

## NY State Agency Uses Stratusphere UX to Identify – and Solve – Hidden Desktop Problems

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**-IT Director**  
New York State Agency

**Organization:**  
New York State  
government agency

**Virtual Desktop Users:**  
225

**Product:**  
Stratusphere UX

### Overview

A migration to Office 365 caused unexpected problems for the 225 virtual desktop users at a New York state government agency. The situation revealed a fundamental flaw with the desktop environment: the agency simply didn’t have sufficient visibility into the infrastructure to detect, diagnose and prevent performance problems.

### The Challenge

A virtual desktop infrastructure set up by the agency served its approximately 225 users well – until a switch in productivity software resulted in unforeseen and unexplained problems. The typical worker used the full Microsoft Office suite and Adobe Professional on non-persistent Windows 7 VMware Horizon View virtual desktops that were provisioned with one CPU and 2G of RAM. Soon after the agency migrated to Office 365, users began experiencing application crashes and other performance problems. Some users also reported their virtual desktops ran faster or slower – depending on location – which was counter-intuitive to the way the virtual desktops were provisioned. Pre-migration testing hadn’t indicated these problems, and unfortunately the VMware management environment didn’t provide visibility into what was causing them.

“We were blind,” said the agency’s director of information technology. “All we had to work with was Windows and Horizon View log files, which weren’t enough to show us what was happening.”



The agency initially tried to solve its problems by making its virtual desktops more powerful. It added a second CPU to the base desktop image but, amazingly, performance got worse, not better. Looking at CPU loads in VMware View didn't indicate there was a problem. In fact, it showed the load on CPUs went down, but desktop performance did not coincidentally improve.

## The Solution

The IT team realized it needed application-level visibility into its virtual desktop performance at the individual-desktop and group levels so it could diagnose what was causing performance problems. "We didn't have that capability in our basic VDI infrastructure," said the IT director. "We did find some third-party solutions, but they were prohibitively expensive."

Then the agency learned about Stratusphere UX from Liquidware Labs. Stratusphere UX is a comprehensive desktop user experience monitoring, validation and diagnostics solution that independently defines and collects data metrics about desktop performance, helping to prevent issues while optimizing the desktop environment. Stratusphere UX is platform-agnostic and designed to support all Microsoft Windows-based workloads regardless of the desktop platform – Citrix XenDesktop and XenApp, as well as VMware Horizon View and even physical Windows PCs. The solution complements Citrix EdgeSight and Director for comprehensive Citrix XenApp and XenDesktop Monitoring, as well as the VMware vRealize

monitoring solution. In addition, a special API feature allows users to export Stratusphere data into a host of formats, including Microsoft Excel, CSV, HTML and JavaScript Object Notation (JSON). Thus, Stratusphere UX's quick set up provided the in-guest details necessary to allow the organization to identify and resolve its issues.

"We ran Stratusphere UX on two-CPU virtual desktops in a test pool and saw that the problem wasn't the CPU load, but how the CPUs were queued," said the IT director. "The CPU queue view in Stratusphere gave us the insight we needed to fix that problem."

Another feature that proved invaluable for the agency is Stratusphere UX's ability to measure and report network latency, in addition to more basic network metrics. It measures network-round-trip time (NRT), which is extremely important for distributed or remote locations on a WAN. Remote users typically have issues that local users are not experiencing, so administrators need a means of tracking onsite virtual desktop user experience.

"Some of our users noticed the same virtual desktop would perform differently from different locations, sometimes during the same session," said the IT director. "Based on what we knew, that variation should not have been happening. Through Stratusphere UX we learned about network latency issues that we hadn't been aware of."

The agency then used the NRT data and other metrics to make configuration and resource-allocation changes to its desktop environment.

## The Results

The visibility provided by Stratusphere UX allowed the agency to solve all the virtual desktop performance problems it was experiencing after the migration to Office 365. The agency now uses Stratusphere UX to monitor the desktop environment to not only resolve issues, but also to fine-tune and optimize desktop performance. It monitors performance against thresholds and can issue proactive alerts when it senses bottlenecks or resource conflicts are developing in the environment, in addition to providing many other built-in diagnostic features.

“Our systems administrator really likes the reporting functionality he gets from Stratusphere UX, especially for getting metrics about the storage area network and desktop IOPS,” the IT director said, adding that the information is used to fine tune the environment by, for example, adjusting workloads or reallocating and upgrading resources to maintain consistently high performance. The help-desk staff is also able to diagnose and correct many more performance problems than it could before Stratusphere UX was deployed.

“We are more effective now, because we can solve problems that we simply couldn’t even begin to solve before,” said the IT director.

“Stratusphere UX has allowed us to improve the user experience by giving us visibility into performance issues that we wouldn’t be able to see otherwise. That advantage allows us to be proactive. If you’re just using log files, it’s already too late. If you get a call about a problem, it’s too late and the user may already be ticked off. Now we can start working on things before the situation becomes a problem, so we never get that call.”

