Pivot3

Bergen County Sheriff's Office

Law enforcement agency combines VDI, long-term storage and video storage arrays within single hyperconverged platform

Video Surveillance Case Study

Hyperconverged Infrastructure

Project Highlights

- All-in-one, single vendor solution that scales economically to meet system expansion needs
- Easy to implement, maintain and upgrade, allowing BCSO to run 400 new VDI workstations
- Deploys in minutes with an easy migration of EOL systems
- BCSO added 30 new Pivot3 HCI appliance clusters to manage a total of 2.5 PB of storage
- Reduced server count by 75% - from 30 down to seven - resulting in lower energy costs and more floor space for system expansion
- Single-pane-of-glass management increased flexibility and reduced complexity for IT teams by 25-30%
- Pivot3's extreme availability and resiliency ends downtime and simplifies disaster recovery process; servers can be physically replaced with no interruption of operations

About the Customer

The Bergen County Sheriff's Office (BCSO) is the largest law enforcement agency in Bergen County, New Jersey. The county, just across the Hudson River from New York City, is the most populous in the state, with almost a million residents spread across roughly 70 small municipalities. With more than 700 officers and staff members in seven locations, the BCSO assists the public, supports the county's municipal police departments with an advanced forensic lab, and maintains order and security at the Bergen County Justice Center and the Bergen County Jail. Philip Lisk, BCSO Director of Information Technology for the past 12 years, supervises its networks and serves as the technical consultant to the entire county for video and data security needs.

The Challenge

In recent years, the BCSO's staff and responsibilities have grown rapidly at the same time that the agency has increased video security coverage for more county facilities. Ultimately, the BCSO had to deal with an overburdened data center as it looked to add more capabilities for both video surveillance and desktop support. "Given our pace of growth," Lisk says, "we were quickly outgrowing our available rack space and running into cooling and power issues."

Video surveillance is a key storage challenge for many law enforcement agencies. Having started many years ago with 100 cameras to monitor doors inside the jail, the BCSO began adding more cameras to maintain security in courthouses and other buildings. It now operates more than 3,000 cameras, with more on the way as the county continues its rollout of in-car and body cameras for peace officers.

Retaining and accessing footage is crucial. The BCSO needs high-availability access to video that might be used in law enforcement cases, and also lowers the county's exposure to legal liability. To maintain this capability with so many more cameras, the BCSO needed to expand its storage from 1 petabyte (PB) to more than 2.5 PB.

Meanwhile, the county has consolidated another administrative unit into the BCSO, bringing in 100 staff members, many of whom were working with outdated equipment. As Lisk explains, "the whole idea for realignment of our IT infrastructure was to streamline and make the county more efficient as a whole." He and his team sought to implement virtual desktop infrastructure (VDI) so they could get away from

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siloed data systems, upgrade existing equipment, control costs, and simplify future technology rollouts.

The Solution

The BCSO has been using Pivot3's hyperconverged infrastructure (HCI) to manage their video surveillance data since 2006. When it came time to build out a virtual desktop environment, BCSO evaluated all the available technology and infrastructure providers and again selected Pivot3. Running their VDI solution on Pivot3's HCI allowed BCSO to combine VDI, long-term storage, and video storage arrays within a single hyperconverged platform for efficiency and simplified management.

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Pivot3's hyperconverged infrastructure provides server and SAN solutions purpose-built for video surveillance. Unlike traditional SAN and DAS infrastructure solutions, Pivot3's HCI is optimized for write-intensive video surveillance workloads with 99.9999 percent uptime and high data availability to prevent image degradation and video loss, while maintaining system performance even during degraded modes. With petabyte scalability and advanced resiliency, Pivot3 meets the needs of the most demanding surveillance environments and is ideal for installations up to 10,000 cameras — allowing plenty of room for the BCSO's future expansion.

For desktop support, Pivot3's storage-centric approach for VDI delivers high performance, reduced cost, and higher availability than traditional alternatives. Not only does it easily integrate with existing systems and security applications, the Pivot3 solution allows the BCSO to run the 400 new workstations it needs in a way that is easy to implement and simple to maintain and upgrade, with new systems deployed and dynamically scaled within minutes. Lisk adds that "This allows us to gracefully migrate as our existing systems reach end-of-life."

To handle the requirements of hundreds of new cameras and workstations, the BCSO also added 30 new Pivot3 HCI appliance clusters to reach a total of 2.5 PB of storage.

The Results

Pivot3's unique distributed scale-out architecture has had a dramatic effect on IT efficiency for the BCSO, allowing them to reduce the number of active servers, with corresponding savings in energy costs. "Through Pivot3's hyperconverged infrastructure, we were able to reduce our server count by 75 percent while increasing performance and scale," Lisk explains. "The net result was a huge reduction in electrical/cooling cost and much more room to grow."

"The efficiencies of shared storage and compute resources have also reduced complexity and increased flexibility for the IT team," Lisk says, adding that he considers the Pivot3

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approach "a better model" than any competitor because of its unique architecture and the ability to run multiple workloads on the same hyperconverged system. One area where using Pivot3's infrastructure for VDI has been especially valuable is software management. IT support professionals are all too familiar with the labor-intensive process of testing and rolling out software updates one desktop at a time. Using VDI, however, that process is eliminated; the IT team can update any workstation simply by spinning up a new virtual machine copy. If problems occur, it's just as simple to roll back and reboot. Lisk says that this has reduced management time for his team by 25 to 30 percent.

Overall, Lisk says, the savings have been impressive: "Initial setup costs were less. Ongoing maintenance costs were less. Administration costs were less." Beyond that, the extreme availability and resiliency of the Pivot3 solution brings other benefits, including an end to downtime and a much simpler disaster recovery process; the elimination of inefficient data duplication means that servers can be physically replaced with no interruption in video recording or VDI availability.

Thanks to the Pivot3 solution, the BCSO is now better equipped than ever to carry out its vital duties for the citizens of Bergen County.

About Pivot3

Pivot3 delivers smarter infrastructure solutions that provide maximum resource utilization, deliver sustained business operations and guaranteed application performance. Today, Pivot3 has more than 2,000 customers and 16,000 successful hyperconverged deployments in 53 countries in mission- and business-critical infrastructures such as healthcare, government, finance, transportation, education, gaming, entertainment, retail and video surveillance.

For more information, visit Pivot3.com