CINGROUP ACHIEVES UNPRECEDENTED PERFORMANCE WITH HYPER-CONVERGED INFRASTRUCTURE

CINgroup

INDUSTRY
U.S. LEGAL BANKRUPTCY

LOCATION
DAYTON, OHIO

KEY CHALLENGES
- Maintain application performance as customer datasets grow
- Keep prices competitive and profit margins healthy by reducing TCO
- Enable IT to be more flexible and react faster to business demands

SOLUTION
By virtualizing nearly 100% of its servers with VMware vSphere, CINgroup can manage a large and growing data warehousing environment with minimal staff and data center resources. Recently, the company migrated from a traditional SAN solution to VMware vSAN, reducing costs, improving scalability, and accelerating performance for customer-facing workloads.

BUSINESS BENEFITS
- Providing exceptional performance for customers with sub-millisecond storage response times
- Protecting 90% market share with reliable, cost-effective services
- Reduced storage CapEx by 70% and OpEx by 10%
- Directing more financial & employee resources to product development

CINgroup provides innovative software for attorneys practicing bankruptcy as well as educational resources and services such as credit counseling to help consumers navigate their financial future. The CINgroup family consists of the following leading brands in the legal bankruptcy market: Best Case® Bankruptcy, CINcompass®, and CIN Legal Data Services®. As its business transitions from desktop software to cloud-based services and the datasets for customers become larger, the company is preparing for unprecedented data growth. At the same time, it must keep performance high and costs down to protect its 90% bankruptcy market share.

Building on its success virtualizing servers with VMware vSphere, CINgroup decided to migrate from a traditional Fibre Channel SAN to VMware vSAN, a software-defined, hyper-converged storage solution. As a result, storage latency dropped from 5ms to less than 1ms, enabling the company to continue providing excellent performance even as its business grows. By reducing CapEx and OpEx, the company can direct more resources to product development, improving quality and increasing the pace of innovation.

The Challenge

CINgroup is the leader in bankruptcy software solutions for the U.S. market, helping attorneys provide essential services to clients, facilitate collaboration, increase productivity, and grow their practices. Today the company owns approximately 90% of its market, an enviable position it has earned through consistent innovation and an unrelenting focus on customer satisfaction.

The company was an early adopter of server virtualization, using VMware vSphere to virtualize nearly 100% of its data center environment. As a result, CINgroup has been able to react quickly to business demands while keeping its data center efficient and IT headcount low. "Without vSphere, we'd be pushing the limits of our on-premises data center and purchasing more co-lo space," says Bob Tester, Enterprise Architect, CINgroup. "Power and cooling costs would be through the roof, and we'd need at least ten more people to maintain day-to-day operations."

As the software industry has matured, CINgroup has expanded its products and services, offering both traditional "desktop software" as well as cloud-based bankruptcy forms preparation. "Like most software companies, the cloud is our future," says Tester. "As we deliver more features and functionality via the cloud, we will need to store a lot more data on behalf of our customers."

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BOB TESTER
ENTERPRISE ARCHITECT
CINGROUP

VMWARE FOOTPRINT
- VMware vSphere Enterprise 6.2
- VMware vSAN 6.2

APPLICATIONS VIRTUALIZED
- Microsoft SQL Server, Microsoft Exchange Server, Cisco Call Manager, data warehousing and web applications

PLATFORM
- HP Apollo 2000 System with ProLiant XL190r servers
- Cisco Nexus 40GbE network

The company faces data growth challenges in other areas as well: Bankruptcy requirements are becoming more complex and data-intensive. Data sources are becoming richer, and customer demand is increasing. In addition to storing and serving more data, CINgroup must keep the data always available to customers, which requires an active-active data center configuration. As data grew and equipment aged, CINgroup faced cost and performance pressures. Engineers spent considerable time reconfiguring workloads to optimize data warehousing performance.

