



## Raymond James Speeds Data Management Up to 75 Percent, Supports 64-Bit Computing

### Overview

**Country or Region:** United States

**Industry:** Financial services

### Customer Profile

Raymond James Financial is a Florida-based diversified holding company providing financial services to individuals, corporations, and municipalities through its subsidiary companies.

### Business Situation

The company's data backup and recovery solution wasn't keeping up with its rapid growth; a move to 64-bit computing required a compatible data management solution.

### Solution

Raymond James migrated to the CommVault Systems Galaxy data backup and recovery solution running on Microsoft® Windows Server™ 2003 Enterprise and Datacenter Editions.

### Benefits

- Data backups 25 percent faster
- Data restores 75 percent faster
- Data reliability up 12 percent
- IT productivity increases
- 64-bit data warehouse enabled

“We see 64-bit computing as a key part of our strategy. Having the CommVault solution for 64-bit data management and backup already in place makes that strategy much easier to implement.”

Norm King, Systems Engineer, Raymond James Financial

Raymond James Financial needed to replace a data management solution that wasn't keeping pace with the company's rapid growth, including the planned deployment of 64-bit data warehouse applications for business intelligence. The company's solution: the CommVault data backup and recovery solution running on 32-bit and 64-bit versions of Microsoft® Windows Server™ 2003 operating system software. By centralizing and automating the data management environment at Raymond James, the solution has made data backups 25 percent faster, data restorations 75 percent faster, and the entire process easier and more reliable. The changes made the company more productive, saving time and money. Technicians have more time to troubleshoot servers, follow up on exceptions to backup reports, and perform restores that would otherwise wait until the next day—further increasing reliability and availability.



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Terry Poovey, Manager of Storage Administration, Raymond James Financial

## Situation

Raymond James Financial, one of the largest financial services firms in the United States, was an early adopter of Microsoft® SQL Server™ technology. In 1996, it adopted SQL Server version 6.0 running on the Microsoft Windows NT® Server version 3.51 operating system.

“We chose Microsoft early on as our platform for our future,” says Norm King, Systems Engineer at Raymond James Financial. “We built our back-office systems around Microsoft technology because we saw they would be more cost-effective and easy to manage.”

Raymond James upgraded its infrastructure to Microsoft SQL Server 2000 running on Microsoft Windows Server™ 2003 Enterprise Edition operating system—both part of Windows Server System™ integrated server software—as those technologies became available. And the size of its infrastructure continued to grow. By the start of 2006, Raymond James had 8.9 terabytes of data in almost 1,600 SQL Server databases—and the numbers were doubling every 10 months.

This massive volume of data made a comprehensive data backup and recovery solution a priority. Unfortunately, the data management solution that Raymond James was using didn't meet its needs. That solution used a mix of software agents scattered across multiple installations, each requiring individual monitoring.

Report creation required operators to search the logs across the installations to compile information related to the stop, start, and success of each backup job. So the company started an assessment of possible replacements. That assessment took on greater importance with the passage of the Sarbanes-Oxley Act, which set new standards for the way corporate data is maintained.

The company's data management needs continued to grow. In 2004, Raymond James contemplated a move to Microsoft Windows Server 2003 Datacenter Edition, with Service Pack 1 for Itanium-based Systems, and to Microsoft SQL Server 2000 64-Bit Enterprise Edition, including SQL Server Analysis Services, for a data warehouse and decision support system for its financial advisors.

Integrating several databases into a single, multidimensional database would make it easier for those financial advisors to continue to provide timely, accurate advice to their clients. The memory addressability of 64-bit Windows Server 2003 would accommodate anticipated cube dimensions that would be too large for a traditional 32-bit environment.

The proposed data warehouse added a new requirement to the company's data management needs: the solution had to support 64-bit backup and recovery.

## Solution

In 2001, Raymond James began to search for an enterprisewide data management solution. “We needed to address operational concerns about meeting the backup windows, centralizing job management functions, improving report creation, and providing an extended data retention/disaster recovery plan for our branch offices,” says Frank Mulligan, Systems Engineer, Raymond James Financial. “We wanted to be sure our vendor could understand our needs, supply quality support, integrate with SAN [storage area network] technologies, and be flexible with recovery scenarios.”

### Choosing CommVault on Windows Server

The company invited several vendors to make presentations and provide proof-of-concept (POC) demonstrations and testing. Its key criteria for the POC phase were to determine:

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Terry Poovey, Manager of Storage Administration, Raymond James Financial

- Ease of installation for central components and required agents.
- Vendor expertise.
- Interface complexity and design.
- Ability to back up and restore data easily.
- Ability to create comprehensive and detailed reports.
- Overall performance.

