VKernel Case Study: HOVENSA

HOVENSA
PEOPLE FUELING A BRIGHTER FUTURE

Industry: Petroleum Products

Challenge
With VMware, it became so easy for HOVENSA to deploy new servers that the company needed to be cognizant of VM sprawl to make sure that resources are continually allocated properly.

Solution
Using the VKernel Capacity Bottleneck Analyzer, HOVENSA is able to continuously monitor shared CPU, memory, and storage usage to properly allocate the required resources among all of its deployed virtual machines.

VKernel at Work
The VKernel Capacity Bottleneck Analyzer continuously monitors CPU, memory, and storage utilization trends in VMware ESX environments across hosts, clusters, and resource pools to identify and eliminate current and future capacity bottlenecks. It also provides detailed capacity information to properly plan for the addition of new virtual machines.

Deployment Environment
- VKernel Capacity Bottleneck Analyzer Virtual Appliance
- VMware ESX Server 3.5 on HP ProLiant DL385 servers
- Guest operating systems: Windows Server and virtual appliances
- Applications: SQL databases, proprietary applications including modeling, projections, financial planning, engineering process and planning

"VKernel's Capacity Bottleneck Analyzer provides me with a high-level view of our VMware environment unlike any product that we looked at. Its ongoing monitoring and trending data enables us to make intelligent decisions, so that we are able to avoid costly downtime events that can result from a lack of resources."

Chris Patton, System Consultant, HOVENSA

HOVENSA
A joint venture between subsidaries of Hess Corporation and Petroleos de Venezuela, S.A. (PDVSA), HOVENSA operates a world-class refinery on the Caribbean island of St. Croix in the United States Virgin Islands. This refinery is one of the ten largest in the world and one of the most modern in the United States with a crude oil processing capacity of 500,000 barrels per day (BPD). HOVENSA operates its facilities on 2,000 acres of land on the south shore of St. Croix and employs a culturally diverse community with approximately 2,500 direct and contract employees from countries circling the globe.

HOVENSA's transition from a physical server environment to a VMware virtual infrastructure ended up being so successful that Chris Patton, systems consultant, suddenly needed a solution to monitor shared resource utilization. By reducing its server environment to four hosts running 49 virtual machines, the company saved a significant amount of money. However, the VMware deployment worked so well and it was so easy to add new virtual machines (from two weeks of provisioning to just minutes) that HOVENSA started to experience VM sprawl and now had an immediate need to keep ahead of resource allocation.

With this need, Patton employed the VKernel Capacity Bottleneck Analyzer virtual appliance to continually monitor shared resource (CPU, memory, and storage) consumption and ensure proper resource allocation. "By clustering our hosts, we were able to take advantage of resource sharing and of particular interest to us, memory sharing, said Patton. "To ensure that we do not run out of memory, we needed a way to easily digest the mass of information from VMware's VirtualCenter and that's exactly what VKernel does for us."

Simple and easy to use, Capacity Bottleneck Analyzer continually monitors HOVENSA's shared resources and delivers critical trending data. In a single dashboard view, Patton now sees exactly what is going on in HOVENSA's VMware environment. "VKernel provides the high-level viewpoint I need to constantly confirm the type of things we were expecting and enables us to make more intelligent planning decisions," added Patton.

With all of things Capacity Bottleneck Analyzer does for HOVENSA coupled with the product's low price-point, Patton made the right product choice for proactively monitoring the company's VMware infrastructure. "In addition to its extensive monitoring capabilities, I really like the product's Capacity Availability Map that shows the top five places in my environment with available capacity as now I know where I can quickly add new virtual machines without effecting performance," stated Patton.

Results
- Gained immediate visibility into capacity utilization trends throughout its VMware environment for proper planning and resource allocation
- Making better decisions and constantly improving the performance of its VMware ESX servers by having actual resource (CPU, memory, and storage) utilization data
- Taking a more proactive approach to monitoring shared resource consumption to eliminate service degradation and ensure optimal performance levels

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