"We were caught in the familiar lifecycle of a traditional SAN solution," says Tester. "Every three to four years, it would be cheaper to buy a new storage array than continue paying maintenance on the old equipment. Performance was also a concern—as the size of our Microsoft SQL Server databases increases beyond 3TB, we need to do more maintenance within smaller windows. Backups need to perform better. We needed a more cost-effective way to scale while maintaining throughput."

The Solution

CINgroup considered buying more spindles and connecting more Fibre Channel paths, but decided that was not a sustainable solution. It also considered using public cloud, but worried that costs would be unpredictable. "We suspected that keeping our data warehousing and other workloads in-house would be more cost effective with a hyper-converged solution," says Tester.

The company evaluated VMware vSAN, VMware's hyper-converged solution, along with competing products. "We conducted a proof of concept with another HCI appliance vendor's solution, and it did not perform well," says Tester. "Random I/O was terrible. We were pushing a lot of throughput, and the appliance just couldn't sustain it."

CINgroup preferred the vSAN architecture because of its native integration with the VMware hypervisor, which optimizes the I/O path and simply works with all existing VMware features and solutions. "VMware explained the benefits of vSAN in very clear terms: we get a higher level of performance because it doesn't impact our CPU and memory resources the way other vendors' solutions do," says Tester. "This was new technology to us, and I was trying to find a downside. I couldn't, and our interactions with the VMware team during the evaluation process were exceptional."

After determining that vSAN was the right match from a technology perspective, CINgroup found that it was a great fit financially as well. A cost analysis revealed that the company could purchase high-performance servers, upgrade its network to 40GbE, and replace its production SAN with vSAN under the same budget that was previously allocated to refresh its legacy SAN array. "With vSAN, the savings really lined up," says Tester. "We were able to introduce commodity flash drives into a hybrid cluster at 90% less cost than using proprietary flash drives from our previous SAN vendor."

CINgroup deployed two hybrid vSAN storage clusters (4 nodes and 6 nodes respectively) with 90TB of capacity supporting more than 200 virtual machines. "vSAN was easy to set up, and our transition was very smooth," says Tester.

Business Results & Benefits

Previously, with the traditional SAN, CINgroup was able to achieve average storage latency around 5ms—just low enough for most users to have a good experience. With vSAN, storage latency is always under 1ms, giving the company needed headroom for growing workloads and datasets without worrying about performance and responsiveness.

"We got a major performance boost with vSAN—even better than we expected," says Tester. "Storage was a big bottleneck before, and now that problem is eliminated. With the ability to apply storage policies in vSAN on a per-VM basis, we'll be able to maintain that performance as we grow without investing valuable engineering time."

With fast, scalable storage, CINgroup can continue providing exceptional performance for its ever-increasing customer base even as it offers more cloud-based functionality. Developers have more freedom to innovate and introduce new functionality into the company's products, knowing that databases will respond quickly. As storage is requested, it can be thin provisioned, allowing the company to improve utilization of capacity as it is actually needed and thus realize TCO savings.

CINgroup has significantly reduced total cost of ownership with vSAN, cutting storage CapEx by 70% and OpEx by 10%. "The equipment that we were able to retire due to vSAN gave us a 30% savings on our monthly power bill," says Tester. "And we no longer need to manually optimize storage, reclaiming the equivalent of two full-time employees that can now be dedicated to solving business problems instead of technical issues."

By reducing storage and management costs, CINgroup is directing more financial and employee resources to product development, improving quality and accelerating innovation to protect its valuable market share.

"The biggest reasons to recommend VMware vSAN are the cost savings, the performance increase, and the agility and scalability that you don't get with a traditional SAN solution," says Tester. "With vSAN, we can maintain great performance for our customers at a predictable cost—less than one-third of what it would cost us to host our data centers in the public cloud."

Looking Ahead

CINgroup is already planning to add a third vSAN cluster to support additional production workloads, helping the company accelerate its transformation into a cloud service provider. "For many years, VMware has earned our trust by giving us solutions and advice that help us stay ahead of the competition and increase the pace of business," says Tester. "For us, vSphere and vSAN are a very effective combination."

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