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oday, 29 police departments in Bucks County, Penn. are part of a first-of-its-kind cloud-information sharing network that provides patrol and detectives with real-time access to shared records information. This unique data sharing ecosystem in the Amazon Cloud—a great potential model for other jurisdictions to follow—has meant lower costs, extremely rapid deployment, and fewer IT headaches. As a result, Bucks County was able to bring 21 new departments using different RMS platforms online in just months—a timeline that, until now, was unheard of.

The success of the project reflects a strong three-way collaboration between CODY Systems (CODY) who provides COBRA.net, its industry leading cross-system data aggregator and one-stop search platform; Amazon Web Services (AWS), a leading cloud service provider; and Bensalem Township, which administers the system on behalf of the consortium of agencies. “Working with CODY and AWS, we’ve been able to make this happen,” said Fred Harran, Bensalem Township’s Public Safety Director. This hybrid solution is the first of its kind on the AWS Cloud.

“Information Saves Lives”

The original Bucks County COBRA.net system was donated by CODY in 2009 in response to a tragedy; an officer from Newtown Borough PD was killed after a DUI stop, unaware the seemingly innocuous driver had a history of violence toward police recorded in the RMS of another county’s police department. The COBRA.net information sharing ecosystem forms the foundation of the Bucks County initiative, providing real-time search access, officer safety warnings, and active alerting across RMS data from participating agencies’ individual databases to authorized users in the field or at the desktop.

When it was launched in 2009, the Bucks County COBRA.net enabled eight agencies, including Bensalem, to share their RMS data. Then, in 2014, a federally funded initiative to improve the collection and sharing of the county’s domestic violence incident reports presented an opportunity to expand the system to include 21 additional departments. For Director Harran, who spearheaded the project, this meant the Bucks COBRA.net could become a true countywide data sharing initiative. This would get more critical information from more systems into the hands of officers and investigators, as well as enhance the ability to assess and mitigate violence against women. “Information is key in any organization, but especially in our world,” he said. “That’s what intelligence-led policing is all about.”

However, there were two potential hurdles to the expansion—the fact these agencies all used different RMS platforms, and the need for a sustainable IT infrastructure for the expanded project.

Getting RMS Systems to ‘Talk’

COBRA.net made the first hurdle easy to overcome. The ecosystem is designed to work with any combination of data-source types (RMS, JMS, CAD, etc.), including disparate RMS systems’



■ Chief Schmidt and Fred Harran visiting CODY’s booth at Police Security Expo in Atlantic City, N.J.

databases. As a result, agencies don’t have to share an RMS and/or switch to the same RMS platform to share data. “RMS systems from different vendors don’t usually talk to one another,” observed Harran, “But COBRA changes that.” That was a ‘make or break’ for Chief Mark Schmidt of Upper Makefield Township Police Department, one of the 21 new agencies that joined as the project expanded in 2015. “We want to share data across our county, but small departments like mine can’t afford to move to a new RMS,” he said. “COBRA lets us keep our RMS and still participate in the county sharing. Plus, it’s affordable.”

Citing a recent case, Chief Schmidt attests to the vital role data-sharing played when his officers were able to get critical information from another agency’s RMS (from a different provider) before serving a warrant to a potentially violent subject. He also stressed the ability to drill down to the detailed case narrative from other RMS databases sets COBRA.net apart from other Federal and state sharing systems. “Beyond just the facts on the type of offense, officers can now read what other officers have seen and experienced with that subject,” he said. “The more information we can give street officers about an individual they’ve stopped or a house or business they’re going into, the better they can handle the entire situation.”

“COBRA saves lives; there’s no doubt about it,” Director Harran maintained.

AWS and COBRA.net: The Collaboration takes hold

Moving COBRA.net to the cloud was the answer to the IT hurdle. Bristol Township PD had graciously hosted the infrastructure for the donated system since 2009; but with the county increasing the number of agencies three-fold, a more scalable infrastructure was needed.

Bensalem agreed to administer COBRA.net, but asked CODY to help find an alternative approach for hosting it. CODY suggested the cloud. “We had been looking at cloud providers for some time, as COBRA.net was designed from the beginning to be cloud-ready,” added Dave Heffner, CODY Executive Vice President. “The approach really brings the ‘future to now,’ especially for local government, so long as the agencies’ data is secure and the cloud offering matches the mission-critical search access speed and granular access controls of our COBRA.net platform.” But, Heffner noted, “As with any new ‘movement,’ leaders need to emerge to ‘plow the road’ for others to follow. We were excited when Bucks County agreed to be such a leader.”

