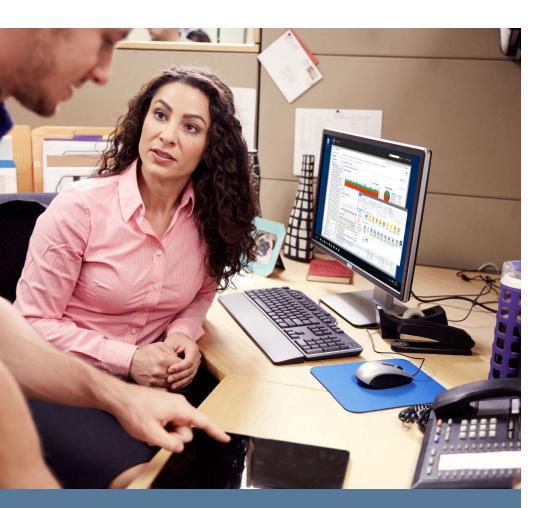# Tech company expects to save $1.4 million by optimizing VMs

Dell right-sizes its environments, prevents performance issues and reduces potential OpEx and CapEx with Quest's advanced virtualization management solution.

BUSINESS NEED

To manage and optimize 22,000 VMs across 16 virtual centers, Dell needed automated resource monitoring and reclamation, as well as effective VDI management.

SOLUTION

Using Foglight for Virtualization, the small team has reclaimed wasted storage and CPUs, saving $450,000 in the first year. Right-sizing of additional environments is expected to generate additional savings of $1.4 million by the end of 2017.

BENEFITS

- Enabled a small team to effectively manage 22,000 VMs across 16 virtual centers
- Saved $450,000 in the first year by enabling IT to reclaim wasted storage and CPUs and discover abandoned VMs
- Expected to deliver additional savings of $1.4 million within the next two years by right-sizing additional environments
- Reduced OpEx and supported business growth with automation and capacity management

SOLUTIONS AT A GLANCE

- Virtualization management

"Foglight for Virtualization has delivered savings of more than $450,000 in the first year alone."

Purnima Rajagopalan
systems engineering senior advisor, Dell, Inc.

Dell's infrastructure engineering and operations (IEO) team is responsible for managing Dell IT's VMs — all 22,000 of them. These VMs are distributed across 16 virtual centers and nearly 1,200 ESX hosts. Most are on Windows, but some are on Linux. In short, it's a very large and complex virtualized environment.

RESOURCE RECLAMATION AND RIGHTSIZING DELIVERS FIRST-YEAR SAVINGS OF $450,000

Managing such a large environment with a small staff requires the right tools. For Dell's IEO team, the solution of choice is Quest's Foglight for Virtualization. This enables the IEO team to effectively manage all 22,000 virtual machines (VMs) and the virtual desktop infrastructure (VDI) supporting the business while saving the company $450,000 in the first year alone. And the team expects an additional potential savings of $1.4 million by the end of 2017.

Purnima Rajagopalan is the virtualization engineer on the IEO team who is responsible for deploying Foglight for Virtualization within Dell. "Anytime anybody needs a VM, they come to us," she explains. "We stand up new VMs that the various teams need to run their applications and make sure they are all up-to-date and running smoothly. In addition, we also manage the VDI."

"With Foglight for Virtualization," says Rajagopalan, "we can make sure that everything is stable and that we have enough capacity to handle the new projects and applications that are constantly coming in through the door. Moreover, by optimizing and reclaiming the unused and under-utilized resources, there is a potential to reduce operational expenditures (OpEx) and capital expenditures (CapEx)."

The team is following a careful, deliberate strategy, proceeding segment by segment to reclaim resources from orphaned VMs and to right-size VMs. "Using Foglight's storage reclamation feature, we have been able to reclaim 40 terabytes of storage — at $4.38/gigabyte, that feature alone has saved us $175,200," notes Rajagopalan. "We were able to reclaim another 40 terabytes of storage using the abandoned VM images feature for another $175,200 in savings. And we have also reclaimed 350 CPUs for an additional savings of $101,178 ($289.08/gigahertz). Adding those up, Foglight for Virtualization has delivered savings of more than $450,000 in the first year alone."

