



GAF Raises the Roof in Reaching New Heights of Eco-Friendly IT While Lowering its Storage & Carbon Footprints with Simpana Software

QUICK FACTS

Industry/Solution:

- Building and Construction Manufacturer

Platform/File System:

- Microsoft Windows Server 2003 and 2008

Applications:

- Microsoft Exchange, Active Director and SharePoint 2010
- SQL Server
- Oracle PeopleSoft ERP
- VMware ESX 4.1i

Partner Hardware:

- Dell hardware and back-end storage

Challenges:

- Steady growth of data and problematic tape-based backups and recoveries at remote sites prompted decision to centralize data protection for efficiencies and cleaner corporate governance
- Legacy Symantec Backup Exec was unreliable and lacked sufficient reporting to provide required organizational visibility
- Legacy solutions lacked integration and centralized management

Solution:

- CommVault Simpana software Backup & Recovery, Deduplication and Replication .

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Customer Profile

GAF, the largest roofing and ventilation manufacturer in North America, takes great pride in leading the industry with its comprehensive portfolio of energy-efficient roofing materials, composite decking and ventilation systems. Now celebrating 125 years in business, GAF has sales of nearly \$3 billion annually and a long list of awards for product excellence and innovation, including an industry-breakthrough lifetime limited warranty on all laminated shingle products.

Headquartered in Wayne, N.J., the company's continuing success is driven by a commitment to delivering the best and safest products through ongoing education, social responsibility and a company-wide focus on energy conservation. GAF created the Center for the Advancement of Roofing Excellence (CARE) to provide continuing education to more than 100,000 professionals. The socially conscious organization also incorporates energy-efficient designs and recycled materials into its products and has forged a roofing product and installation partnership with Habitat for Humanity.

According to Adam Noble, CIO of GAF, an overarching mission to reduce energy consumption permeates through all facets of the company, including manufacturing,

sales and IT. "We're constantly looking for ways to drive a 'greener' operation, whether it's generating less waste in the manufacturing process or lowering our carbon footprint in our data centers," he explains. "Thanks to CommVault Simpana software, we've made strides in reducing our digital waste, which strengthens our commitment to eco-friendly IT."

Data Management Environment

A dedicated team of IT professionals at company headquarters as well as at GAF's alternate data center in Dallas, oversees a primarily Microsoft Windows environment comprising 80 physical Windows 2003 and 2008 file servers and more than 300 virtual servers running on 20 VMware ESX 4.1i servers. GAF also has the full suite of Microsoft Office applications, including Exchange and SharePoint 2010, along with Active Directory and various versions of SQL Server. Several Oracle databases complete the mix, including PeopleSoft for enterprise resource planning (ERP).

A small subset of HP UNIX also is supported at both data centers. For the most part, Dell is the hardware platform of choice for computing and storage. GAF currently protects approximately 32 TBs of business-critical data and is experiencing storage growth on an average of six percent yearly.

QUICK FACTS **(continued)**

Benefits:

- Centralized IT operations with disk-based backup and recovery increased data protection and lowered administrative overhead
- End-to-end data management with embedded data protection, deduplication and replication elevates business continuity, governance and operational efficiencies.
- Data reduction ratios with deduplication have exceeded expectations and reduced digital waste.
- The ability to remove tape drives and tape media is expected to yield more than \$100,000 in hardware, software and maintenance costs.

GAF takes extra precautions to adhere to rigorous industry regulations on the manufacturing floor as well as at the data center, so compliance with data security standards is crucial. Complying with the latest EPA standards and reporting requirements is equally important. “We handle our data with care,” adds Chris Maitner, executive director, enterprise technology, technology services & shared services for GAF. “Our data security expert follows the strictest data retention and privacy regulations as they relate to SOX, HIPAA and PCI.”

Seeking a Sustainable Backup & Recovery Foundation

Over the years, GAF’s IT environment had become decentralized, which created challenges as most remote offices didn’t have dedicated IT personnel on-site to oversee tape-based backup and recovery operations. As a result, troubleshooting problems was difficult, especially as the company’s data continued to increase and outgrew its legacy Symantec Backup Exec data protection platform.

“The amount of data we were protecting daily kept expanding and Backup Exec couldn’t keep up,” recalls Pedro Bulaclac, director, technology architecture & planning for GAF. “We started having constant performance and reliability issues plus reporting wasn’t robust enough, so we weren’t sure if backups had completed successfully. Recovering from tapes also was hit or miss.”

As GAF didn’t have sufficient IT resources at its manufacturing facilities and dispersed sales offices, the company considered adding more to remote locations or centralizing IT operations at the core data centers by leveraging innovative virtualization and data management solutions. “We really wanted to get our

arms around data protection,” explains Maitner. “We also felt we’d have a cleaner governance model and greener data protection if we moved away from decentralized tape-based backups. By consolidating our data protection assets, we’d also be able to reduce our carbon footprint, which was very appealing.”

As a result, GAF decided to return central services to the core and also embarked on a major effort to leverage server virtualization to eliminate 60 percent of conventional server hardware requirements and alleviate space constraints in its data centers. Not only would this help decrease data center power as well as heating and cooling requirements, the space savings would enable the team to incorporate more disk-based backup to reduce backup and recovery windows while removing tape from the backup equation.

