

# VKernel Case Study: Smead Manufacturing



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– Klaas Snater, Sr. Technical Analyst, Smead Manufacturing

## Industry

Paper Products Manufacturer

## Challenge

- Understanding and seeing available capacity to fully utilize the existing Hyper-V virtual infrastructure
- Gain the deep visibility into VM resources needed for planning capacity to meet future needs

## Solution

VKernel vOperations Suite

## Results

- Achieved immediate results by gaining full visibility into VM capacity
- Quickly found and fixed existing memory ballooning problems and other VM resource allocation issues
- Optimized the entire virtual environment by better matching available capacity to specific application needs
- Can now accurately assess available capacity and proactively plan for expansion

## Smead Manufacturing Company

The Smead Manufacturing Company ([www.smead.com](http://www.smead.com)) is a manufacturer and distributor of office filing products and records management systems for use in the home or at work. Its extensive offering, with over 1500 separate products, is sold through office products dealers and authorized resellers. The company also manufactures specialty products for vertical markets. Smead was established in 1906 in Hastings, Minnesota and remains a privately held company, currently certified as a Women’s Business Enterprise (WBE). Another significant change since its founding is a full line of environmentally-friendly products made from Sustainable Forestry Initiative (SFI)-certified materials.

## The Need: Proactive Capacity Planning and Management

Smead has been a long-time user of information technology and was an early adopter of Microsoft Windows Server Hyper-V virtualization in 2005. Like many organizations, the company’s data center was becoming crowded, and the growing number of servers threatened to exhaust available power and cooling. Consolidating the servers helped, but more was needed.

“We’re a Microsoft shop, so Hyper-V was the natural choice for virtualizing our environment,” explains Klaas Snater, Sr. Technical Analyst at Smead. “We’ve been very satisfied with Hyper-V and how it enabled us to meet our growing needs without expanding the data center. In fact, our virtualized environment had grown so large, that we were in need of a more sophisticated capacity management and planning tool.”

Smead’s servers are currently 85% virtualized. While Snater was pleased with Hyper-V and Microsoft System Center Virtual Machine Manager (SCVMM), and his virtualized environment was running well, he found that the lack of visibility into capacity at both the individual server and data center levels had begun to cause some problems. “We were unable to assess actual resource utilization accurately and that made it difficult for us to forecast our future needs,” Snater recalls. “In a way, our servers had become ‘black boxes’ with the lack of visibility. That’s when we began looking for some additional management capabilities.”

## Shedding Light on the “Black Boxes”

Snater and his colleagues evaluated several capacity management and planning tools before conducting a trial of vOperations Suite (vOPS) from VKernel. “We had the suite up and running in less than an hour, and it was very revealing. So we knew immediately it was the right solution for our Hyper-V environment,” says Snater.

The vOPS trial revealed some existing issues with resource allocations. As with most

virtualized configurations, Snater discovered some resources were over-provisioned and, therefore, were being underutilized. But he also discovered some bottlenecks, particularly with memory allocations that were causing ballooning to occur at times. "With the lack of visibility deep into the VM resources, we really had no way of knowing we even had these problems. With just a few minor changes, though, we were able to improve performance significantly on these systems," Snater claims.

Snater now uses vOPS Capacity Manager as his primary tool for managing and planning capacity: "vOPS gives us all the information we need in one place, and it correlates the data in a way that makes it particularly useful. This alone has saved each of us at least two to three hours a week that we used to spend on manual procedures." Manual processes were previously needed for both capacity management and troubleshooting. "With the increased visibility we have with vOPS, most issues can now be resolved in minutes instead of hours," Snater adds.

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Snater and his colleagues have created some customized reports that are emailed daily, enabling them to be more proactive in managing the entire virtualized infrastructure. These reports not only spotlight potential problem areas, they also provide an up-to-date and accurate assessment of how much capacity is available on each host, and how to better optimize the allocation of available resources. Such in-depth awareness is also fundamental to knowing well in advance how much additional server capacity will be needed to accommodate new applications and growth for the existing ones.

#### **Great Solution... And Getting Better**

Snater has been very pleased with what Smead has been able to achieve with vOPS, and is planning an upgrade to vOPS version 4. "vOPS has been a great tool for managing and planning capacity in our Hyper-V environment, and we're looking forward to the enhanced infrastructure-wide visibility we'll get with version 4's new features," says Snater. "As our Hyper-V environment continues to grow, assessing capacity for the entire data center has become increasingly more challenging. vOPS version 4 will allow us to see all of the necessary information on a single screen, enabling us to be more proactive and quickly resolve any issues we find."

In addition to the enhanced infrastructure-wide visibility of total capacity, Snater is looking forward to two other new capabilities: customizing the dashboard for different users and needs; and setting aside capacity by reserving VM slots for known new applications. The new vSCOPE visualization engine will enable Snater and his colleagues to view performance, capacity and cost for all VMs on a single screen. Such a holistic view, with the ability to drill down deeply into the details, will greatly assist with optimizing resource utilization.



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