

Clyde Companies, Inc.

Paving the Way to High Availability and Cost Savings with Symantec LiveState Recovery

When Clyde Companies migrated its IT infrastructure from Novell Netware to Windows, it also replaced Computer Associates ARCserve with Symantec Backup Exec™ for Windows Servers software to improve the reliability of backups and restore and centralize data management administration. To speed server deployment and recovery, Clyde Companies tested a beta version of Symantec LiveState™ Recovery software. The test was so successful in recovering from a real hardware crash that the firm is deploying LiveState Recovery on its most critical servers across the enterprise. The combination of the two Symantec solutions has helped Clyde Companies avoid more than \$50,000 in new server purchases and \$60,000 to hire an additional IT technician.

Growing business strains IT staff

You might say that concrete is a mixture of cement, sand, gravel, water—and information. In the construction world, information technology (IT) takes its place as an indispensable building tool beside the bulldozer and power shovel. Utah-based Clyde Companies depends on a range of enterprise applications for its highway and heavy construction operations. Microsoft Exchange email keeps its far-flung operations in constant communication. The company coordinates the movement of building materials using CommandSeries, an enterprise resource planning (ERP) package from Command Alkon. Other enterprise applications for estimating, accounting, and time tracking ensure that Clyde Companies can manage and bill accurately for work done.

Who makes sure that the firm's information is secure and available? That responsibility falls to Jeffrey Griener, IT director for Clyde Companies. Griener's 10-person IT group supports over 2,000 employees in 30 locations and manages three datacenters in Utah (Orem, Murray, and St. George) with over 40 servers. He is under pressure to keep service levels high—without adding staff. "Clyde Companies' business is growing by 20

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Jeffrey Griener

Director of Information
Technology
Clyde Companies, Inc.

Company Profile

Clyde Companies, Inc. was formed in 1997 to consolidate a number of diverse business ventures, with emphasis on highway and heavy construction.

Industry

Construction

Solution

Data Management
System Recovery

By augmenting its data management solution with Symantec LiveState Recovery, Clyde Companies can now deploy a server in just 30 minutes instead of two days.

percent a year, but my staff will be the same size for some time to come,” Griener says. “Consolidating our infrastructure and centralizing administration are the only ways to keep up.”

Migrating to Windows and Symantec Backup Exec

In the early 1990s, Clyde Companies had built its first infrastructure using Novell NetWare technology running on a variety of hardware platforms. What worked well for a smaller and less complex infrastructure was beginning to show signs of strain as the company grew. In 2000, Clyde Companies decided to standardize its server infrastructure, opting for HP ProLiant DL servers and Microsoft

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Clyde Companies, Inc. Data Protection and High Availability Architecture

Symantec Backup Exec for Windows Servers provides reliable data protection.

CommandSeries (construction ERP system), Forefront (construction accounting system), TimeClockPlus (time and attendance), Microsoft Exchange Server 2000, Citrix, Microsoft SQL Server database, and Oracle Database 9i



40 HP Reliant DL380/DL360/DL140 servers running Microsoft Windows Server 2000/2003 and Linux

Symantec Live State Recovery Standard Server offers fast server recovery to meet high availability targets. The Restore Anywhere Option allows imaging between dissimilar hardware platforms, saving time and money.

Symantec Backup Exec Agent for Oracle on Windows Server, Agent for Exchange Server, and Advanced Open File Option ensure protection for data that is “locked” by applications and databases.

Symantec Backup Exec SAN Shared Storage Option maximizes usage of tape library resources.



HP StorageWorks Modular Smart Array 1000 storage system



HP StorageWorks MSL6030 tape library with HP StorageWorks Ultrium 960 tape drive

software, including Windows Server 2000 and Exchange Server 2000. Supporting the company's data-intensive applications were three instances of SQL Server and two of Oracle Database 9i. The company also upgraded its storage in the Orem datacenter to an HP MSA1000 Fibre Channel SAN and an HP StorageWorks MSL6030 tape library with an HP StorageWorks Ultrium 960 tape drive. Clyde's St. George site also has an HP StorageWorks Ultrium 960.