Together, Bensalem and CODY developed the specifications for a loud environment and evaluated the leading cloud service providers. “We decided fairly quickly on AWS and its AWS GovCloud (US) region,” said Kurt Stolzenberger, Bensalem’s IT Director.

AWS GovCloud (US) provides computing, storage and other resources and services on-demand in the cloud, with pay-as-you-go pricing. Launched publicly in 2011, AWS GovCloud (US) is designed specifically for U.S. federal, state and local government data. It operates as a distinct ‘region’ in AWS, with all data, networks and resources physically separate from the global commercial cloud infrastructure.

One of the major concerns with the cloud approach was assurance that confidential government information like police records would be physically protected—along with the data security in COBRA.net,” Stolzenberger recalled. “With the cloud, the data isn’t just in my server room under lock and key where I can go make sure only the people who are allowed to use it have access. The combination of the data security from COBRA.net and physical security of AWS GovCloud (US) provided that assurance. It was really a no-brainer.”

Data-Sharing Takes to the Sky: Ease of Transition and Rapid Expansion

For Bucks County, the ease of resource allocation, coupled with COBRA.net’s cloud-ready architecture, made the transition to the Cloud a relatively painless process. “It took longer to figure out whose name the AWS account was going to be under, than actually spinning up our first server,” Stolzenberger joked.

Before bringing the additional 21 agencies online, the County first transitioned the original eight departments to the COBRA.net/AWS GovCloud (US) region early in 2015. Migrating their COBRA.net to the AWS Cloud, “was very simple,” according to Stolzenberger. Plus, the combination of Web-based Admin tools provided by COBRA.net and AWS make remote system management “straightforward and easy,” he maintained. “COBRA.net, which actively monitors the system for us, alerted me to a space allocation issue on one of the database servers during the initial transition. It took me just minutes on the console to get space reallocated and presented to the virtual machine and get everything running.” The result: No downtime and no loss of access to data for officers in the field.

But the real test came when it was time to start adding the 21 new agencies to COBRA.net. “Our original specs from the do-



■ Corporal Mike Schum of Bensalem PD

nated solution weren’t going to be beefy enough to handle all the additional departments, data, and network traffic,” Stolzenberger recalled, “so we needed to do an upgrade via AWS—adding virtual ‘hardware.’ Once we decided what resources we needed, I shut the system down and started the upgrade process. It took maybe 15 minutes. A complete upgrade. It was amazing!”

“If this had been a physically hosted solution here,” Stolzenberger said, “it would have taken a lot longer, caused more headaches, and taken a lot more money.”

CODY’s Dave Heffner concurred. “This approach leverages COBRA.net’s next-gen data synch and on-the-fly ‘translate and search’ technology, while eliminating the need to budget and procure hardware, find space, and dedicate manpower resources,” he pointed out. “A cloud COBRA.net implementation can be a real accelerator for any data-sharing, aggregation, or big data analytics project, as Bucks County has discovered.”

Stolzenberger also credited CODY’s COBRA.net solution for the fast and accurate mapping of data from the 21 target systems. “I’ve been doing IT projects for a long time,” he said, “and it’s rare that you don’t run into major hiccups, especially doing dissimilar data system integrations. From an IT perspective, honestly everything went incredibly smooth.”

The Possibilities Are Endless

Going forward, Dave Heffner underscored that, “Bucks County now has a completely scalable solution that can continue to return the investment with new data sources and other uses for the multi-agency shared data. As with our other COBRA.net deployments, Bucks can now look to add new agencies and types of data (jail, warrants, booking, CAD, utilities, etc.) or link to other COBRA.net networks. And the scale-on-demand IT benefit of AWS GovCloud (US) makes adding the resources to support it just as easy.”

Agencies in 11 other Pennsylvania counties (as well as many others in other states) currently participate in information-sharing networks using the COBRA.net framework, and there is an initiative underway to link the PA COBRA.net systems into an eastern-PA regional network. “We’ll probably start at a measured pace, by sharing data with neighboring counties,” said Director Harran, “but then the possibilities are endless.”

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■ Det. Sgt. Keith Christie of Bensalem PD

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