Data flows faster at Montgomery County, MD, Department of Liquor Control

A county-level control jurisdiction foils slow backups over T1, collects vital retail and warehouse data, and recovers 40 to 50 percent disk storage space.

“We can run the snapshot ourselves. AppAssure takes 1 to 2 minutes to complete snapshot at headquarters!”

- Alex Caldas, Acting IT Manager, Montgomery County (MD) Department of Liquor Control

Customer profile

Company: Montgomery County, Maryland, Department of Liquor Control
Industry: Government
Country: United States
Employees: 300+
Website: www.montgomery-countymd.gov/dlc

Business need
Montgomery County, MD, Department of Liquor Control needed to back up back-office servers - from its 25 retail stores nightly, across the County's T1 lines. Backups were not completing overnight, extending until next day impacting network and back-office server performance.

Solution
Dell AppAssure speeds full server backups from the stores to as little as one to two hours. The process is automated and IT staff has visibility into the status of each store's backup without leaving their desks. On-demand snapshots of data at headquarters facilitate department logistics and reporting.

Benefits
- Backups complete in minutes, not hours
- Data compression, deduplication and rollups configured to predefined fixed disk sizes
- Disaster recovery testing in as little as an hour
- On-demand snapshots empower end-users to run operations after regular business hours

Solutions
- Backup and Recovery
DLC has a strong commitment to customer service—which means providing accurate, timely information for the warehouse, licensees, and retail purchasers. A six-person IT team supports this effort. But as the DLC’s sales have grown, so has its over 1TB of data, and in recent years IT has struggled to keep pace. Backups over the County’s T1 lines were slow or didn’t complete, forcing staff to drive to each liquor store to perform the backups on site.

**Bottlenecks**

DLC sales, orders and inventory data flow between retail outlets and the department’s warehouse. DLC headquarters takes account of sales and stock—figures that are ever changing. Each DLC store has between two and three point-of-sale registers that collect cash, checks, credit-card sales and taxes, and a back-office server that collects data from the registers and uploads it to DLC headquarters periodically throughout the day.

To back up the entire back-office server, Alex Caldas, the DLC’s Acting IT Manager says, “We thought we could use Symantec Backup Exec, but it would take a massive 12 to 16 hours to complete a full backup across the slow T1 link, and the stores suffered from the network being clogged.” With sales at the registers taking more time to ring up, lines grew longer, and the DLC was falling short of its mission to improve customer satisfaction.

**Irreconcilable differences**

Back at headquarters, Backup Exec’s file-level backups were finishing at different times for the main legacy warehouse system, leaving inconsistent time stamps on the data files and making it impossible for IT to give the warehouse accurate data in case a restore is requested for auditing and reconciliation issues. Files that happened to be locked during backups would be skipped and were not included in the backup. The business impact of failed backups was matched by stress levels within IT. “We didn’t want to play games with what files were missing, says Caldas, we just wanted to back everything up.”

Missing and inconsistent information caused by failed backups was also hurting the department’s ability to fund new projects for its planned growth. Says Caldas, “As a county, we need to report back to the Department of Finance so the bank can credit us for all credit-card, cash and check sales. We can’t get the money if we don’t reconcile with the bank. And if we don’t get the money, we can’t invest it.”

**Technology at work**

**Software**

Dell AppAssure

“The most important thing for me is the peace of mind that I have a complete, full backup.”

Alex Caldas, Acting IT Manager, Montgomery County (MD) Department of Liquor Control

While eighteen US states regulate beverage alcohol by selling it themselves, Montgomery County, MD, is among a handful of counties nationwide that control liquor distribution themselves. Their Department of Liquor Control (DLC) runs 25 retail liquor stores and licenses approximately 1,000 other establishments. Sales in fiscal 2012 topped $250 million, making the DLC second only to the Commonwealth of Pennsylvania in liquor-sale revenue. With roots going back to the end of Prohibition, the DLC runs without taxpayer support and contributed $28.5 million to the County’s General Fund in 2012, and a total of $239.1 million in the past ten years. This money goes to support firefighters, schools, and other community services.
High and dry
For disaster recovery, the DLC maintained a golden image and restored from tape, a process that would take six to eight hours. The current week's tapes were housed at the County’s Department of Technology Services (DTS), whose hardware runs the DLC’s virtual machines, but these tapes weren’t always accessible. The DTS maintains normal, eight-to-five business hours, while Liquor Control works from 7 am to 10 pm in support of the stores and 24x6 for the warehouse--meaning that for several hours a day the DLC had no functional DR plan.

Neat solution
Caldas began to look for a better way. He wanted backup solution that would provide automated, block-level backups for his 25 store servers across the County’s T1 lines, point-in-time data restore, and reliable bare-metal restore.

When Caldas and his staff saw a demo with AppAssure, they recognized it was exactly what they needed. “We were like, ‘Really?’” he says. “Bare-metal restore, block-level backup, it was mind blowing.”

DLC had been considering Symantec Backup Exec Continuous Protection Server and Acronis Backup & Recovery. They chose Dell AppAssure and put it to work on two virtual servers. Each of the 25 DLC liquor stores backs up to one or the other server at 10 p.m. nightly.

Proof of success
A full store backup across T1 now takes one to two hours, rather than the 12 to 16 hours it took with the old solution. Says Caldas, "We do an automated block-level backup across a slow link and it just works—it actually completes!"

DLC’s IT staff no longer has to visit each store to complete backups, and they have full visibility into the status of each backup.

“We have automated alerts,” says Caldas, “another thing I love about AppAssure. If something went wrong I’d know what store it was and why. [Our electric company] is really weak in storms, and without power we don’t get a snapshot. We get an alert when that happens.” In the event of a failure, the new DR plan enabled by AppAssure can restore a store server within 30 to 90 minutes.

At headquarters, DLC runs a full backup before end-of-day and end-of-month tasks are run. With Backup Exec, it took three to four hours, but with AppAssure it takes one to two minutes.

Using the AppAssure API, Caldas’s team has developed an application that lets them run a snapshot on demand which updates various data files such as orders, sales, credits, payments, bills, invoices, routing sheets, and pick lists. “Our main legacy warehouse system runs on file-based software where point-in-time snapshots are critical” notes Caldas. “AppAssure is a great tool for that.”

In addition to the time savings, AppAssure allows to better plan disk space requirements. “With AppAssure deduplication, compression and rollups, you don’t need to worry that you’re running out of space,” says Caldas. “We can predefine fixed disk space for some things and 100GB is still more than what we need.”

Now, says Caldas, “On the backup and restore front, we are covered! The most important thing for me is the peace of mind that I have a complete, full backup of all store servers and the main production warehouse.”

With backup hassles a thing of the past, the DLC IT team can focus on their true mission, customer service. Recently, the department won an award from NACo, the National Association of Counties, for its iCatalog web application, which allows county residents to search for product availability throughout the DLC retail store system using real-time inventory.

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