Griener saw the upgrade as a good opportunity to reexamine his data protection solution. While his group had used Computer Associates ARCserve for a number of years, they had experienced some recent reliability problems. "After a thorough look at the available products, we chose Symantec Backup Exec™ 10 for Windows Servers," explains Griener. "Backup Exec 10 offers the consistent, reliable backups and restores and centralized administration that we need for our environment." He also opted for the Veritas Technical Support Basic package.

Ensuring complete data protection with Backup Exec agents

Backup Exec 10 has lived up to expectations. One of Clyde Companies' most important considerations was to ensure complete protection even for data that was "application locked," meaning data that can't normally be accessed by any other program while the target application is using it. The right complement of agents and options met that need. Backup Exec

Agent for Oracle on Windows Server and Backup Exec Agent for Exchange Server ensure that data can be accessed for backup without impacting the operation of their respective applications, while Backup Exec Advanced Open File Option does the same for data locked by other applications. Working together, these Backup Exec agents and option provide more reliable backups and contribute to high levels of availability for Clyde Companies' enterprise data.

The continued growth of the company's data—two terabytes at last count—made Griener wonder if his tape library would be able to handle the load. That's a problem made to order for Symantec Backup Exec SAN Shared Storage Option and Backup Exec Library Expansion Option. The SAN Shared Storage Option balances job activity across shared devices from multiple Backup Exec servers, thus maximizing the use of available tape resources and minimizing backup windows. The Library Expansion Option helps manage the HP StorageWorks tape library so that backups can automatically scale to more than one tape without user intervention. It also provides extensive configuration and management capabilities that Clyde Companies can use for future "lights-out" backup and restore operations, that is, remotely managing operations in an unstaffed location. "Taken together, the complete Backup Exec solution has allowed Clyde Companies to meet its goal of managing the company's growing infrastructure without increasing our IT staff," says Griener.

SOLUTION AT A GLANCE

Business Drivers

- Manage IT infrastructure for large and diverse company with minimal staff
- Shorten time and expense to recover damaged or corrupted server
- Reuse and repurpose existing hardware to avoid unnecessary purchases
- Ensure recoverability of data in any foreseeable eventuality

Technology Challenges

- Recover business-critical servers quickly to ensure availability of critical applications
- Restore server image to dissimilar server (hardware independence)
- Provide highly reliable, automated backups of critical enterprise data

Solution

Reliable data protection and fast server recovery using Symantec data management and system recovery software

Symantec Products

- Symantec Backup Exec™ 10 for Windows Servers with:
 - Agent for Oracle on Windows Server
 - Agent for Exchange Server
 - Advanced Open File Option
 - SAN Shared Storage Option
 - Library Expansion Option
- Symantec Backup Exec™ 10d for Windows Servers with Continuous Protection Server
- Symantec LiveState Recovery™ Standard Server with Restore Anyware Option

Technology Environment

- Applications: Command Alkon CommandSeries (construction ERP system), Dexter + Chaney Forefront (construction accounting system), Data Management Incorporated TimeClockPlus (time and attendance), Microsoft® Exchange Server 2000, Citrix Presentation Server 3.0
- Databases: Microsoft SQL Server (3), Oracle 9i (2)
- Servers: 40 HP ProLiant DL380/DL360/DL140 servers running Microsoft Windows® 2000/2003 and Linux
- Storage: HP StorageWorks MSL6030 tape library with StorageWorks Ultrium 960 tape drive

Symantec Services

- Veritas Basic Support

BUSINESS VALUE AND TECHNICAL BENEFITS

Return on Investment

- 100% payback in less than one year

Cost Avoidance

- \$50,000 to \$100,000 spending on spare servers avoided
- \$60,000 per year for additional IT technician avoided

Productivity

- 96% faster time to rebuild a corrupted database with LiveState Recovery compared to restoring from tape

Speeding server deployment with Symantec LiveState Recovery

Just as a heavy construction site has multiple levels of safety protection for its workers, Clyde Companies ensures its information availability with multiple layers of data protection. Griener explains: “To boost our server availability, we needed a way to quickly recover a critical server in the event of corrupted data or hardware failure. We could restore it from tape, but that could take days. Our target was less than an hour. That’s why I asked my group to take a look at Symantec LiveState Recovery.”

