

CASE STUDY: Chemical Corporation

ABOUT the Company

- With roots dating back to 1758, this specialty chemicals company produces chemicals for products used in the automotive industry, paper production, personal care, plastics & rubber, electronics, paints, packaging, textiles & fibers, and water treatment.
- The company has 5 divisions, 59 production sites in 23 countries, 22 research centers in 11 countries, and 18,700 employees around the world.
- 8 + TB of data under management growing at 200% percent a year
- Heterogeneous, distributed backup environment managed across 8 time zones

Challenges in managing data protection

- Contain skyrocketing data growth rates
- Identify best candidates for storage consolidation
- Forecast future growth needs
 - Identify failures in current backup procedures
 - Reduce time spent monitoring backup performance
 - Plan for the transition to new backup and restore technologies

Results

- Identified 10 percent of overall servers that could be removed from current backup procedures
- Replaced multiple monitoring tools with one centralized platform and point of control
- Slashed backup monitoring time from 3 to 1/2 hour per day
- Freed server team to focus on more strategic tasks
- Proved the need to implement storage quotas to control growth
- Aided forecasting, planning for scope of storage consolidation project

Facing the challenge to improve efficiency while managing data growth

This large corporation is one of the world's leading companies producing specialized chemicals used in thousands of everyday products to improve quality, durability and performance. Corporate operations span the globe across 120 countries, 59 production sites and 22 dedicated research centers. With rapid expansion into Asia, and with the need to achieve corporate objectives of streamlining performance, cutting costs and optimizing system resources, the IT division faced a monumental challenge—how to protect an increasing load of critical data against a backdrop of cost takeout.

As part of 300 employees comprising the IT organization, the server engineering team is responsible for both provisioning servers, as well as for backing up more than 8 TB of data residing on hundreds of servers spanning 5 divisions. With limited staff, the server team shoulders the load of managing a complex, distributed backup environment with data growth rates that exceed 200% per year.

One of the system engineers in the server engineering group holds the responsibility for reviewing new backup-related technologies, recommending changes to the organization's backup infrastructure, and instituting backup best practices across the enterprise. By his account, data volume has exploded over the past two years, growing from 1.8 to 8 Terabytes of data. This exponential growth in data under management has presented tremendous challenges for the team, including how to find the time to get their jobs done.

Backups taking too long, requiring too much staff time

To manage the growing burden, the team needs to reduce the time it takes to monitor and troubleshoot backup performance across the company. "The server team has to deploy servers and make a number of changes to the infrastructure. Because there are only a few people, they have a lot of other work to do. They just don't have the time to monitor backups," said the main system engineer. He notes his colleagues were spending three hours each morning simply on monitoring backup performance from the previous day's jobs and troubleshooting any issues encountered. Further, backups were simply taking too long. Each weekend backup would run continuously from Friday 9:00 p.m. until 2:00 p.m. Sunday. This meant a heavy burden of failures and troubleshooting activities awaited the group each Monday. More importantly, if any serious errors were to occur, there was simply no time to re-run the jobs; they would have to wait for the next backup window, putting unprotected data at risk.

Heterogeneous environment complicates backup visibility

At corporate headquarters, the server engineering team uses VERITAS NetBackup to administer backup over a storage area network (SAN) for storage on a StorageTek L700 automated tape library attached to the SAN. Yet the company's 27 remote offices located throughout Europe, the Middle East and Africa use VERITAS BackupExec and sites in Asia and the Americas use Computer Associates' BrightStor ArcServe backup product.

With a heterogeneous environment, it was impossible to reliably and scalably monitor their environment to ensure recoverability. For NetBackup, the company was using VERITAS Global Data Manager but they could not get complete data, and the product offered no insight into the tasks managed by BackupExec or ArcServe. “In our monitoring station, we have had different products that monitor performance. We wanted to use one product for everything,” said the manager. “Our biggest problem has been that we cannot manage everything with one tool.” As a consequence, the team was forced to resort to using Excel spreadsheets plus in-house scripts to fill the gaps. The result was a patchwork that, in the end, failed to get the job done.

Crazy over results

To address these pressing issues, the team sought advice from a systems integrator, who recommended Enterprise. The managers recalled their first encounter soon after install, including how the agentless technology of Enterprise makes integration seamless and fast. “I went crazy,” said the team leader. “I’d never seen software that you install in 5 minutes, and it’s also ready to run in a couple of minutes! I was really impressed.”

After a one month trial, the server operations team was seeing major benefits to their organization. Relying on data from the Enterprise success and failure report alone, the team was able to cut daily monitoring time from 3 hours down to less than 30 minutes. “The report is just done in one or two clicks now,” said the manager. Using Enterprise, the server team immediately began to identify inconsistencies with the way different sites were performing backups, learning if a backup server isn’t functioning or if procedures are not being followed. For the first time, they were able to see sites were performing incrementals or only differentials when they should be doing something else.

Increased efficiency through identified trends

The company also found that trend data from Enterprise allowed them to free up valuable backup assets being improperly used, as well as to identify bottlenecks impeding management of their data. “If you are monitoring only the backups and restores, you don’t see the data growth that is there,” he said. “We were not just looking for a monitoring tool, but also a reporting tool.”

Trend data also helps them to identify areas of excessive cost, driven by poor asset utilization. “I found out that there were a lot of servers backed up that we don’t really use anymore. We also saw data growth on some servers and asked why this was happening. We found that they were copying their entire workstation onto some other directory.” The manager estimates that trend data has allowed him to identify and consolidate about 10 percent of underused backup servers.

Enterprise has also allowed the server team to monitor how well they are utilizing their current tape drives and other backup media. “We are also starting to monitor all the media to see if it is really full or it’s only being used up to 60 percent [of its capacity].”

Justifying the purchase: Demonstrable IT savings

As part of the purchase process, the team needed to prepare a business case to demonstrate the significant savings in operational efficiency, asset utilization, and support for planning enabled by Enterprise. The audience would be the corporate finance group responsible for the allocation of funds for new IT initiatives.

“I made a presentation to the finance group where I told them what we’d found during the one-month evaluation process.” After showing them the benefits and the plan to integrate Enterprise into their larger IT initiatives, he gained immediate approval to purchase the product. “It was one of the easiest reviews I had ever participated in,” he said.

In the future: shifting responsibility, managing assets, consolidation

As part of driving even greater efficiency, Enterprise has freed up the server operations team by allowing them to shift all backup monitoring responsibilities to the IT group’s central monitoring team. “With Enterprise, you only have to do one click to see if all the backups were successful or not. This job can now be done by the monitoring team, and not the server team,” said the manager.



The team is now planning a storage consolidation project, and uses Enterprise a planning tool for the transition. For example, they identified a file server and user home directories within the end user software group as one area experiencing very high data growth. They have since made plans to eliminate the file server and replace tape-based backups with snapshots to disk.

Using Enterprise, the team has also been able to identify about 40 file servers that look like ideal candidates for consolidation. These contain a total of 2 terabytes of data in 25 to 30 SQL Server databases. They set up special zones for these servers to track the weekly and monthly data growth by each server zone. "Enterprise was very helpful in helping us determine how big the storage consolidation project should be," said the manager.

Greater recoverability. Reduced troubleshooting. Server consolidation. Planning for technology transition: Enterprise has made the difference. Now, the team feels they can meet their goals for service excellence and cost efficiency while providing better information to their teams and internal customers. "We now have one tool, and everyone knows where to click and what they'll get from the support."

