In a Fast Growing, Changing Environment, CommVault Delivers Reliability and Flexibility

QUICK FACTS

Industry/Solution:
- Government

Platform/File System:
- Windows 2000, 2003
- HP Tru 64 Unix

Applications:
- Microsoft Exchange
- Microsoft SQL Server 2000
- VMWare
- Oracle
- Microsoft Project
- Hansen for Public Works
- Vertical Market Packages for Municipal Government

Partner Hardware:
- HP and Dell servers
- Dell Storage Area Network
- StorageTek tape library
- Dell/ADIC tape library

Challenges:
- Too many servers running independent backups
- Slow restores from off-site tape
- Need for a consolidated, simplified enterprise backup solution

Solution:
- CommVault Galaxy Backup & Recovery
- AUX Copy
- CommVault Enterprise License Agreement

Benefits:
- Consolidated backups eliminate tape handling and reduce management time
- Reliable backups
- Ease of management reduces burden on small IT staff
- Informative, automated reports
- AUXcopy facilitates disaster recovery
- Fast easy restores with minimal IT intervention
- Enterprise License Agreement provides flexibility, economy, and easy access to products

Customer Profile

Las Vegas is one of the fastest growing urban areas in the United States, with a total population of about two million in a metropolitan area that includes Clark County, covering the Las Vegas Strip and most of the casino area, and the City of Las Vegas. The city, which covers downtown Las Vegas and surrounding residential areas, has a population of 575,000 and is growing steadily.

Data Management Environment

The IT operation in the City of Las Vegas is highly centralized. The main data center in City Hall has 175 Dell servers running Windows 2000 and Windows 2003. In addition, about fifty remote sites have some IT capability and a link to City Hall. The mission of the IT department is to facilitate the work of the various departments that provides services for the citizens of the city. To that end, IT supports the introduction of new technologies and works to make technology less expensive and easier to use for their user community of 3,000 city employees in departments including the Fire and Rescue Department, Public Works, Finance and Business Services, Human Resources, Leisure Services, Business Development, and City Planning.

Storage Infrastructure in Flux

The city's current storage infrastructure includes direct attached storage (DAS) and a Dell Clariion Fibre Channel storage area network (SAN). Total disk capacity between SAN and DAS is about 10 terabytes. Each server has an average 50 gigabytes, for a total of about 7.5 TB on 150 servers, and on the SAN they have 2 TB. Two libraries, a StorageTek DLT library and a Dell/Adic LTO library, are used for backup.

"We are looking at storage in flux," says System Administrator Dave Martin. "People use a SAN to centralize and virtualize storage and to use storage more efficiently and more flexibly, to put storage where it is needed.

But a SAN also creates a single point of failure. Despite claims by storage vendors, if we need to work on the SAN, we usually have to bring down the whole system. And if the SAN goes down, it affects everybody. Today, attached hard drives are cheap. So maybe we don't need centralized storage. The most important factor is that we have a very small staff, with only four administrators. Every centralized element requires a lot of expertise to keep running perfectly." The city is moving to departmentalize storage, to spread out the risk, and to avoid issues they have had in the past with complex systems that require specialized training to maintain. "We're going against the current trend on this," acknowledges Martin. CommVault software helps make Martin's job easier by providing trouble-free, easy to manage data protection.

Problems with Previous Backup Solutions

Before switching to CommVault, the city had used another backup software product for several years. But as the IT operation grew, they found that product made them manage too many variables and too many disparate files, did not use tape efficiently, and had its focus on individual components. They needed an enterprise solution. The City of Las Vegas saw CommVault as a solution with the capabilities and scalability they needed to handle a growing backup demand. The city installed CommVault software in the summer of 2003.

Backing up Many Applications

CommVault Galaxy backs up every server at the city's data center and remote sites. Almost every server is set up to run a different application, including Microsoft Exchange, SQL Server, Project, Web servers, and vertical applications in every department from Leisure Services to the city's Detention facility. Most of the city's financial applications, as well as Hansen for Public Works and city planning applications, reside on an Oracle server running on HP Alpha computers and

the Alpha Tru64 Unix operating system. One reason the city chose CommVault was that Galaxy supports Tru64 Unix. Previously, they backed up the Oracle database using Unix utilities. Now, however, they are testing Oracle backup with Galaxy.

The city's backup schedule includes daily incremental backups and weekly full backups for all servers. Full backups are staggered throughout the week, saving the weekend for the biggest fulls. They use CommVault AUX Copy to make a copy of the backup, and then keep the original and send the AUX Copy off site each day. Galaxy automatically generates a daily report that provides an easy way to see the status of storage, how much data is in the system, and how much capacity is being used.

AUX Copy is Key to Disaster Recovery

CommVault's AUX Copy capability facilitates both restores and disaster recovery, by making it simple to make a copy of the backup for disaster recovery and keep the original backup tapes on site for restores. Says Martin, "If it were difficult, we'd probably forego the copy and send the original tapes offsite every day. But that would leave us without an on-site copy. With AUX Copy, we can keep the original tape on site, so for most routine restores we just go to the on-site tape. We don't have to access an off-site tape, which would take hours, and we'd get charged for accessing and delivering the tape."

Data Archiver for Email Migration

As their storage management strategy evolves, IT plans to use CommVault's Data Archiver as an active data migration and archiving system for moving old files to less expensive, second- and third-tier, near online and offline storage, and for Microsoft Exchange migration — automatically migrating email files per a set of standard rules. "Email retention is a big issue in government," says Martin. "First, how do government employees determine what is or should be a public record, and therefore should be retained? Now what is your retention policy for public records?"

Using Data Archiver to automatically migrate emails will also reduce the growth of Outlook Personal Store (PST) files. Explains Martin, "Our email retention policy is to delete messages after a short period. The theory is, users will look carefully at their email and save only what is important. In practice, users just save everything to their Outlook PST file. That uses up a lot of storage capacity with unmanaged data. But if we can tell users that Data Archiver will save it all, and index it for recovery if needed, then they won't need to use a PST file."

CommVault Enterprise License Agreement Provides Flexibility

The city works with CommVault under an Enterprise License Agreement (ELA) that gives them great flexibility in deploying any CommVault products they need anywhere in their system, along with a favorable discount schedule. Initially the city bought a number of media agents and then ordered client agents as they added servers. "That became an issue," says Martin. "We were making decisions on what to back up based on the

cost of licenses not on the needs of the data center. We decided that was a bad way to work. It also gets us access to other CommVault software, like Data Archiver, at no additional cost. Data Archiver captures and indexes every email message."

Having the ELA also lets the city test new ideas and products more easily, because they are not limited by the typical 30-day free trial for testing software. With limited staff, they may be too busy to test something in just 30 days. Or it may be something that takes more than 30 days to evaluate.

Impact on Staff

Previously, administrators had to be intimately familiar with backup. One administrator spent significant time checking and correcting failed backups. With CommVault, however, says Martin, "Operators can do it all, and have only an occasional problem that requires attention by a System Administrator."

Consistent Backup is Important for User Peace of Mind

To support city services, IT needs to be able to restore critical data so business continues and services get going again if they are interrupted. "That is our responsibility to the public and to employees," says Martin. "Our users focus on delivering services to the public. They aren't always computer-savvy, and here in IT we might not know if an application has become essential for delivering some service. Therefore, we need to back it all up consistently. When a user calls and is concerned about the safety of an application or his data, we are able to say, 'it gets backed up every night.'"

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