Complementing Symantec Backup Exec 10, Symantec LiveState Recovery™ software offers the ability to provision servers using imaging technology. Griener’s group discovered that LiveState Recovery would allow them not only to recover a damaged server quickly, but also to deploy a new server in a much shorter time. Clyde Companies has adopted Citrix Presentation Server 3.0 for its access control solution, so the IT group finds itself building two or three new Citrix

servers a year. Combined with the need to reimage servers due to data corruption or hardware failure, the load on the IT group is substantial. “Rather than spending days loading server software from the source tapes, LiveState Recovery allows us to image a complete server in an hour or so,” says Griener. “That fact could save us a lot of money and time.”

LiveState Recovery in action

While evaluating the latest LiveState Recovery beta, Clyde Companies unexpectedly learned its value firsthand. “We needed hands-on experience to be sure that LiveState Recovery was the right choice, so we downloaded the latest beta version software,” relates Griener. “Only 45 minutes after we had installed it on a DL1850 server and stored a snapshot of the server image onto our SAN, the server’s disk drive experienced a total failure. A 20-gigabyte database was gone.”

Complicating the issue was the fact that Clyde Companies didn’t have a spare DL1850 that Griener could use

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to restore the snapshot. But LiveState Recovery was up to the challenge. “Using the Restore Anyware Option of LiveState Recovery, I restored the image to a DL1600 server,” says Griener. “Within a half hour, we had the database up and the server back on line. It would have taken us a full 24 hours to restore from tape, so it reduced our restoration time by 96 percent. That incident sold us on LiveState Recovery.” Clyde Companies is currently in the process of deploying LiveState Recovery Standard Server with the Restore Anyware Option on the company’s business-critical servers.

“The biggest benefit that Clyde Companies has received from Symantec LiveState Recovery is hardware independence, thanks to the Restore Anyware Option,” says Griener. “To meet our availability targets without Restore Anyware, we would need to have one of each kind of server on the shelf, costing from \$50,000 to \$100,000, as well as an additional engineer, which would cost us \$60,000 or more. We avoid all that

expense with Restore Anyware, since just one or two servers can serve as spares for the entire datacenter. We expect to completely recover our investment in LiveState Recovery in less than a year.”

Because it is so easy to rebuild a server with LiveState Recovery, Clyde Companies has gained additional flexibility in deploying its hardware more effectively. “Let’s say we buy a new server for our Microsoft Exchange email,” explains Griener. “The server that we are replacing is probably newer and more powerful than several others in the datacenter. With LiveState Recovery, we can move another application onto that server in less than an hour and increase the performance of that application, essentially for free. LiveState Recovery helps us make the best use of our investments in hardware.”

Looking down the road

Like their counterparts in the construction operations, Griener’s group is hard at work planning the next phase of building a world-class IT infrastructure. They have targeted remote backups as an area of immediate interest, and Symantec has a part. “Right now, when a server goes down in one of our branch offices, I have to go onsite to restore it,” Griener says. “That delays the availability of the server and also eats up a couple of hours of my time each way. We’re seriously considering the LightsOut

Restore Option of Symantec LiveState Recovery as a way to save time and boost availability for our remote offices. It will allow us to restore a server without physically going to the remote site.”

Symantec also figures into Clyde Companies’ plans in another way, continuous data protection. “We’ve implemented continuous data protection using Symantec Backup Exec™ 10d with the Continuous Protection Server and are continuing to fine tune it,” explains Griener. “It will reduce the time our IT technicians spend restoring files and let our users feel more in control of their information.”

Griener sums it up the value of the Symantec products at Clyde Companies: “Symantec LiveState Recovery and Symantec Backup Exec *for Windows Servers* give us a potent one-two punch for keeping our data protected and available.” ■