On the basis of these criteria, Raymond James chose the CommVault Galaxy backup and recovery solution running on Microsoft Windows® 2000 Server (it has since upgraded to Windows Server 2003). “We liked that CommVault was a native GUI [graphical user interface] solution, rather than a command-line utility ported to a GUI,” says King. “That spoke to our desire for easy use. The solution was highly centralized, so there would be just one console to manage the entire solution, including report generation and agent management. And CommVault ran on a SQL Server database, with which we were already familiar, rather than on a proprietary database. We liked that as well.”

The solution was deployed in April 2002 with a new tape library managed by a single CommVault version 3.7.1 CommCell server computer attached to the dedicated SAN fabric. Raymond James first migrated the database servers in its primary data center. Approximately 100 wholly owned remote offices were added in a follow-up phase, which eliminated tape backup at remote offices

#### **Extending the Solution to 64-Bit Computing**

When Raymond James designed its 64-bit data warehouse solution, data backup was a necessary component. The company found that component in the CommVault Galaxy solution, which includes support for 64-bit computing. Raymond James would be able to

extend its existing backup solution to include the new data warehouse without having to adopt and learn a new backup solution. “It was a no-brainer to go with CommVault for our 64-bit data backup needs,” says Terry Poovey, Manager of Storage Administration. “We tested the 64-bit CommVault agents before we went into production and they worked flawlessly. It would have been a lot harder to contemplate going to 64-bit without the CommVault solution.”

The data warehouse in which Raymond James is deploying the 64-bit CommVault backup solution runs on a single Hewlett-Packard Integrity Superdome server computer with Itanium 2 processors. The computer hosts three partitions—for development, quality assurance, and production—and includes 24 processors and 2 terabytes of data, with 745 gigabytes of data in the largest database instance.

In addition to supporting the 64-bit business intelligence data warehouse, the CommVault solution supports 600 Windows-based server computers at Raymond James, a 50 percent increase since the company first deployed the solution in 2002.

Twenty-two CommVault Media Agent computer servers manage and monitor the backup of data from those 600 computers to Quantum tape libraries, magnetic backup, and EMC disk arrays. Raymond James sends the most time-consuming backups—backups of extremely small items, such as individual mailbox messages and contacts—to the disk arrays, which can handle them the fastest. Most other backups are sent to tape.

The CommVault Media Agents, in turn, roll up their management and monitoring functions to a single CommVault CommServe server computer running Windows Server 2003 Enterprise Edition. The aggregation of data on this computer gives the backup technicians

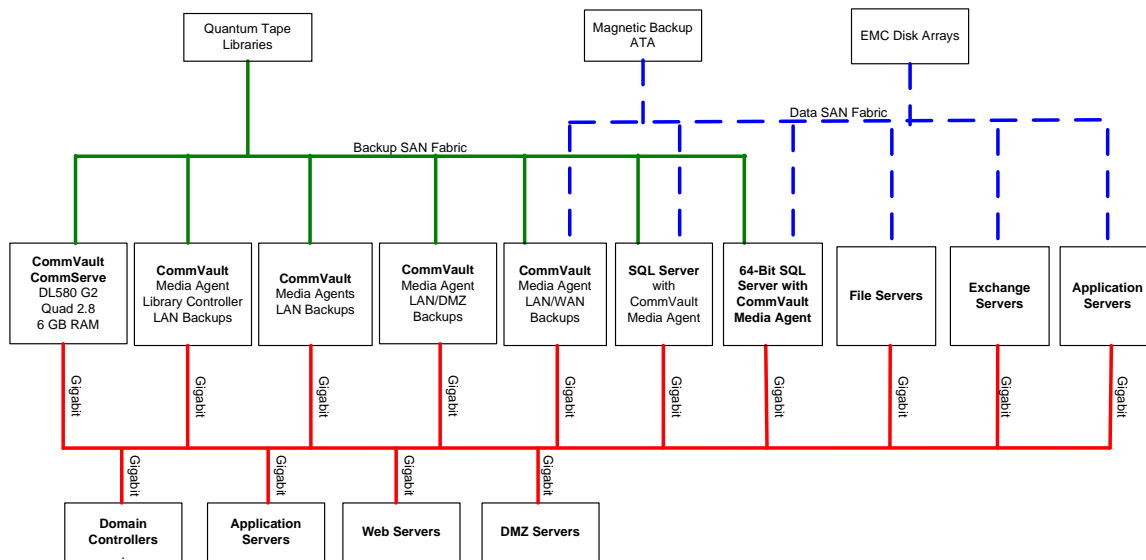


Figure 1. Raymond James uses CommVault Media Agents to manage and monitor backups of its 32-bit and 64-bit environments to Quantum tape libraries, magnetic media, and EMC disk arrays.

single-console access to all backup-management functions and backup reports throughout the enterprise. See Figure 1. Raymond James plans to upgrade nearly half of its 1,600 databases to SQL Server 2005 Enterprise Edition by 2007. Most of those will take advantage of the 64-bit computing capability of SQL Server 2005—and Raymond James will ensure continuous backup coverage by migrating those databases to 64-bit CommVault support.

