INAUGURAL ISSUE
JULY/AUGUST 2005
WWW.EOSJ.COM

ENTERPRISE Open Source JOURNAL

Focusing on Open Source Strategies in the Enterprise

INNOVATION® DATA PROCESSING

RESULTS:

GuideOne Meets Open Systems Backup Challenges

Top-5 Myths of Open Source

Open Source Scripting Takes Over

Linux Storage Goes Mainstream

The Future of Open Source Grid Computing

A tci PUBLICATION

BY AMY B. NOVOTNY

GuideOne Meets Open Systems Backup Challenges

Considering that GuideOne Insurance is one of the leading providers of church insurance in the U.S., you might think the company would have an indirect line of data protection to some higher authority. But alas, since that is not the case, they, too, must deal with the often painful and unpleasant task of backup. The fact their computing history includes processing on z/OS mainframe systems seemed interesting, but how could that help reduce the problems associated with backup?

Mainframe data centers have long demonstrated discipline and consistency in the handling of critical, yet non-glamorous, chores such as data backup. Now, like it or not, mainframe data centers increasingly are being asked to take over systems and storage management responsibilities for the open systems environment. Maybe you can think of it as a perverse form of recognition and reward for a necessary job well done. Certainly backup is an important task, especially with today's emphasis on compliance and corporate accountability, which invariably calls for data protection as part of the process. The open systems environment presents a formidable backup challenge. There may be dozens, even hundreds, of servers representing different hardware platforms and running different operating systems and different versions of the same operating system. They will run a variety of applications, some more mission-critical than others, thereby necessitating different backup treatment and scheduling. It is complicated, messy, inefficient, and labor-intensive. If anything cries out for the centralized efficiency of mainframe backup, it is open systems backup.

Backup Takes on a New Meaning

At least that's what the managers at GuideOne Insurance of West Des Moines, IA, realized. GuideOne is an open systems and mainframe shop that handled backup for its primary z/OS mainframe without a glitch. So, when open systems servers started entering the company in the mid-90s, the Networking group was asked to take on backup responsibilities for what amounted to a number of OS/2 file servers, and at the time, a handful of Windows NT servers. "It was just a limited situation back then," recalls Mark Thomas, GuideOne's network analyst. Still, the company turned to Innovation Data Processing's FDR/UPSTREAM, which allowed it to quickly and simply back up that handful of servers to the mainframe's DASD pool. From there the data would be further backed up along with everything else as part of the company's normal data center backup process.

Since then, interest in open systems has grown everywhere with Linux and Windows servers spreading across organizations that still depend on the mainframe for their primary production computing. GuideOne, a leading insurer of churches, private schools, colleges, and senior living communities, is no exception. Although the mainframe continues to run its core production applications, the company pursued a variety of Internet and Web initiatives and implemented e-mail on distributed open systems. Within a few years, it found that the original handful of Windows

servers had mushroomed to nearly 70, including 18 instances of Linux servers running on the mainframe. And all these servers needed to be backed up. No problem. FDR/UPSTREAM could handle it all.

Today, GuideOne operates a z/OS mainframe with 6.7TB of DASD connected via FICON. It backs up the mainframe data first to VTS logical tape and then to physical tape, which is shipped offsite for extra protection. In addition to z/OS, the company also runs SuSE Linux partitions on the mainframe. Under Linux it runs a variety of Web applications. Finally, the open systems servers that are not running as logical servers on the mainframe are connected via the corporate network (TCP/IP).

A Good Fit for Centralized Open Systems Backup

Although GuideOne has been running FDR/UPSTREAM for three years to selectively back up open systems servers, the company recognized the growing importance of its open systems environment and began a determined effort to back up all the open servers to the mainframe, where the data can best be protected. "FDR/UPSTREAM turned out to be a really good fit for doing this," says Thomas.

FDR/UPSTREAM provides reliable, high-performance centralized and automated backup/restore and archival for open systems, enabling companies to perform unattended backup of their open systems. It will handle data regardless of whether it is stored on a LAN, NAS or SAN, and support automated operations for the OS/390 or z/OS MVS mainframe server.

Streamlines Backup With Powerful Capabilities

To streamline the backup process, especially with the need to back up a large number of open systems servers, GuideOne runs a mix of periodic full backups and full merge backups. Merge backups are a powerful capability of FDR/UPSTREAM, which involves making a one-time baseline backup of all server data. Daily incrementals follow, reflecting just the changed data. Then regularly, usually once a week when the merge process is run, the consolidation of the first time full with the incrementals and any new files is performed that also reflects deleted files. The merge backup is the same as if all the files were read from disk and backed up. Thus, restores can come from this single full backup tape or disk file, making restores faster and more efficient than when coming from many incremental tapes. The end result is a complete backup with only the most recently changed files needing to be transmitted across the network to the host. The advantage of merged backups is improved backup performance, reduction in tape handling, and reduction in network traffic.

Windows and Linux Backup of Complex Applications

GuideOne uses FDR/UPSTREAM to back up its distributed Windows servers and its 16 Linux servers running as instances of SuSE Linux under z/OS. As part of its distributed Windows backups, GuideOne is able to back up complex applications such as Microsoft SQL Server and Microsoft Exchange, although the Exchange Server was not included in GuideOne's initial consolidated mainframe backup plan. The Linux servers handle the company's Web applications and Web application development.

