Case Study
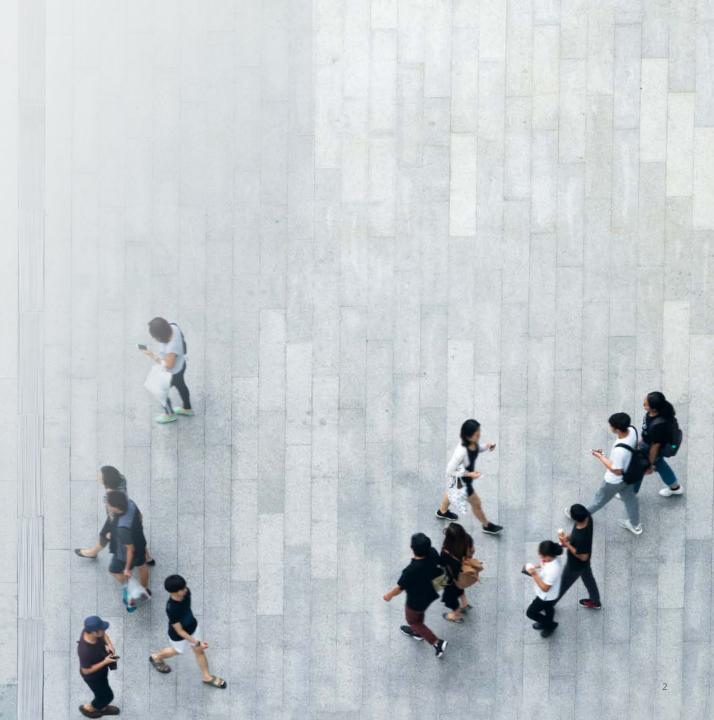
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Faronics Deep Freeze and the University of Kentucky

Background

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The University of Kentucky was founded in 1865 as a land-grant institution adjacent to downtown Lexington, nestled in the scenic heart of the unique Bluegrass region of Kentucky. With only 190 students and 10 professors in its early beginnings, UK's campus now covers more than 716 acres and is home to over 26,000 students and nearly 11,000 employees. University of Kentucky's technological environment includes over one thousand student lab workstations spread across fourteen different locations, which are managed by three servers.

Problem

With over one thousand computers, enterprise control was crucial to us.

Paul Glenn, UK's Student Lab System Administrator, faced numerous problems in his day-to-day operations. Student workstations were constantly going down due to user activity - both innocent and malicious. "Our students love to tinker with computers, especially our computer science students," says Mr. Glenn. "In addition to having to repair corrupted computers, we were getting reports of computers being infected with keyloggers." Keyloggers represent a serious threat to patron privacy and security since a user on an infected machine would be unaware that their keystrokes were being recorded.

Keyloggers make it easy to steal a user's login credentials for email, online banking, instant messengers, etc.

Paul recalls that because so many machines would regularly become unusable, IT was not able to repair all the workstations immediately. It often took a few days for a damaged system to be reimaged, which is understandable given the heavy workload that IT was already burdened with. In some of UK's busy student labs, even having a few machines down meant students had to wait for a computer to use.

Solution

"I first heard about Deep Freeze from a security officer on campus," says Mr. Glenn. "I immediately downloaded and tested Deep Freeze, and loved it." Faronics Deep Freeze helps eliminate workstation damage and downtime by making computer configurations indestructible, even when users have full access to system software and settings. Once Deep Freeze is installed on a workstation, any changes made to the computer - regardless of whether they are accidental or malicious - are never permanent. Users get to enjoy a pristine and unrestricted computing experience, while IT personnel are freed from tedious helpdesk requests.

When Paul originally tested Deep Freeze, only the Standard edition was available. Impressed with Deep Freeze's ability to prevent workstation configuration drift, but anxious for a way to centrally manage his Deep Freeze deployment, Paul called Faronics back to find out his options. That's when he found out that Faronics was developing an Enterprise version, and that a beta version was ready. "I joined the beta program for Deep Freeze Enterprise, and was thrilled that I could now Freeze and Thaw my Deep Freeze machines from a central console," recalls Mr. Glenn. "With over one thousand computers, enterprise control was crucial to us.

We didn't want to have to touch each machine every time we needed to perform a system update. The beta of Deep Freeze Enterprise went extremely well, and although we did evaluate some competing products-such as Fortres Clean Slate-we were so impressed by Deep Freeze Enterprise that we quickly purchased the full version when it became available. We've been Deep Freeze users ever since."

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Lab System Administrator

Benefits

Ever since we installed Deep Freeze, our trouble calls have dropped by 90%.

Absolute Protection

Deep Freeze guarantees UK with 100% workstation recovery on restart.

Flexible Configuration Options

UK is able to schedule automatic Restart/Shutdown times, and schedule Thawed Maintenance periods to perform Windows and application updates.

Improved User Experience

Deep Freeze provides the students and teachers of UK with a positive computing experience, free from accidental problems, malicious actions, and system downtime.

Students can count on computers being available for their school use, and teachers can focus on teaching in computer labs rather than troubleshooting workstation issues.

Evaluation

"Ever since we installed Deep Freeze, our trouble calls have dropped by 90%," says Paul. According to Mr. Glenn, over the last few years UK's IT staff have noticed that more programs are requiring elevated user rights in order to function properly. These rights, of course, give users the ability to modify system settings and configurations - a concept that the IT staff were not comfortable with. Giving students administrator rights meant that they could install games or programs much more malicious than keyloggers. Although one could try and restrict user activity through the use of Group Policies, Mr. Glenn is quick to point out that this takes countless hours and can often impair a user's workstation productivity.

Since Deep Freeze is able to ensure computers remain consistent reboot after reboot without restricting users' rights, the students of UK can enjoy total workstation freedom while the IT personnel are assured that the computers will not deviate from their optimal configuration. UK has configured their student workstations to reboot when the student logs out at the end of their session, creating a pristine computer that is ready for the next user.

In 2008 the University of Kentucky began incorporating Microsoft Application Virtualization (also known as App-V and formerly called SoftGrid) into their computing environments.

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  Lab System Administrator

"We were running into situations where one program was conflicting with another," says Paul. "What App-V gives us is the ability to run individual applications inside a selfcontained environment, which keeps the programs from interfering with each other or the operating system itself."

Deep Freeze and App-V work hand-in-hand and complement each other in UK's computer labs. Deep Freeze prevents any configuration drift from taking place, and App-V manages the program environments.

If program data needs to be preserved, administrators have the option to either create a ThawSpace (an unprotected area where data can be preserved across sessions) or modify the registry settings to have App-V redirect the data to an alternate local or network drive. "App-V applications are sequenced and then placed on a central server so that they can be synchronized with the workstation copies," says Mr. Glenn.

"In the past if we needed to update the workstation applications in a student lab-even if it was just one program-we would have to install the application on a clean image and then re-image the entire lab. Now, we just Thaw the machines, logon to the systems to retrieve the updated program(s), and then return the computers to their Frozen state. This should give us the most stable yet flexible environment to date-we're very excited."