Faronics Deep Freeze
San Juan Unified School District

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CASE STUDY

About

San Juan Unifed is a K-12 school district with 45,000 students over 74 sites. District wide there are over 12,000 workstations and 80 central servers; 8,000 of those are Macintosh computers running OS 9 and OS X. The remaining 4,000 machines are HP/Compaqs running Windows 2000 and XP. The servers primarily run Windows 2003 Server, but there are some Windows 2000 and OS X platforms as well.

Problem

The Windows workstations at San Juan Unified suffered from virtually constant software issues that rendered computers unusable on a daily basis, and those computers were often left unrepaired for up to six weeks, due to lack of maintenance manpower.

For example, students were often left unsupervised on library computers and kids would purposely trash the operating systems. Other kids, who meant no harm, caused damage by going to their favourite web sites and unintentionally inviting spyware, malware, worms, and other harmful programs into the system.

With only six technicians responsible for the troubleshooting, repair, and management of 12,000 computers, it is no wonder that the school district experienced large amounts of downtime. "We spent countless hours cleaning viruses and malware from Microsoft computers, but no sooner would we get one computer fixed and two more were called in for repair."

"Our biggest problems occurred in minimally supervised areas."

- Chuck Taylor
   Microcomputer Specialist, San Juan Unified.

"No user in our district has defeated the security that Deep Freeze provides - in other words, Deep Freeze is impossible to hack."

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  Microcomputer Specialist, San Juan Unifed.

Solution

In their preventative efforts, the IT staff implemented pop-up blocker software for Windows Explorer by installing the Google Toolbar, and gave their end users more control over cleaning their own spyware by installing and configuring Spybot. They also installed CA Trust Pest Patrol on helpdesk computers so the department could remotely clean issues on site computers. But they were still looking for something to solve these security and downtime problems.

It was at a CETPA trade show that Mr. Taylor first heard about a product from Faronics Technologies called Deep Freeze. But because of the financial challenges in the K-12 public school system, it took three years to convince the department to even consider the purchase. Only when spyware was at an all time high and work orders were taking longer to get to did the department decide to purchase 250 licenses for evaluation.

The evaluation was conducted on 250 computers overseveral library sites using Deep Freeze Enterprise. The department set up a central server to monitor the Deep Freeze computers from several remote Deep Freeze consoles. Some of the concerns the department had included performing Windows and antivirus definition updates, as well as the general robustness of the consoles because the district WAN covered 72 square miles. Some sites have T1 lines, while a few have faster DS-3 lines coming in and out. Controlling all the remote computers was very important.

"The more we learn about Deep Freeze, the better the product gets. Faronics has been excellent with documentation, technical white papers, and the development of free configuration tools."

- Chuck Taylor
  Microcomputer Specialist, San Juan Unified.

Evaluation

"We noticed the difference overnight," said Mr. Taylor. "Nothing - not the Google Toolbar, Spybot, Pest Patrol, or even Norton AntiVirus - made a faster difference than Deep Freeze. The compliments from these once frustrated sites and users still come in all the time."

"Deep Freeze has allowed us to use our current Windows images for district computers and Freeze that operating system and configuration. Once this has been done, every time the computer is restarted, the user gets the original clean image exactly as it was the day it was installed. This means that every piece of software a user installs is gone after a restart. Any change to configuration files or any malicious software downloaded from the Internet is completely gone after a restart."

However, the IT staff at San Juan Unified faced several challenges at the network level during the implementation and configuration of Deep Freeze. They initially set up the configuration file to Thaw the computers and call Windows and antivirus updates over the weekends, but found that end users were continually shutting down computers, which meant those computers didn't receive the updates. Computers that weren't updated sometimes got infected by other computers on the network that were not protected by Deep Freeze, though this could then be fixed with a restart. As a work around, they have re-configured the file to call for updates every day, and requested that the computers be left on.
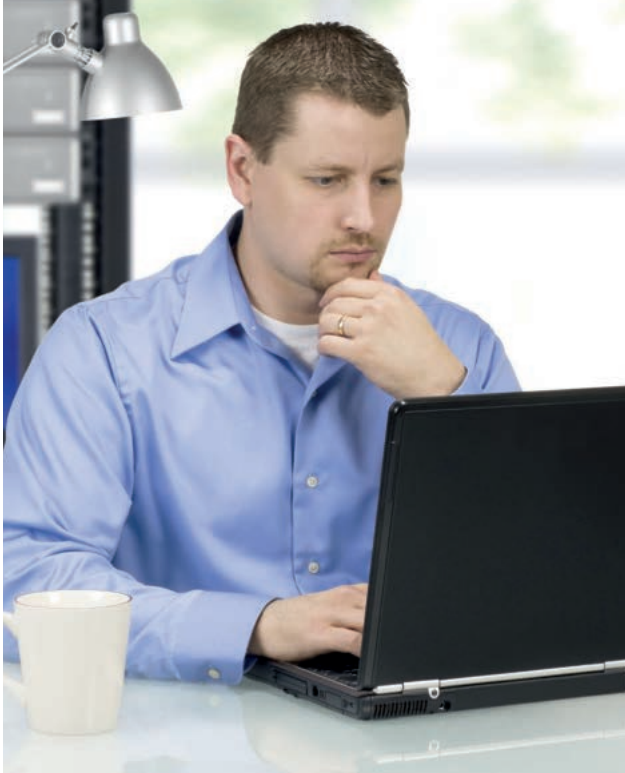
"Deep Freeze stood up to a very tough test and some major concerns.That difference was big enough to put smiles back on the department faces, make them reach into their pockets to pay for the software, and agree to maintenance contracts so Deep Freeze could be added to their business lab computers,"

- Chuck Taylor
   Microcomputer Specialist, San Juan Unified.

But, because there is no guarantee that all computers will be left on, there is still a chance that some computers will not receive the updates. San Juan Unified has some infrastructure issues that prevent the IT staff from using the Wake-on-LAN feature that Deep Freeze offers, and other issues such as old routers, switches, and slow lines sometimes interfere with Deep Freeze's remote capabilities. San Juan Unified also has no way of creating a report on the update status of their networked computers, but are looking for a program that will do that.

Despite the challenges faced in the implementation, the school district is increasing its use of Deep Freeze all the time. "Deep Freeze stood up to a very tough test and some major concerns.

That difference was big enough to put smiles back on the department faces, make them reach into their pockets to pay for the software, and agree to maintenance contracts so Deep Freeze could be added to their business lab computers," said Mr. Taylor. "The more we learn about Deep Freeze, the better the product gets. Faronics has been excellent with documentation, technical white papers, and the development of free configuration tools."

Mr. Taylor reports that the day-to-day operation of lab computers is now reliable. "I have had teachers near retirement tell me they were ready to call it quits because of erratic and inconsistent computer software. Not until after last summer when Deep Freeze was installed did they finally remember why they liked to teach. Computer issues sometimes used as much as 20 minutes of a teacher's 45 minute period before Deep Freeze was deployed."

And re-imaging because of software problems is a thing of the past. "Every summer for the past 10 years, we have re-imaged every business lab in preparation for the coming year. Typically, we didn't finish our last lab until after the new school year had started. Because of Deep Freeze, for the first time in 10 years, we didn't need to re-image those labs this past summer."

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