

TERACAI improves desktop performance, reduces support, and has the numbers to prove it

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*- Zach Fortna, project lead
Manager, Information Technology*

Company:
TERACAI Corporation,
a reseller focused on
virtualization and data center
solutions

Desktop Users:
200 current, scaling to 300

Product:
Stratusphere™ UX

OVERVIEW

Headquartered in North Syracuse, New York, TERACAI Corporation, a reseller focused on virtualization and data center solutions and a Liquidware Labs partner, deliberately chose to postpone updating its desktops. Like many other organizations today, the company had standardized on Windows XP and decided to stay with the platform until they had a compelling reason to go through the disruption of a mass migration. That compelling reason came with Microsoft's decision to phase out Windows XP by 2014, combined with the fact that TERACAI's in-house professional services (PS) group had developed serious expertise with the VMware platform and virtual desktops. The PS group also developed deep expertise in Liquidware Labs Desktop Transformation Suite, including Stratusphere FIT for assessment and design, ProfileUnity for desktop migrations and user virtualization and Stratusphere UX for desktop performance visibility and optimization. TERACAI's PS group supported many customers through desktop virtualization projects, and were ready to help their own desktop team tackle their organization.

The company recognized that it could make a quantum leap forward leveraging its own services team's expertise and by adopting VDI internally. TERACAI could then realize the same benefits for its organization that they had achieved and seen again and again for its customers. Confident they had the right people, tools and knowledge in-house to do the job, TERACAI executives made a decision to migrate the servers and desktops wholesale to the VMware platform to create a flexible, cost-effective and much more manageable foundation to serve it for years to come. In the process, the company used Liquidware Labs Solutions to change its approach to support and maintain their desktops.

The Challenge

Desktop virtualization was the centerpiece of TERACAI's master plan to create a highly modern, efficient and cost-effective infrastructure. After completing a server consolidation project, the IT team focused on the desktop project. They began slowly, virtualizing five to 10 desktops a week. Today, persistent virtual desktops now support 200 users. Plans are eventually to virtualize 100 percent of its approximately 300 desktops.

TERACAI began with what Manager of Information Technology and project lead Zach Fortna refers to as the "low-hanging fruit" – a large group of users who could share one basic desktop image. Users are assigned persistent desktops with Windows XP, and a basic set of applications including Microsoft Office, Firefox, and Sophos antivirus software. As they scaled the environment, project leaders needed to document to the CIO that desktop virtualization was, indeed, performing as intended and producing the benefits they expected.

"Once we got to about 100 or 150 users, we realized we were really lacking a way to see what was going on inside our VMs," said Fortna. "VMware® vCenter gives you very little information about what's happening within individual VMs. We had no metrics to validate that, for example, we were getting X percent more performance than we had gotten with physical desktops. We really needed to deploy a solution to get us relevant 'inside-the-guest' metrics."

The Solution

TERACAI installed Stratusphere UX from Liquidware Labs in order to report on the progress of its desktop virtualization project. The solution supports visibility, diagnosis and optimization of virtual desktops. Stratusphere UX collects data at the desktop, network, server, storage and hypervisor levels across multiple virtual and physical platforms. It provides information about performance, identifies dependencies and root

causes of performance issues, and provides packet-level visibility into networks. Some of the data and metrics that Stratusphere UX provides include:

- User Logon Time in Seconds
- Application Launch Time in Seconds
- Application Server Response Time (ART)
- Application Not Responding Information
- Application Usage Tracking / Installed vs. Consumed
- Network Latency / Round Trip Time (NRT)
- Network Connection Failures
- Network Connection Tracking by Port, User and Device to Device
- Disk IOPS per Application
- Disk and CPU Queues
- Visibility into TCP and UDP traffic streams and patterns
- Overall VDI UX composite metrics and score

The significance of these metrics are that they are important indicators of how applications are performing inside VMs as well as the impact of changes on systems resources, including CPU, storage and network. In addition, Stratusphere UX provides "inspector" dashboard windows, so administrators can see system performance "at-a-glance." Equally important, Stratusphere UX gives administrators the ability to act on the information provided to ensure that the infrastructure continues to run reliably and efficiently.

"Stratusphere UX makes it very easy for us to identify potential problems. If there is slow performance, we'll see it on the dashboard. It also gives us the ability to dive in, identify and resolve problems," said Fortna, who also uses Stratusphere UX to set alerts for when certain thresholds are reached. "We've been able to make a lot of adjustments to keep things from ever becoming a problem."

The Benefits

"Our virtual desktops are running significantly better than we expected going into the project. We've literally blown expectations out of the water," said Fortna. Leveraging a VDI implementation allowed TERACAI to replace their older PCs with brand-new zero client devices that significantly boosted performance for their users. "Before, some users took as long as 10 minutes to log into their PCs. Now it seldom takes anyone more than 15 seconds," said Fortna, who added that the VDI support team can easily collect the data to document these and other improvements to the CIO.

Because of the improved desktop performance, TERACAI has been able to delay migration to Windows 7, and wring more return out of its investments in the Windows XP operating system and applications. Even better, according to Fortna, virtualizing now has set the stage for an easier upgrade to Windows 7, and they plan to leverage Liquidware Lab's ProfileUnity to migrate their users to the new OS.

The VDI has expanded to 200 users and TERACAI is planning to transition its final 100 to virtual desktops. As the virtual desktop environment has grown, the company was able to redeploy half of its desktop help desk staff to other functions, an unexpected but very welcome benefit and boost to IT productivity.

"It has just become so much easier to track down problems," Fortna said. "With Stratusphere UX we can spot and solve a problem and deploy the fix to 200 users in a night, when before that would have been a multi-week process. As a result, we have not had any serious downtime either with the system or any individual desktop."

The Future

TERACAI expects to expand its use of virtual desktops, and of Liquidware Labs products. The company plans to use Liquidware's ProfileUnity user virtualization software when it makes its enterprise-wide upgrade from Windows XP to Windows 7. Instead of installing Windows 7 on every desktop, TERACAI will create a virtual image of a Windows 7 desktop and deploy it to all users. Fortna trialed the ProfileUnity download on Liquidware Labs' website and clocked the process at seven seconds.

"With ProfileUnity we anticipate that we will basically be able to complete the upgrade over a weekend, which is unheard of in a physical environment," he said.

And when the company's "power users" who run more applications and want more administrative permissions are converted to virtual desktops, TERACAI plans to leverage FlexApp from Liquidware Labs to offer the applications as required by this user group.

