

At FlightSafety, CommVault Galaxy Gets Thumbs Up for Fast, Reliable Backups and Recoveries

QUICK FACTS

Industry/Solution:

- Education

Platform/File System:

- Windows, UNIX, Linux, AIX, Microsoft Exchange, Progress database, SQL database, AutoCAD, Solidworks

Application(s):

- Backup and restore

Challenge:

- Consolidate two backup and restore systems into one; back up of over 100 workstations and servers.

Solution:

- CommVault Galaxy Backup & Recovery

Benefits:

- One system backs up Windows workstations and servers, UNIX servers, Net-App filer, and Microsoft Exchange servers
- Consolidating backups eliminates redundant hardware, reduces training, service, and media storage costs
- Restores (including Microsoft Exchange e-mail servers) are fast and reliable
- Backups are completed well within available windows
- Galaxy management tools allow one person to handle backup scheduling and management
- Galaxy reporting tools automate reporting for over 100 devices, eliminate manual logging

Customer Profile

At its 42 flight training centers in the U.S., Canada, UK, and France, FlightSafety, International (FSI) has over 250 FAA-certified flight simulators, the largest such fleet in the world. FSI's Simulator Systems Division (SSD) builds the simulators from scratch, including cockpit mock-ups, the platform on which the cockpit sits, the hydraulics that allow the simulator to move realistically, and the computer systems that control motion and collect performance data. In addition, SSD engineers write the million lines of code that drive the simulators and track student performance. Including hardware, computer systems, and software, simulators are multi-million-dollar marvels of hardware and software engineering.

SSD is located in Broken Arrow, Oklahoma, just outside Tulsa. There are 600 employees there, including some 250 hardware and software engineers. The Division's IT department provides system support for the engineering teams, and CommVault software provides data protection, including backup and recovery, for the hardware and software data on over 100 engineering workstations and servers.

Data Management Environment

SSD's engineering workstations have their own disks, typically 40 gigabyte (GB) disks. A one-terabyte capacity Network Appliance file server is the primary central storage for engineering data. There are also AIX and Solaris servers, and Microsoft Exchange e-mail servers, all backed up with CommVault software. Workstations and servers are backed up over a 100 megabits-per-second Ethernet Local Area Network (LAN) to a dedicated Gateway Windows backup server. The server is SCSI-attached to a Spectralogic 10000 tape library with four AIT2 drives and 32 cartridges, for a total capacity of 1.6 terabytes (native) or 3.2 terabytes (compressed).

Data Protection Strategy

The data protected by CommVault software at SSD includes all the software development code, and the Computer-Aided Design (CAD) software used to design hardware, including AutoCAD design software and SolidWorks 3-D solids modeling software. Backups include an SQL database and a Progress database that stores the engineering drawings archive. In total, CommVault software backs up 5 to 6 terabytes (TB) of data per month. About half is from workstations, and most of the other half is from the Net-App filer.

In many IT departments, desktops rely on servers for storage, and only the servers are backed up. SSD's backup process is not typical, in that the engineering workstations are backed up directly. SSD engineers store large amounts of data on their workstations, and the data is constantly changing. It would be too slow for the workstations to constantly access the servers for files, so files are kept on the workstations. As a result, it is critical to back up the engineering workstations, as well as the servers. Workstations and servers get weekly full backups and nightly incremental backups seven days a week. All backups are run through the CommVault server and then directly to tape.

"The engineering data that's protected by CommVault Galaxy is invaluable," says Network Support Manager Rance Petty. "We couldn't lose it, and we depend on Galaxy to protect it. Just for one example, we have a lot of engineering data that we get from the aircraft manufacturers, like Boeing. When we accept that data, we have to sign contracts that we will not send the data to anyone else and that we must protect the data." And, the engineering data is critical for operating, maintaining, and updating the FSI simulator fleet, the backbone of FSI's flight training business.