“We see 64-bit computing as a key part of our strategy,” says King. “Having the CommVault solution for 64-bit data management and backup already in place makes that strategy much easier to implement.”

### Benefits

Raymond James now has faster backups and recovery, more-reliable and more-accessible data, productivity savings among its data management staff, and a comprehensive solution for its 32-bit and 64-bit environments—all as a result of the migration to the CommVault solution running on Windows Server 2003.

### Data Restoration 75 Percent Faster

Raymond James has cut the time to implement backup and restore its data, thanks to the CommVault solution.

In contrast to the former solution—which took a 12-hour window to implement backups and often didn’t complete backups within that time—the new solution completes 85 percent of the nightly backups within 8 hours and all of the backups within 12 hours, making it about 25 percent faster.

Meanwhile, the typical time to restore a server has been cut significantly—saving more than three hours for a “small” server such as a Web server, for example—and the increased reliability has increased satisfaction among Raymond James users.

One of the factors contributing to faster restores in the CommVault Galaxy solution is the use of Windows Server 2003 Volume Shadow Copy Service. This feature enables system state restores based on “snapshots” of a server, including the operating system, applications, and data, to any specific time.

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“With the ‘CommVault point-in-time-option,’ we just point and click to implement the restore,” says Poovey. “We’re saved the laborious process of implementing each layer of the server separately—and then running it all through a security scan.”

“We can be tremendously more productive, because our backups and restores are faster and virtually effortless,” says Poovey. “Our backup technician now has more time to troubleshoot servers, follow up on exceptions to backup reports, and perform restores that would otherwise have to wait until the next day.”

#### **Backup Reliability Up 12 Percent**

Faster backups and restores, combined with more time for proactive data management, result in a data environment that is more reliable, useful, and compliant with increasingly stringent regulation. Mulligan estimates that the accuracy of data backups has increased more than 12 percent, from 80 to 90 percent.

“Because we have the time for troubleshooting, because we can ensure that backups happen properly, because branch-office backups are handled centrally—everyone who depends on our data now benefits from data that is both more reliable and more available to them than ever before,” says Poovey.

For example, Poovey cites a custom application that had a software defect that went undetected for a period of time, corrupting data throughout that period. When the defect was discovered and fixed, Poovey’s staff was able to restore all of the data fed into the application and reprocess it, correcting the data without losing any of it.

“How do you put a value on that?” asks Poovey. “I don’t know, but I know it’s hugely important to us.”

The data management solution also enables Raymond James to certify the reliability of its data. Under the company’s implementation of federal Sarbanes-Oxley financial regulations, it must perform sample restorations of all its server computers once a month to verify that capability. “Without the new solution, we couldn’t begin to meet this requirement cost-effectively,” says Poovey.

#### **Increased Productivity Saves Time and Money**

The centralization, automation, and efficiency of the CommVault solution also deliver lower annual costs to Raymond James. Given the rapid growth of the Raymond James environment, the company estimates it would have needed three full-time technicians to manage data backup had it remained reliant on the previous solution. Instead, it has managed its growth with just one technician—and freed 80 percent of that person’s time to manage proactive tasks, saving time and money.

One key area of savings is in reports on backup status. Creating those reports used to take the equivalent of three or four days of one person’s time each week. Now, the CommVault solution handles the task automatically at the end of the backup window, and the backup technician takes a few minutes to send courtesy e-mail notifications to let administrators know where they can find their backup reports online. Adding or removing reports is a simple matter of moving a server in or out of preset lists in the graphical interface.

## For More Information

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For more information about CommVault Systems products and services, call (732) 870-4038 or (888) 746-3849 or visit the Web site at: [www.commvault.com](http://www.commvault.com)

For more information about Raymond James Financial products and services, call (727) 567-1000 or visit the Web site at: [www.raymondjames.com](http://www.raymondjames.com)

## Microsoft Windows Server System

Microsoft Windows Server System is a line of integrated and manageable server software designed to reduce the complexity and cost of IT. Windows Server System enables you to spend less time and budget on managing your systems so that you can focus your resources on other priorities for you and your business.

For more information about Windows Server System, go to: [www.microsoft.com/windowsserversystem](http://www.microsoft.com/windowsserversystem)

### Software and Services

- Microsoft Windows Server System
  - Microsoft Windows Server 2003 Datacenter Edition, with SP 1 for Itanium-based Systems
  - Microsoft Windows Server 2003 Enterprise Edition
  - Microsoft SQL Server 2000 64-Bit Enterprise Edition

- Microsoft SQL Server 2000 Enterprise Edition
- Microsoft SQL Server 2005 Enterprise Edition

### Hardware

- HP DL 580 server computers
- HP Integrity Superdome computer

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