense, and modern data management systems enable operators to manage files as easily as they would manage a C: drive on their computer.

While storing data assets on the most cost-effective medium is important from an expense standpoint, it must be done without impacting accessibility. The storage infrastructure must maintain data visibility—regardless of where it's stored—and tightly manage permissions to maintain evidence of chain of custody and prevent unauthorized access to data sets.

Finally, the storage infrastructure must integrate seamlessly with video management systems (VMS) such as those offered by 3VR, Genetec and Milestone and support all major platforms, operating systems and networks.

THE BENEFITS OF A MULTI-TIERED ARCHITECTURE WITH A SINGLE FILE SYSTEM VIEW.

Implementing a multi-tiered “intelligent” storage infrastructure is the best approach to managing video data. A tiered architecture consisting of high performance disk, secondary disk, tape and cloud stor-

age viewed as a single file system allows video files to be cost-effectively retained for a long time and to be retrieved quickly and easily for analysis when needed. This is because the system manages the movement of the data between tiers and the meta-data remains intact.

As waterparks modernize, it is important to recognize that video surveillance has not remained static. Camera counts are increasing. Video files are getting larger as higher definition cameras are deployed. Data retention times are going up. And real-time analytics are becoming more sophisticated. Meeting the storage needs of this changing industry requires an intelligent storage infrastructure that is high performing, scalable and multi-tiered in order to protect people and property from harm, as well as to improve the experience of patrons and add value to the facility. •

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