# Cloudmark Uses Unified Nimbus Data All-flash Array and Brocade Infrastructure, Expects Half Million Dollars in Annual Cost Savings

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Virtualize six (6) more racks of high performance applications and Cloudmark could close a data center and save a half million dollars annually. To do so, it turned to Nimbus Data and Brocade to create a high performance, converged storage network infrastructure. Together they delivered to Cloudmark the sought after half million dollar prize plus much more.

## COMPANY

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## CHALLENGES

- HDD-based storage arrays cost too much
- HDD-based storage arrays took up too much floor space
- HDD-based storage arrays consumed too much power
- HDD-based storage arrays provided insufficient performance
- High performance storage solutions required end-to-end FC SAN

## SOLUTION

- Nimbus Data Gemini All-flash Storage Array and Brocade VDX 6730 Switch

## BENEFITS

- Data center consolidation that is expected to save $500,000 annually
- Leverage converged storage networking to eliminate the need for a FC SAN
- Provide extreme performance (up to 2 million IOPS) to support future growth
- Virtualize all high performance applications to maximize utilization

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## OVERVIEW

The big prize for Ryan White, Cloudmark's VP of Operations, was right in front of him. Virtualize six racks of Cloudmark's highest performing applications and he could close a data center and realize $500,000 in annual savings. The compelling reduction in total cost of ownership (TCO) convinced Cloudmark's executive team to give him the green light. To deliver on this promise, White turned to Nimbus Data and Brocade to provide the cost-effective, high performance solution that Cloudmark needed while eliminating Cloudmark's need for a FC SAN.

## CLOUDMARK PROFILE

Cloudmark builds messaging security software that protects communications service provider networks and their subscribers against the widest range of messaging threats. Cloudmark Security Platform™ delivers instant security and control across diverse messaging environments, enabling communications service providers to create a safe user experience, protect revenue and safeguard their brand, while streamlining infrastructure and reducing operational costs.

## The Final Mile in Virtualization Comes with a Forecast Half Million Dollar Prize

Cloudmark's VP of Operations, Ryan White, early on saw the benefits of server virtualization. This vision had driven him over the course of six years to virtualize hundreds of Cloudmark's physical servers to the point where about 75 percent of them were currently virtualized.

Now the big prize was right in front of him. Virtualize a few more racks of servers in its San Francisco

data center and Cloudmark could close it, consolidate its remaining servers and annually save a half million dollars in operating costs.

Yet going this final mile and virtualizing the remaining 25 percent of its application servers was by far the most difficult part of the journey. Each application server currently had its own dedicated storage to satisfy its specific high performance demands. Virtualizing these servers and consolidating their data onto a single storage array necessitated that the array scale to meet the collective capacity needs of these virtualized servers and deliver the tens of thousands of IOPs that their applications would generate.

> *"We rigorously benchmarked this Nimbus Data-Brocade configuration before we put it into service. Nimbus Data came out on top because of performance, rack space savings and ROI to be achieved. During testing, we achieved 250,000 IOPS per 8Gb FC port which would easily meet the IOPS that our existing physical systems would generate once they were consolidated and virtualized."*
>
> — Ryan White, VP of Operations, Cloudmark

## Nimbus Data Gemini All-flash Array Excels at Performance

White first looked at traditional hard disk drive (HDD) storage systems from providers such as EMC and NetApp and quickly determined they did not fit the bill. Their large storage system models cost too much, took up too much floor space, and consumed too much power. Their smaller models did not provide enough performance to meet Cloudmark's anticipated I/O requirements.

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This prompted White to turn his attention to the new generation of flash memory storage arrays. These systems offered lower price points, fit into existing data center racks, consumed a fraction of the power and, most importantly, provided the performance Cloudmark needed.

To select the right one, he brought in models from Nimbus Data, Tegile, and WhipTail (now Cisco), and ran head-to-head comparisons against them. White says, *"Nimbus Data ended up coming out on top because of performance, rack space savings and ROI to be achieved. During testing we achieved 250,000 IOPS per 8Gb FC port which would easily meet the IOPS that our existing physical systems generated."*

## Cloudmark Finds More Savings in the Network

As White prepared to introduce Nimbus Data into Cloudmark's infrastructure, he recognized that he had the opportunity to achieve even further cost savings. Cloudmark hosted VMware vSphere 5.1 on HP ProLiant DL360 Gen8 servers that each included two Emulex Converged Network Adapters (CNAs). Using these two CNA adapters and their 10Gb Ethernet connectivity, Cloudmark could connect its servers to a converged Brocade VDX 6730 Switch using Ethernet. The Brocade VDX 6730 could then connect to either Fibre Channel (FC) SAN or Ethernet attached storage arrays.

On the surface, this sounded great to White. Using Ethernet instead of FC would eliminate the need for Cloudmark to acquire more hardware and rack space while also reducing its power consumption, capital investment and management requirements. These benefits aligned perfectly with Cloudmark's cost saving initiatives.

However before moving forward with this FCoE solution, White had to determine if this configuration of 10Gb Ethernet-attached CNAs, two Brocade VDX 6730s and an 8Gb FC-attached Nimbus Data Gemini all-flash array could deliver sufficient performance to meet Cloudmark's needs. White says, *"We rigorously benchmarked this configuration before we put it into service. Not only was the converged infrastructure able to support the IOPS that we needed but the FCoE solution seamlessly integrated into our environment and worked right out of the box."*

## Cloudmark Gets Its Half Million Prize plus Much More

Cloudmark initially moved to the Nimbus Data Gemini all-flash storage array to get the performance it offered and the half million dollar prize that will come with closing its San Francisco data center. Now Cloudmark is discovering that the array's performance is just where its benefits start.

By using a converged infrastructure based on the Nimbus Data Gemini all-flash array and Brocade VDX 6730, White also eliminated many of Cloudmark's networking costs. Going forward, he fully expects to lower other operational costs. White remarks, *"I am chomping at the bit to have more time to fully leverage all of Nimbus Data's other features so I can continue to drive down costs in my infrastructure."* ■