POTENTIAL SAVINGS OF $1.4 MILLION EXPECTED BY THE END OF 2017

In the next year, the IEO team will complete its first pass through the non-production environment and turn its attention to right-sizing all of the production VMs. "We are targeting an additional 130 terabytes of storage and 300 CPUs from non-production for a projected savings of $656,124," Rajagopalan says. "Next, we will proceed to production — very carefully, of course, so it may take some time. We are targeting 100 terabytes of storage and at least 1,200 CPUs for a potential savings of $768,896. Altogether, that's more than $1.4 million in additional savings over the next two years."

PRODUCTS & SERVICES

SOFTWARE

Foglight for Virtualization, Enterprise Edition

Quest

Once the initial right-sizing is complete, the team will continue to use Foglight for Virtualization for regular reclamation, likely on a monthly basis, to ensure continued optimal use of resources and associated savings.

AUTOMATION AND CLEAR REPORTING POTENTIALLY REDUCE OPEX

Foglight for Virtualization automates the discovery of wasted resources and provides clear reports on both current and historical resource allocation and usage. This automation enables the IEO team to keep the right-sizing project moving forward while efficiently handling the day-to-day management of the virtualized environment.

"Foglight for Virtualization's optimizer discovers and reports on storage, CPU, abandoned VM images, zombie VMs and more," says Rajagopalan. "We can schedule the reclamations when we want, and it sends us an email to report job completion — automating what would otherwise be a long manual process. We can also easily create summary reports for management on what exactly we have been able to reclaim."

EFFECTIVE CAPACITY MANAGEMENT ENSURES RESOURCES ARE AVAILABLE WHEN THEY'RE NEEDED

With Foglight for Virtualization's powerful capacity management capabilities, the IEO team also has visibility into projected resource utilization, enabling them to ensure they can fulfill future requests from the business. "The capacity management feature has a nice dashboard that enables us to set a percent reserve for the VM environment," explains Rajagopalan. "We can see at a glance whether capacity is running low and proactively budget for additional storage or CPU to ensure uninterrupted service."

DEEP VISIBILITY INTO THE VDI ENVIRONMENT

Foglight for Virtualization has enabled the IEO team to deliver powerful monitoring, diagnostics and reporting capabilities that provide critical visibility into the entire VDI, as well as the user experience. "Foglight gives us insight into the overall VDI environment," Rajagopalan says. "We can determine whether and where we need to add additional capacity to ensure optimal performance."

These additional capabilities have enabled the IEO team to gain deep, end-to-end visibility across their entire virtual infrastructure, as well as insight into storage utilization, applications running on the data center and database performance that are not typically visible without a solution like Foglight.

MORE BENEFITS YET UNTAPPED

Although Foglight for Virtualization has already delivered significant value, the IEO team is eager to explore the features they have yet to fully tap. Chief among them is Change Analyzer. Change Analyzer captures and reports on changes to VMs, hosts, clusters, data stores and resource pools, and helps you understand the potential impact of those changes on performance and availability. It also automatically alerts you when changes cause a VM's configuration to drift from the standard you have established.

"In the future, we will be able to use Change Analyzer to create impact analysis reports to the projected impact of a change before the change is made, so we can proactively prevent performance issues. This will help us diagnose and resolve issues by analyzing how a VM has changed and rolling back problematic change events," notes Rajagopalan.

ABOUT QUEST

Quest helps our customers reduce tedious administration tasks so they can focus on the innovation necessary for their businesses to grow. Quest® solutions are scalable, affordable and simple-to-use, and they deliver unmatched efficiency and productivity. Combined with Quest's invitation to the global community to be a part of its innovation, as well as our firm commitment to ensuring customer satisfaction, Quest will continue to accelerate the delivery of the most comprehensive solutions for Azure cloud management, SaaS, security, workforce mobility and data-driven insight.

View more case studies at Quest.com/Customer-Stories

Quest