Given the reliability of FDR/UPSTREAM, GuideOne later decided to use it for backing up Windows Exchange, which had become a critical application. Previously, GuideOne backed up Windows Exchange separately, using different backup software

Benefits of Linux on the Mainframe

- Open source flexibility
- More applications
- Low cost, no cost
- Simplified upgrades
- Reduced administration
- Lower training costs

and a separate tape system. The separate backup, however, "had become too big an administrative headache," explains Thomas. At a time when IT staff is under pressure to operate more efficiently and accomplish more with less, the additional work of a second backup procedure and more tape handling proved too great a burden. GuideOne added Windows Exchange to the centralized FDR/UPSTREAM backup process already running and now all the open systems servers are backed up to the mainframe, creating a more efficient procedure that eliminates any extra tape handling.

The flexibility of FDR/UPSTREAM made it easy to back up the open systems servers to the mainframe. The usual way companies use FDR/UPSTREAM is to initiate backup from their existing mainframe scheduling system or the product's built-in mainframe scheduler. The administrators responsible for the company's open systems servers, however, were not comfortable working with the mainframe. "They were network people. Nobody on the server side was familiar with the mainframe," Thomas explains. Rather than be trained to use the mainframe scheduler, the open systems staff preferred to initiate the backups from a remote workstation, using basic Windows commands through the familiar Windows interface.

This proved to be no problem at all; FDR/UPSTREAM backups can be initiated in a variety of ways.

Easy and Fast Disaster Recovery

With its online initiatives playing an increasingly important role, disaster recovery of Linux became another priority. To protect these applications, GuideOne turned to FDR/UPSTREAM's Rescuer, a stand-alone system recovery facility for SuSE zLinux, Sun Solaris, and Intel Linux. The Rescuer allows administrators to completely restore a system from data that is saved in FDR/UPSTREAM without separate system backups, which it can do because Rescuer is completely integrated into FDR/UPSTREAM.

The Rescuer can recover a company's entire system, including their Linux system boot disk, file systems, and device drives as well as all their application program and data files. This is accomplished using FDR/UPSTREAM to do file-level backup for all file types in the system. It includes FIFOs and device files that complement UPSTREAM's support for all other Unix file types (hard links, symbolic links). Since UPSTREAM incorporates into the backup knowledge of file system demarcation points and other information about each of these file systems, recovery is easy and fast, requiring no special setup or consideration.

Without Rescuer, recovery of these critical applications could easily become a nightmare. "We know Rescuer will save a lot of time," says Thomas. Although he is confident in Rescuer, they continue to test it regularly. To efficiently administer the entire backup and recovery process, Thomas relies on the Director. The Director is the FDR/UPSTREAM administrator's central control console. "I use it daily. I see what files were missed, look at tape usage, and get reports on vaults," says Thomas. The new Web-based version of Director is much easier to use." With point-and-click ease, he can run a variety of reports, monitor activity, and check files in the vaults. Through the Director, Thomas also is able to easily automate a range of activities.

"Director brings together a lot of capabilities that are in the product and makes it much easier to use," he notes. Other Director functionality includes the ability to restart backups and restores, set backup targets, and browse files for backup.

Do More With Less With a Greater Return on Investment

From Thomas' standpoint, the payback from GuideOne's investment in FDR/UPSTREAM is obvious, "It lets us do more with less." As valuable as that is, other benefits may be more valuable. For example, the company is able to regularly back up servers that previously weren't being backed up at all or were experiencing backup errors and failures that would make recovery, if it were needed, impossible. Similarly, tools such as Rescuer ensure that GuideOne will be able to recover key applications quickly and smoothly if a disaster strikes.

As important, FDR/UPSTREAM has enabled GuideOne to solve the open systems backup challenge. It extends the centralized reliability and efficiency of mainframe backup to the company's open systems environment, reigning in what otherwise had the potential to become a costly and nearly unmanageable process.

Organizations worldwide are tasked with protecting the corporate assets through a variety of means, one of which is data backup. Backup is the type of critical process that, when not done correctly just when you need it the most—when restoring the data from a backup—the results could be disastrous, regardless of your religious persuasion and best intentions. As organizations increasingly recognize their stored data as a valuable asset and understand the cost and liability of not being able to quickly recover that data in the event of a problem, the true value of FDR/UPSTREAM becomes apparent. For a company such as GuideOne Insurance, where the data is, in effect, both the product and the service, the ability to back up and recover critical data cannot be left to chance, but rather to a reliable backup system such as FDR/UPSTREAM. ●

About GuideOne Insurance

Founded in 1947 and headquartered in West Des Moines, IA, GuideOne Insurance is one of the nation's largest insurers of churches and churchgoers, with approximately 45,000 church and 155,000 consumer policyholders. GuideOne also insures faith-based private schools and colleges as well as not-for-profit senior living communities. GuideOne's personal product lines include standard auto, homeowners, and life insurance products underwritten by the Kansas City Life Insurance Co. GuideOne employs approximately 800 individuals across the country and is licensed to do business in all 50 states. GuideOne markets its products and services through nearly 1,600 independent and career agents. GuideOne carries an "Excellent" rating from A.M. Best.

For more information on FDR/UPSTREAM, contact Innovation Data Processing, 275 Paterson Ave., Little Falls, NJ 07424. Voice: 973-890-7300; e-Mail: sales@fdrinnovation.com; Website: www.innovationdp.fdr.com.