



Penn State University

Cutting energy bills by USD700,000 a year through policy-based endpoint power management

Overview

The need

To maximize the usability and cost-effectiveness of end-user computing, Penn State needed a comprehensive solution spanning everything from energy-efficiency policies to managing software installation, patches, and updates.

The solution

Penn State deployed IBM® Endpoint Manager—built on BigFix® technology—as a free, optional service for internal computing groups. The solution now manages over 35,000 of the university's computers.

The benefit

Delivers estimated annual energy savings of USD700,000 through power management. Provides clear visibility of, and control over, installed software. Enables remote patching, configuration management, support and software deployment.

Between 1996 and 2009, energy rates in the state of Pennsylvania were capped by the state's General Assembly to protect consumers from price fluctuations. Although the Pennsylvania State University (Penn State) generates some of its own energy, unit costs for energy from the local utility doubled overnight when the rate cap expired in 2009.

With budgets tightening, the university is always seeking to improve energy efficiency to hit its cost-reduction targets. While the heating and cooling of buildings naturally make the largest contribution to energy costs, Penn State recognized that its tens of thousands of computers, including laptops and desktops in labs and offices, were also playing a significant part.

James Stewart, System Administrator at Penn State, explains: "Computers tend to be left on for the sake of convenience. The additional cost of powering a single device when not in active use may only be tens of dollars a year, but multiplied over 35,000 machines, it becomes a huge financial burden."

"One great thing about IBM Endpoint Manager is the BigFix community. I am active in the community, sharing content I have created with other users, and finding interesting solutions that I can apply or adapt for use in my own institution. Often, I'll find a solution that solves a problem I didn't even know our users were having." —James Stewart, System Administrator, Penn State University



Solution components

Software

- IBM® Endpoint Manager
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In addition to managing energy usage, the university wanted to address other issues created by having multiple teams responsible for managing different groups of computers. These issues included: lack of centralized management over software updates, and excessive time and effort required to deploy new software, in addition to difficulty in providing support to users. All of these points made it difficult to keep computing resources in optimal working condition for faculty and students alike.

All-in-one solution

By deploying IBM Endpoint Manager, built on IBM BigFix technology, Penn State addressed both its power-management challenge and its broader challenges around ensuring the ongoing cost-efficiency and usability of its end-point computing resources.

“One of our reasons for choosing the IBM solution is it provides cross-platform support for our Windows, Mac, Linux, and IBM AIX® systems,” comments Stewart. “There’s really nothing else that I am aware of that works in quite the same way.

“The solution also offers multi-tenancy capabilities, which means it can manage different groups of machines in complete isolation from each other. This is really important for us, because we offer endpoint management as a free service to around 30 independent teams within the university, who need to be confident that their computers are usable at all times.”

Penn State’s Systems Management (SysMan) team runs the Endpoint Manager environment, providing software agents and limited access rights to administrators within the university teams it serves, and also cooperatively manages over 10,000 lab machines. “We provide pre-configured power-management policies that put machines to sleep when they are not in use, or teams can design and deploy their own,” says Stewart. “Equally, they can run inventory on their environments to see what hardware and software they have in place, deploy patches and install both the software we provide centrally and their own software.”

SysMan creates installers for individual pieces of software, and also helps combine these into bundles so that administrators can deploy all required software to a given group of machines as a single action.

“Pretty much anything you would want to do with a system, I believe we can now automate,” says Stewart.

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— James Stewart, System Administrator, Penn State University

Dollar and time savings

“Through remote configuration of power settings in IBM Endpoint Manager, we estimate that we are saving an estimated USD700,000 a year on over 35,000 machines at Penn State,” says Stewart. As more teams and departments sign up to the service, the potential future savings are possibly even greater.

“We provide very aggressive policies in the labs—turning displays off after five minutes of idle time, and putting the computer to sleep after 15 minutes,” says Stewart. “From the user’s point of view, the machine is available at the touch of a button, but it’s actually asleep much of the time. And with Wake-on-LAN, we can still perform remote maintenance and patching at any time.”

Improved asset discovery helps Penn State better understand the hardware it has in place, which eases planning around the replacement of end-of-warranty machines. Moreover, understanding software assets helps ensure compliance with licensing conditions.

“In system administrator terms, the key advantages of the IBM solution are the time and efficiency savings it produces,” adds Stewart. “The user experience is also dramatically better. In the past, it might take anything from a day to a week to find a mutually convenient time to remote into a user’s system and provide software or a fix. Today, it’s a couple of hours at most.”

About Penn State

Chartered in 1855, The Pennsylvania State University (Penn State) is a public university based in University Park, Pennsylvania. At its University Park campus, Penn State enrolls more than 46,000 undergraduate and graduate students each semester. The university’s 23 additional campuses—including a law school and a medical college—enroll roughly 39,000 students per semester, and its virtual World Campus enrolls approximately 10,000 additional students, which makes the total enrollment more than 95,000 with over 34,000 faculty and staff to support them.

For more information

To learn more about IBM endpoint management solutions, contact your IBM representative or IBM Business Partner, or visit the following website: ibm.com/software/products/endpoint-manager-family



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