

VKernel Case Study: Thermo Fisher Scientific



Industry

Manufacturing

Challenge

Empower a small IT staff to manage a large infrastructure that continues to grow through ongoing data center consolidation, physical-to-virtual (P2V) migration and service scale-up

Solution

VKernel's Capacity Analyzer quickly found capacity bottlenecks in the environment.

VKernel's Optimization Pack allowed for "right-sizing" of VMs so that the data center could appropriately use resources.

VKernel Inventory drastically reduced time and overhead of managing the virtual infrastructure.

Results

- Quickly solved a perplexing performance problem during trial of Capacity Analyzer
- Achieved performance gains comparable to that expected from a planned upgrade to vSphere 4.1
- Reclaimed a substantial amount of costly SAN capacity using the Optimization Pack
- Eliminated a labor-intensive manual spreadsheet tracking system by using the Inventory application
- Averted a potential crisis during the fiscal year-end close by "rightsizing" the application

"VKernel has the only solution that offers both the scalability and simplicity we need to enable our small IT staff to manage the company's growing virtualized server and storage environment"

– Bill Smith, *Senior Systems Engineer*, Thermo Fisher Scientific

Thermo Fisher Scientific

Thermo Fisher Scientific Inc. (www.thermofisher.com NYSE: TMO) is the worldwide leader in instrumentation for scientific research. Its products and services help accelerate the pace of scientific discovery, and solve analytical challenges ranging from routine testing and field applications to complex laboratory research.

Mergers and acquisitions have played a considerable role in growing the company to 35,000 employees and over \$10 billion in annual revenue. According to Bill Smith, Senior Systems Engineer for Thermo Fisher, "For our small IT department, consolidating the computer networking resources of the many separate organizations is a constant challenge."

The Need: Enhance Staff Productivity

In addition to consolidating the multiple data centers into Thermo Fisher's primary one in Pennsylvania, Smith and his three associates are tasked with managing daily operations (including all Help Tickets), completing the physical-to-virtual (P2V) migration and upgrading the VMware system to vSphere 4.1.

"Most of the capacity analysis solutions we evaluated required an extensive learning curve, which would have placed an even greater burden on our already overloaded staff. So we decided to conduct a trial of the VKernel capacity management system based on its simple installation and intuitive operation," Smith recalled.

Easy to Use and Set Up

The trial quickly proved the VKernel Capacity Analyzer's value by solving a perplexing performance problem in a particularly resource-intensive application. "All previous attempts had been unsuccessful, and this immediate success convinced us to license the other applications in the VKernel suite," Smith noted.

Now all four IT staff members are using the VKernel applications to gain actionable insight into the utilization and performance of both the virtual machine and storage area network (SAN) infrastructures. "Everyone really likes just how easy it is to navigate the user interface, and drill down to find precisely the information needed to fix a problem or fine-tune performance," Smith added.

Highly Scalable

Thermo Fisher currently operates some 1400 physical and virtual servers in its central data center, and Smith is confident the VKernel solution will be able to accommodate the growth he expects with the ongoing consolidation, continuing P2V

migration and vSphere upgrade projects, all of which will increase the number of VMs.

Smith soon began using the VKernel console to get a real-time, at-a-glance overview of his entire environment, and now depends on it for setting staff priorities. “When managing a large-scale environment with scarce resources, it’s critical to be focusing constantly on the most important issues,” Smith observes.

Optimized Resource Utilization

Reports from the VKernel Optimization Pack are consulted daily for any changes being recommended to improve performance. Smith has found these recommendations to be quite accurate, but still appreciates being able to immediately validate the impact of any changes made to the environment using the Capacity Analyzer.

“The VKernel Capacity Management Suite has really improved our productivity; it’s almost like having another engineer on staff”

Some of the recommended changes improved application performance so significantly that Smith was able to achieve most of the gains anticipated from the vSphere upgrade, which could then proceed on a more convenient schedule. The reduction in Help Tickets and the ability to solve each more quickly have also freed up staff time to take on large projects like the upgrade.

In addition, Smith was able to reclaim a substantial amount of costly SAN capacity by following the recommendations for storage optimization. “This is just another one of the ways the VKernel solution is paying for itself,” Smith claims.

Dramatic Productivity Improvement

Smith and his team now keep the VKernel console open all day to regularly check the environment’s status. And the combination of daily reports and regular status checks continues to pay off for Thermo Fisher. One example is averting a potential crisis by rightsizing the number of CPUs in a critical application needed to close out the accounting system at the end of the fiscal year. “Reducing the number of CPUs for the application seemed counter-intuitive, but it turned out to be the right solution,” Smith noted.

Another example is the VKernel Inventory application, which eliminated the labor-intensive manual spreadsheets the team had been using before to support the vSphere upgrade. Smith concludes: “By helping us focus on the important issues, the VKernel Capacity Management Suite has really improved our productivity; it’s almost like having another engineer on staff.”



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