CommVault Galaxy Beats the Competition

SSD first installed CommVault Galaxy software in March, 2001. SSD chose Galaxy for a number of reasons. First, it supported their Network Appliance filer using the NDMP protocol, a critical requirement. Second, they liked the fact that Galaxy was a “next generation” product, built from the ground up for Windows 2000, on Windows 2000. “Most other products available had been designed using older technology and then upgraded to run on Windows,” explains Petty. Third, Petty says, “CommVault showed us a product development road map that had lots of really good capabilities. And they have been great about coming through with those things.” Fourth, and most importantly, Galaxy outperformed the competition. “When we first looked at CommVault’s software,” says Petty, “we set up a demo and did some backup tests. Galaxy was the fastest of the packages tested, faster than SyncSoft, Alexandria, and ArcServe.”

Cost Savings, Too

“Being able to back up everything using one system — UNIX, NetApp, Windows — is a big benefit,” says Petty. “When we got CommVault Galaxy, we replaced ArcServe, which we were using to back up our Windows environment, and Alexandria, which we were using to back up our UNIX environment. With Galaxy, we now have one solution for all our backup requirements. That is a major benefit. ArcServe and Alexandria were not at all compatible. Now, instead of two libraries, and two sets of tapes, we have one library, and one set of tapes. We save on training, media, service contracts, and off-site media storage. There is no longer any need to keep tapes separated, as there was in the past —

and, of course, in the past there were cases where the two different kinds of tapes got mixed up, and that was a problem. And, with CommVault, people have to learn only one product, not two, which is a big savings in time.”

Galaxy Reporting Saves Time, Eliminates Errors

Galaxy reporting capabilities help SSD make the most of their staff resources. “We have one backup person,” says Petty. “Before we had CommVault Galaxy, we used to have to look at all the backup logs for all the servers and workstations and put the information on a spreadsheet that we built manually. Now, Galaxy does all that. Galaxy creates Pass/Fail reports on everything, and automatically sends the reports to the appropriate people in the different parts of the company. Before, we had to do this all by hand. With seven days worth of logs, it took a lot of time, and there was always a chance of making errors. Now Galaxy does it, and it’s always right.

“The quality of the Galaxy software is a 10. For example, their Event View feature let’s you see exactly what’s going on with your backup. It displays ‘file failed’ and tells you the file. You always knew what’s going on.” One feature that Petty has found especially valuable is Galaxy’s scheduling capability. “We’ve got so many workstations to back up, it would take forever if we had to select each one individually. Now, we can select a group of workstations and schedule them as a group. That’s a very good function for us.”

Customer-Friendly Upgrade Policy

Petty also likes CommVault’s upgrade policy. “CommVault is very reasonable about their license policies. We have bought a lot of

licenses, so when we do an upgrade, I don’t feel like we should have to buy them again. For example, if we upgrade a Windows server or desktop from one level of Windows to the next, with CommVault there’s no charge for the upgrade. They just send the upgrade. With ArcServe, in contrast, we always had to buy the license again. CommVault is also great about putting things into the product that we ask for. In all the time we’ve had Galaxy software, I’ve made a number of requests, and as far as I know they have always added everything I’ve asked for. Now I’m at a point where I feel like I’ve got everything I need!”

CommVault Galaxy Comes Through Under Pressure

Galaxy has proven it’s worth to Petty under real-world pressure. Besides protecting SSD’s engineering data, the software also protects the Division’s e-mail system. “Our Galaxy Microsoft Exchange Agent has saved us with its ability to restore our database,” he says. “Three different times we’ve had a disk problem on our e-mail server. As a result, e-mail was down for the whole operation, and everybody was calling. But we were able to use Galaxy to restore the database and get e-mail up and running again and everybody off our backs in no time flat. It took about 15 minutes to restore. Not only is it incredibly fast, but it does it all itself. The first time it happened, we were trying to do whatever we could to help the process. But we were only getting in the way, slowing it down. Now if we get a problem like that, we just let the CommVault software do the job all by itself. Galaxy is amazing for e-mail backup. It was the first to offer message-level restores, and we’ve used that capability too.”

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