Quicker Logins Mean More Learning Time for Barking & Dagenham College Students

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> *- David Farrant, Deputy Head Barking & Dagenham's ILCT Department*

Organization:

Barking & Dagenham College (BDC)

Virtual Desktop Users:

12,000 students
600 staff members

Products:

ProfileUnity™ FlexApp™
Stratusphere™ UX

Overview

Implementing a virtual desktop infrastructure did not improve the slow login times that plagued students and staff at Barking & Dagenham College (BDC). The College solved the problem by using Liquidware Stratusphere UX to uncover the underlying host-level issues in their environment, and then installing ProfileUnity FlexApp on both virtual and physical desktops, which cut login time from 20 minutes to less than two.

The Challenge

Students at BDC outside of London sometimes had to wait as much as 20 minutes to log in to classroom PCs. "That was unacceptable. When you're talking about a one hour lesson, 20 minutes without a computer is a long time for students not to get the resources they need," said David Farrant, deputy head of BDC's ILCT department, which supports all 12,000 students and 600 staff members at The College.

One reason for slow login times is the diversity and decentralization of BDC's PC architecture. A student may have a course in a classroom with Windows PCs, and then walk across campus to another class where Macs are used. While students use computers in many different locations, they always need rapid access to their files. "We had a major requirement to eliminate the lag times caused by Roaming Profiles," said Farrant. The students also tended to use a wide range of applications, which added to the PC management and performance challenge.

Upgrading the PC user experience became a top priority for BDC and led The College to pursue a virtual desktop infrastructure (VDI). The College has approximately 2,000 Windows 7 desktops that are shared among its students and staff. BDC initially virtualized desktops using VMware View 4.6 and PC over IP (PCoIP), and later upgraded to VMware View 5.1. It plans to expand its VDI to cover 50 to 65 percent of its desktops, including those used by staff. Physical PCs will continue to be used for graphics-intensive programs and other high-bandwidth applications.

BDC uses non-persistent virtual desktops. Each student's profile is saved in shared systems and a new desktop is delivered at every login. The original alternative they explored was persistent virtual desktops, where there is a virtual machine assigned to each student and stored while the student is logged off, but this approach was negated for its cost.

"We have 12,000 students but we can't have 12,000 virtual machines. The licensing costs would be insane," said Farrant. "Non-persistent virtual desktops make it cost effective for us to have VDI."

BDC worked with VMware and Dell to design and install the VDI environment. After a year of running virtual desktops it was clear that other refinements and improvements were still needed.

"The main reason we went to virtual desktops was to improve the user experience, especially login times. We weren't getting the improvement we expected," said Farrant.

The Solution

BDC and its implementation partners needed to analyze the VDI performance to understand why login times remained slow. The team used Liquidware's Stratusphere UX, a desktop monitoring and diagnostic solution that tracks user experience metrics across virtual and physical desktops.

Stratusphere UX provides performance information about the desktop, host, network and storage systems in the virtual desktop environment. It can drill down into specifics about application, desktop and other key indicators at individual user and user-group levels. The Stratusphere UX "health check" of BDC's virtual and physical desktops revealed that host-level systems were having difficulties retrieving and delivering user profiles when students logged on to different desktops around campus. Roaming Profiles, which was weak in the old environment, did not improve after a significant portion of desktops were virtualized.

Profile bloat is one of the main reasons that login times grow substantially over time. By default, Windows profiles store most everything that makes a PC or virtual desktop personal to the user into their specific profile. The following are common practices that contribute to Profile bloat:

• User Authored Data Folders are large: My Documents, My Pictures, My Music, etc. can reach gigabytes in size if left unchecked

• Third-party vendor applications storage methods: Some third-party applications store unnecessary caches and other temporary files in the user profile. Three common culprits are Internet applications temp files, Adobe Acrobat caches and Sun's Java cache folder.

• Local email files: Locally stored PST and local OST files can easily become gigabytes in size if left unchecked or best practice guidelines are not mandated and enforced.

VMware and Dell identified improved profile management to solve BDC's login problems and recommended Liquidware's ProfileUnity FlexApp for the task. ProfileUnity FlexApp maintains user profiles so every time users log on to a virtual desktop, their home screen, settings, applications and application data are maintained. It works on physical and virtual desktops, which enabled BDC to reduce login times across all desktops for all its students and staff, which was an additional bonus for the organization.

ProfileUnity FlexApp also automatically redirects folders, which is a major time saver during login. With redirects, the solution can offload all of the "user authored" file storage in the profile. ProfileUnity FlexApp leverages redirects that organizations already have set up or it can create them automatically on user desktops. This feature alone can reduce most profiles' size significantly.

"We were aware of other products on the market, but when your major vendors tell you, 'This is what we recommend, and this is what we deploy ourselves,' that's what you tend to go with. So we went with ProfileUnity FlexApp," said Farrant.

The standard virtual desktop that BDC gives students is a Windows 7 machine with Firefox, Chrome, Office 2010, Visual Studio 2010, Adobe Creative Suite Master Collection and Sage Line 50 2011. Students can easily access other applications they need using the FlexApp feature. FlexApp allows users to install their own applications or administrators to deploy departmental applications. Users simply select the applications they want during login, and the apps load to the desktop in seconds. FlexApp helps organizations save on licensing costs and saves work for VDI administrators because they do not have to create and support numerous master images. FlexApp virtualizes the installation of an application location without virtualizing the application itself. Installed applications "look" native to the operating system, thus speeding up time-to-use and preventing conflicts.

"FlexApp meant we didn't have to roll out many different master images and run our conflict management software everywhere," said Farrant. "It lives up to its name, because it gives us the flexibility to give students the applications they need to use."

The Results

The goal for installing ProfileUnity FlexApp was to reduce login times, and that has been an unqualified success. Twenty-minute waits are a thing of the past regardless of whether a virtual or physical desktop is used.

"ProfileUnity FlexApp has our login times down to a minute and a half. That's a significant improvement, and the folder redirection is very useful as well," said Farrant. "Our staff doesn't use virtual desktops and doesn't have folder redirection. We can see the difference that ProfileUnity's folder redirection makes for virtual desktops and the value it provides."

In Farrant's opinion ProfileUnity FlexApp is an essential component to make virtual desktops practical and effective in a campus environment. "The nature of students is that they might use any desktop, anytime, anywhere on campus. That makes it very important to manage profiles effectively," he said. "ProfileUnity FlexApp has made profile management much easier for us. Students work in different buildings and on different types of desktops, sometimes virtual, sometimes physical, sometimes Windows, sometimes Mac. Their profiles follow them wherever they go, and they get a consistent experience wherever they are on campus."