BCD

For a city that depends on having a constant access to video data, BCD delivered a hybrid HCI solution that served as a critical "safety net."

SUMMARY

Client Name
City of Suffolk

Security Environment
500 cameras and 35 facilities

City Size
95,000 residents

Location
Suffolk, Virginia, United States

Products
REVOLV, Harmonize Software Suite, ALE Network Switches, GPUs

Partners
Integrated Security and Communications (IST)

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> *"BCD's solution perfectly fit our scenario. All I needed to hear was 'we have storage and scalability for the future'. As Suffolk is growing fast and is very land rich, we're predicting a lot of growth and definitely need scalability."*

Tim Forbes, Physical Security Administrator, City of Suffolk, Virginia

CUSTOMER OVERVIEW

When a mass shooting in which 12 people died occurred at a municipal building in Virginia Beach in 2019, it served as a wake-up call for nearby Suffolk, a city of around 95,000 people and the largest city in land area in the state of Virginia. As a result, a "crime prevention through environmental design" (CPTED) committee was immediately formed. One of the committee's key recommendations was to hire a physical security administrator to act as a single point of contact for all security issues. In addition to being tasked with being liaison with Suffolk police, public safety and city leadership, the administrator would be responsible for overseeing security technology, including access control, alarming and cameras.

After a hire was made, a needs assessment was conducted which quickly determined that the existing security technology infrastructure was poorly functioning or, in some cases, not functioning at all. Many of these systems had been installed when the buildings went up but were left completely unmanaged since. The number one priority became to construct a security "foundation" at the datacenter in the Suffolk city hall. In terms of a video management system, a new backbone was needed to ensure the ability to view all cameras from this central location.

THE APPROACH

Suffolk determined it needed an integration partner that could provide unified technologies and common knowledge around its security parameters. It initiated an RFP process to which it considered four responses. Based upon credentials, years of experience, and other qualifications (including expertise in ticketing and records management), the city selected Integrated Security and Communications (ISC).

ISC had, in turn, been partnering with BCD for IP video data infrastructure solutions for several years. In particular, they had jointly worked on several server environment deployments using the company's high availability, purpose-built appliances and trusted BCD to be the right partner for the city of Suffolk. After extensive evaluation of site requirements and recommendations provided by BCD, the REVOLV Hybrid Hyperconverged Infrastructure (hHCI), DEEPSTOR Lite was determined by all parties to be the optimal solution.

THE SOLUTION

Most video management systems can achieve the video retention requirements and anticipated camera counts for a given application. Yet, each application has city, state and federal requirements that govern the amount of time the video must be retained, the required frame rate, and the required quality of video. Video must be captured and stored at the specified frame rate and resolution, to be admissible in legal proceedings. With a traditional bare metal implementation of a video management system, the archiver or recorder is a physical server. If that server experiences difficulties, or goes offline for an extended period, not only do the cameras stop recording, but the municipality also loses access to all the archived footage on that archiver.

The city of Suffolk could not afford to experience a loss of recording, or not have access to the archived footage. The REVOLV DEEPSTOR Lite solution addressed these needs and ensured that cameras were always recording, and the customer always had access to its archived video.

DEEPSTOR Lite is ideal for customers new to virtualized environments, providing a scalable solution that can support roughly 1,500 Mbps during a failed node scenario and up to 2,000 Mbps when all nodes are online.

REVOLV is a hybrid HCI solution that leverages VMWare technologies to create a cluster of resources and virtualize the archivers to operate within that cluster. The server resources reside within a vSAN implementation on the cluster that acts as a shared resource pool for the servers. In the event of a node failure, the virtual machines that reside on that node will redistribute (vMotion) to the remaining nodes and continue operation.

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THE SOLUTION

The process occurs completely unattended, and in the case of the city of Suffolk, ensured that it would never lose recorded video or be unable to record resources. REVOLV provides high availability, regardless of the capabilities of the VMS, or access control software.

Suffolk's REVOLV installation also utilized powerful GPUs. These GPUs enabled BCD to shift processing power off the appliance CPU, for a smoother display of live and recorded video and the ability to display more HD cameras at the command center.

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> "We got it all virtualized and it's down to less than a quarter of a rack between servers, storage and all the networking that was required for it. Now Suffolk is in a high availability, high resiliency environment that eliminates all the pain points it had with five and seven-year-old servers."
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> **Jim Cooper, Vice President of Technology, Integrated Security and Communications (ISC)**

IMPLEMENTATION

The REVOLV system for Suffolk, including the vSAN cluster and all virtual machines, was built and pre-staged in the engineering lab at BCD's facility in Fresno, CA. Once tested, it was shipped to the Suffolk city hall. BCD's professional services team made an onsite visit to complete the installation with ISC. By pre-staging, BCD can ensure that the solution is ready for deployment, thus reducing the time spent on-site. Cut-over configuration and stand-up of the new environment were completed in a couple weeks' time.

Thanks to BCD's expertise and the REVOLV solution, the city of Suffolk now has over 25 site managers and department directors who have a purpose-built, high availability system that delivers video at their site and at multiple sites in their organizations for years to come. Says Tim Forbes, Physical Security Administrator for the city, "BCD and ISC have been great partners for us. I am 100% happy with everything."

And the scalability that the platform provides? It will be needed sooner rather than later. Three new large sites and three new small sites are already on tap to be integrated into the system.
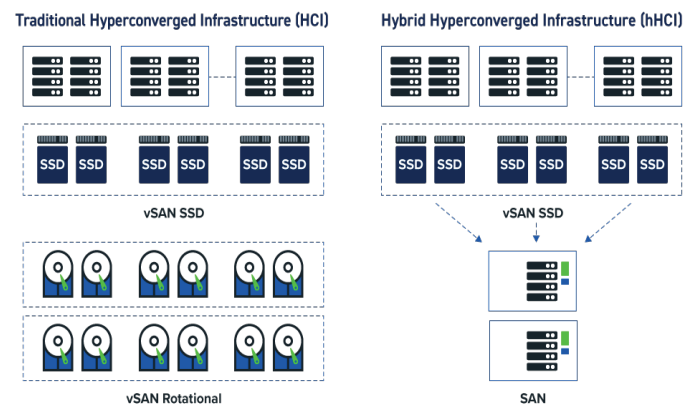
REVOLV is a hybrid hyperconverged solution, where only critical resources are stored in the vSAN cluster. By disaggregating video retention to a traditional SAN, REVOLV maintains high availability of critical resources, and VM mobility, without storing the video data itself with the cluster. This approach provides all the benefits of HCI while reducing hardware footprint, total cost of operations, and power requirements.

FOR MORE INFORMATION, VISIT BCDVIDEO.COM/REVOLV