“We realized that server virtualization fit well with our business model and was an eco-friendly, highly economical way to consolidate services,” adds Stephen Vaughan, manager, technology integration/disaster recovery operations. “It also was apparent that we needed an enterprise data protection platform that worked well in a virtualized environment and supported additional capabilities to boost business continuity.”

Architecting Eco-Friendly Data Protection

In building a more resilient data protection foundation, GAF wanted enterprise disk-based backup/recovery, more granular restores and comprehensive reporting with greater visibility into the company’s environment. To that end, the team evaluated industry-leading platforms, including Symantec Net Backup, EMC Networker and CommVault Simpana software.

Based on criteria established in an RFI, the team evaluated each solution according to overall functionality, price and performance. As part of the functionality review, GAF weighed how each platform integrated different types of functionality, which is one of the areas where CommVault® Simpana® software stood out. "When comparing each product suite, it became clear that only CommVault built its unified data management platform from a single code base," says Noble. "CommVault Simpana software modules were built from the ground up to work together."

With Simpana software, centralized, policy-based management of all data protection functions meant that GAF could lower administrative overhead while freeing staff to focus on more strategic IT efforts. In addition to backup and recovery, the team was interested in Simpana replication software, which would enable creating secondary copies of files and databases, regardless of where they resided. GAF also received positive reports on CommVault's replication technology from an affiliate company that was using CommVault software to elevate disaster recovery capabilities.

"Simpana software met all the criteria for our architectural redesign with the ability to centralize disk-based backup and recovery," notes Maitner. "In comparing price and personality, we liked CommVault best. Plus, CommVault gave us access to increased functionality we could grow into."

In early 2010, GAF deployed CommVault's disk-based backup and recovery at its NJ headquarters and Dallas location to

shrink backup windows and accelerate restores of vital files and databases. The result: a big improvement over Backup Exec, starting with faster backups, along with more reliable backups and restores. GAF reports that the window to back up vital databases was decreased from eight hours to five while restores went from hours to minutes. After fine-tuning data protection and replication, GAF began looking at other Simpana software capabilities to support the company's ever-increasing adoption of server virtualization and desire to eliminate tape-based backups at all remote locations.

Conserving Money & Resources while Reducing Digital Waste

In supporting its move to enterprise disk-based backup and recovery, GAF wanted to store all data on disk so it could be retrieved quickly, but didn't want to consume massive amounts of expensive disk storage. Enter deduplication, which is rapidly becoming a standard solution for eliminating redundant backup and archive data to reduce storage costs and disk consumption.

GAF next tested CommVault's software-based deduplication and was pleasantly surprised when early test results exceeded expectations. "We initially estimated that we'd be able to achieve a 35 percent reduction in redundant data and the test came at 58 percent," says Vaughan. As a result, GAF deployed CommVault's software-based deduplication, which is a much more environmentally friendly alternative than solutions that require additional hardware that is costly and requires additional power, heating and cooling.

In contrast, GAF easily deployed CommVault's dedupe capabilities on existing hardware, which produced even more impressive results than those achieved in the testing phase. "In production, our deduplication ratios have been as high as 85 percent and typically hover between 70 to 73 percent," Vaughan adds. "We're still amazed today to see such high percentages."

With dedupe in place, GAF has made significant strides in reducing digital waste while moving forward with plans to eliminate tape from all remote sites. Currently, the company is replicating file shares and databases for about half of its locations, bringing information back to headquarters or Dallas. The company then performs deduplication to remove redundant data before backing up to disk. Once backups at the two primary sites are completed, respective copies are replicated to the other location for disaster recovery purposes. "By replicating data between our headquarters and warm site, we can ensure the highest levels of data availability," says Maitner. "We now can restore anything from anywhere, quickly and down to the file level."

GAF also takes advantage of CommVault Simpana software to provide end-to-end data protection for both its physical and fast-growing virtual server environment. "As virtualization plays such an important role at GAF, we're considering an upgrade to Simpana 9 as it will deliver even faster VMware ESX backup speeds and increased replication functionality," adds Vaughan. "With CommVault, we have the performance to keep pace with business growth while achieving our goal of removing tape from our environment altogether."

Within the next four months, GAF projects tape will be a thing of the past in its data centers, which will result in significant resource and cost savings. "The model we are putting in place will most likely result in savings of more than \$100,000, just in capital, maintenance and administrative cost reductions," notes Maitner. "Moving exclusively to disk also frees up a full-time staffer who now can assist with other strategic IT priorities."

Among these priorities is a keen focus on seeking sustainable, reliable technologies that drive business innovation and improve customer support while conserving energy and resources. For example, GAF is closely following the growing trend toward virtual

desktop, which may come into play in ensuring that customer service representatives can work anywhere and without business disruption. "With CommVault Simpana software, we've been able to put a plan in place that guarantees our data is protected and can be restored and accessed from anywhere," concludes Noble. "The fact that we've also been able to reduce both our storage and carbon footprint is a model of eco-friendly IT all companies should strive to achieve."



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