Sunstate Equipment Leaves Old Problems Behind in Smooth Transition to New Desktop Environment

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– Tom Strzyzewski
Senior Network Engineer, Sunstate Equipment

Organization:
Sunstate Equipment

Digital Workspace Infrastructure Environment:
Transition from on-premises Citrix VDI to Citrix Cloud Services on Azure

Product:
Essentials™

Overview
Sunstate Equipment is a construction equipment rental and leasing company with more than 80 locations across fourteen states. The company became an early leader in that industry, and later in using digital workspaces. It has had a substantial portion of its workspaces virtualized for years and was planning an upgrade to its next-generation desktop infrastructure. A pre-migration assessment led by 25-year Citrix specialists at MK7 using Liquidware Stratusphere™ UX uncovered several opportunities to improve workspace performance for Sunstate and ways to save time managing the new environment.

The Challenge
Sunstate Equipment had been planning to update its Citrix digital workspace environment even before the pandemic hit and changed workforce support needs. Planning for the update revealed some limitations to Sunstate Equipment's desktop performance, and got the organization thinking about how to build a more resilient, future-ready architecture leveraging cloud services and on-premises infrastructure. For help, it turned to MK7, a forward-looking IT services and solutions provider and expert in all things Citrix and complementary third-party technologies such as Liquidware.

Sunstate's desktop performance began to suffer during the pandemic as Zoom, WebEx and Chrome use all increased, which swelled the size of user profiles. Some user profiles were already bloated before the change, with login times of five to 10 minutes common for employees whether they were working at a Sunstate facility or from home.

"The slowness of Citrix session loading was a dramatic problem for us," says John Corey, Sunstate Equipment's Director of IT. "A running joke in the company used to start 'List all the things you can do while waiting to log into your Citrix client…' and people would keep adding to the list."

Sunstate had 13 different base desktop images to serve different departmental needs, but profile bloat and slow logins were problems across all of them. Sunstate had a difficult time finding out what caused slow logins and other problems because the native tools it used to manage the environment did not provide enough visibility or detail.

"When our users reported they were having problems we often couldn't pinpoint what was causing them. So, we would typically clear out the existing user profile and have the person start over with a fresh one," says Tom Strzyzewski, Senior Network Engineer at Sunstate Equipment.

Sunstate's goals for the new environment included average login times of 30 seconds or less, better overall desktop performance, and more ability to diagnose and correct desktop issues. To do that, it needed a way to capture and baseline current performance data to help specify and build the new environment. It also needed better visibility into desktop performance to help maintain ongoing optimization of the VDI environment. Corey began to develop strategy and options and sought advice from MK7.

MK7 recommended that Sunstate consider the Liquidware Essentials Suite™, which consists of Stratusphere UX, ProfileUnity™ and FlexApp™. The Stratusphere UX user environment management solution captured the benchmark data, identified resource conflicts and other problem

areas, and provided additional insights that Sunstate used to plan the optimal future environment. ProfileUnity was instrumental in reducing login times and optimizing profile management across on-premises and cloud-based services such as Office 365 and Microsoft Azure. FlexApp was implemented as a new application delivery method that could dramatically reduce the number of VDI images that Sunstate would need in the new environment.

With the input and metrics it received, Sunstate eventually decided to migrate its workspaces to Citrix Cloud Services running in a hybrid-cloud environment utilizing refreshed on-premises infrastructure and Azure, including moving employees to Microsoft Office 365. This Citrix Cloud environment is also a key enabler of Sunstate's disaster recovery plan into the cloud. MK7 and Liquidware helped at every step.

The Solution

A live proof of concept was performed featuring actual Sunstate operations running in Citrix Cloud Services with Stratusphere UX to monitor performance. "Using Stratusphere UX in the proof of concept was great. It provided the toolset that gave us the ability to see and choose what we should focus on when setting up the new environment," said Strzyzewski.

The performance monitoring data Stratusphere UX collected showed the new workspaces performed as well or better than expected – except that slow logins would carry over from the old environment to the new. That wouldn't be acceptable for an upgrade and showed just how persistent the login problem was. With Stratusphere UX, Sunstate finally had the tool it needed to solve the problem.

Stratusphere UX not only alerts administrators to slow logins but looks into the process and desktop image to show what is causing them. Administrators get quick visibility into what is on the desktop and what's causing conflicts, and can simply click to drill down to get more metrics.

"The analytics in Stratusphere UX are second to none, especially on load time," says Strzyzewski. "If users complain that their profiles are dragging, one of the great things about the Stratusphere UX monitoring solution is that we can isolate that desktop and see exactly where the bottleneck is occurring."

The insight gained led Sunstate to rethink its approach to desktop images.

"We have a lot of departments in our company, and each department has its own needs for applications. Before, we had a lot of desktop images because we would build an image for each department," says Strzyzewski.

That approach worked fairly well for users but built in a lot of maintenance effort. Updates, patches and other routine maintenance had to be repeated for more than a dozen different desktop images.

During the POC, Strzyzewski began familiarizing himself with ProfileUnity and FlexApp, which along with Stratusphere UX form the Liquidware Essentials Bundle. FlexApp is used to layer applications and stream them to users on demand, so applications can be kept out of the base image. ProfileUnity is a profile management solution that separates the individual user profile from the image and loads it instantly on login. Combined, FlexApp and ProfileUnity enable extremely fast logins, even for highly personalized desktops.

"We used to just bake everything into the desktop image so users could always access the applications they needed," says Strzyzewski. "FlexApp makes it really easy to create user groups for departments and stream them to the desktop when users need them. With application layering, we only need two images to serve all our employees, one for desktops with the NVIDIA GRID graphics processors, and one for those without."

Reducing the roster of desktop images will also reduce routine maintenance time, especially for keeping profiles clean and managing browser settings and plugins. "Managing Chrome on desktops is especially hard because there are always a lot of changes," says Strzyzewski. "It's very time consuming for somebody to consistently manage the changes and to manage the profiles. We don't have a lot of time to do that. With ProfileUnity it's very easy, because a lot of the management functions and protections against profile bloat are built right in."

For example, ProfileUnity offers an automated profile cleanup feature, provides Office 365 caching and indexing, enforces application rights management and gives administrators lockdown options.

The Results

If developing a new digital workspace environment was judged solely by the main goal – reducing login delays – the project would be considered a resounding success. Users now wait about 25 seconds or less to log in – which is under the 30-second threshold that was set for the new environment, and a far cry from the five to 10-minute logins that used to be common. Fast logins benefit every user every day.

Meanwhile, the new Citrix environment has improved overall user satisfaction, and the Liquidware tools are providing tremendous value for Sunstate, most notably saving time for the IT staff. "For one thing, it's so much easier to manage and deploy any updates," says Strzyzewski.

Strzyzewski and his team also took advantage of ProfileUnity's auto-detection and context-aware filters to make life easier for Sunstate's staff that frequently travel between its retail locations, which stretch from the Pacific Northwest to the Florida Gulf Coast. Now any time they log in at a different or new Sunstate facility they have immediate access to the local printers, without having to scroll through hundreds in a drop-down menu.

"I love that Liquidware Essentials gives me the ability to do everything I need to do for desktops in one place. For example, I can tweak registry keys and values right out of the ProfileUnity management console; I'd much rather use that than Group Policy. It's just a fantastic tool," concludes Strzyzewski.

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