

Liquidware Labs Provides VDI Performance Troubleshooting to Largest Utility Company in the Northeastern United States

The Situation

The Northeastern United State's largest utility company serves more than two million electricity and natural gas customers. The company recently started a VDI pilot which initially went well. However, as testing continued and the pilot was expanded, the company ran into performance issues. Users began to complain of sluggish screens and intermittent system problems. The IT staff found it difficult to correlate the help desk calls with the actual performance issues in real-time. For example, by the time the call was made, the issue had usually subsided and without useable data, it was difficult for the help desk team to take action and find the root cause.

From an organizational perspective, the company had to make a choice: to either go forward, which was untenable due to performance issues, or scrap the pilot and consequently take a loss on the time and materials invested. After meetings between the various technical teams evolved, and a review of storage, server, and VM metrics was considered, the company decided to bring in GreenPages Technology Solutions to evaluate their environment.

The Solution

The utility company chose GreenPages because of the company's engineering expertise as well as their distinction of being VMware's Desktop Virtualization Partner of the Year. In turn, GreenPages chose Liquidware Labs Stratusphere because of its distinctions from a standard capacity planning tool — specifically the application and user experience focus, including network latency, graphics intensity, identification of non-responsive applications, view into the storage I/O, hypervisor host correlation metrics, historical monitoring, and deep reporting capabilities. Liquidware Labs is also the only solution able to provide a VM by VM user experience rating (Stratusphere UX™) and aggregate data across a cluster for a holistic view. GreenPages found no other tool or solution on the market able to provide accurate metrics and detailed reports of network, user, and application overview across an entire virtual and physical desktop infrastructure.

Once GreenPages rolled-out Stratusphere and analyzed the collected data, it was discovered that applications were introduced that created additional CPU utilization and increased memory usage. The increased memory usage resulted in increased paging and page faults causing unnecessary storage IOPS (I/O per second). Stratusphere showed that not only was the image producing high disk utilization via the number of IOPS, but the memory and page file adjustments were also out of line which further added to the problem. Once the nature of the performance was understood, the team focused on the issue with the storage configuration. The Stratusphere reports provided key details into the IO profile of each application and virtual machine and summarized the data for the entire VDI environment that allowed for storage optimization to take place.

The Benefits

Using the Liquidware Labs Stratusphere solution, GreenPages and the customer's IT team, was able to improve the way the virtual desktop performed, by making changes to the virtual desktop operating

system image, achieving double the density, as well as improving the underlying storage array's performance. Specifically, they were able to reduce a virtual desktop averaging 6.5 I/Os per second per VM down to 2.5 I/Os per second. In addition, the CPU cycles were lowered by 20 percent overall. Key storage array configurations based off of analyzed user behavior and application usage patterns further improved overall performance. Stratusphere was integral in dramatically improving user experience for the desktop environment and the customer's VDI pilot was saved from failure because the solution proved that it was possible to make the company's total cost of ownership formula work for their VMware VDI project.

Next Steps

Liquidware Labs will be an integrated part of the utility company's ongoing monitoring solution of their VDI environment to maintain positive user performance and to ensure that quality desktop service-levels are being met.

About Liquidware Labs

Liquidware Labs™ (LWL) is the leader in Assessment and User Experience Management for next generation desktops including VMware View, Citrix XenDesktop, and Microsoft Windows 7. The company's Stratusphere™ and ProfileUnity™ solutions have been described by analysts as the industry's first "On-Ramp to VDI" by providing complete methodology and software that enable organizations to cost-effectively plan, migrate, and manage their next generation desktop infrastructure with best practices in mind. LWL's comprehensive solutions provide Assessment, Personalization Management, User Configuration, and Service Level Assurance. LWL products are VMware and Citrix certified, and are available through a global network of certified partners. Visit www.LiquidwareLabs.com for further information.

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