Healthcare
University of Utah

AppSense®

Case study

University of Utah Health Sciences Center improves system stability, capacity and performance

"We've been able to add many more users on the farm without purchasing additional hardware - in fact, we reduced our server count and conserved power in the data center."

Josh Fleming
Senior Systems Administrator, UUHSC

THE UNIVERSITY OF UTAH

Challenges

- Improve stability and server capacity
- Reduce the server farm without affecting the quality of service to end users.
- Block unauthorized applications

Solution

- AppSense Management Suite implemented to resolve security, consolidation, quality of serviceand user profiles issues.

Benefits

- Eliminate security risks without additional overhead
- Increase user load by 100%per server
- Reduce server farm by 20%
- Double users per VMware machine
- Simplify user profile management

Background

University of Utah Health Sciences Center (UUHSC), a leading health services institution since 1965, combines excellence in education, research and clinical care, to provide state-of-the-art care to over five million people in Utah and the surrounding states of Idaho, Nevada, Wyoming, Montana and New Mexico. Recognized as one of "America's Best Hospitals" for 11 years running by U.S. News & World Report, UUHSC relies on advanced information technology to enable its high-quality, award-winning healthcare.

Securing crucial systems while improving performance

UUHSC has a diverse base of 12,000 users comprised of clinicians and administrators accessing 198 Citrix servers for everything from Epic and Cerner Millennium healthcare applications, to Microsoft Office and an array of financial packages. UUHSC's system was not only stressed, it was also highly vulnerable to stability and security risks that could impair the hospital's operations.

UUHSC was hit by a worm that essentially brought its infrastructure to a halt. According to Josh Fleming, senior systems administrator at UUHSC, IT had to install the fixes and re-image 160 servers in order to fully destroy the worm and restore its systems. Citrix connectivity was severed, and access to the hospital's crucial applications was severely limited. It took UUHSC a full week to re-establish connectivity to their Citrix servers, and four weeks to restore its infrastructure back to an acceptable level. Eight months later, IT were still finishing the last of the clean up tasks. IT knew they could not afford another unauthorized application to run on their systems.

Lack of user control

With so many users, UUHSC's infrastructure was vulnerable to activities that, whether intentional or inadvertent, could corrupt and destabilize the network. Controlling how each user interacts with its server-based applications was virtually impossible. As a result, IT spent much of its time troubleshooting problems that diverted their attention from more strategic initiatives.

High resource consumption

Much of UUHSC's user base relies on large complex Epic and Cerner healthcare applications. These multi-gigabyte applications require a tremendous amount of CPU and memory. Each server could only support 30 concurrent users and IT was constantly challenged with improving the applications' performance. They could add more hardware to lessen the impact of user activity, but that would require additional capital expense and administrative overhead.

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AppSense.com
iwanttoknowmore@AppSense.com

“AppSense has helped us in ways we hadn’t even imagined. Security is no longer an issue. We reduced and simplified our server farms dramatically, and performance results exceeded our expectations. It’s amazing.”

Josh Fleming,
Senior Systems Administrator, UUHSC

Ensuring stability in an optimally-performing network

UUHSC wanted to simplify management of its Citrix farm while providing users with better performance in a highly stable and secure environment, without additional expense. AppSense provided the ideal solution. UUHSC leverages the capabilities of AppSense Management Suite to:

Block unauthorized applications

“Because of AppSense, we don’t even worry about viruses anymore. It’s just not on our radar screens,” said Fleming.

With AppSense Application Manager’s proactive approach, unauthorized applications cannot execute on the Citrix servers. It worked right out-of-the-box, enabling UUHSC to immediately benefit from a much more secure environment. End-user productivity is never affected by security issues, and IT never has to pull resources to fix infected systems.

UUHSC runs Trend-Micro anti-virus software as well. According to Fleming, “It’s reassuring to have virus definition software in the background, while knowing that AppSense totally stops any user input that could affect security.”

Reduce server farm and costs

“We’ve been able to add many more users on the farm without purchasing additional hardware - in fact, we reduced our server count and conserved power in the data center. Not only is AppSense saving us time and money in equipment, replacement and troubleshooting, it is increasing our ROI significantly,” Fleming added. Using AppSense, UUHSC increased user load on Cerner applications by 100% and on Epic by up to 70%.

“Before, we were happy to get 30 users per server. With AppSense Performance Manager we’re approaching 70 users. We’re completely amazed.”

UUHSC is also running VMware with AppSense on several Citrix boxes. AppSense enables VMware to perform even better. UUHSC now supports 10-12 users per VM as opposed to the 5-6 they were limited to without AppSense.

Improve application performance

In the past, end-users often complained about slow application response time. Since implementing AppSense, those complaints have disappeared. By optimizing server resources, IT is supplying users with much better performance, enhancing their productivity and their satisfaction.

Simplifying profile management

AppSense Environment Manager enables IT to control what users do to the systems, such as their interactions with registry keys. To reduce corruption possibilities even further, it self-heals the system back to a pre-determined state if and when needed. AppSense Environment Manager reduces, if not eliminates, the administrative costs and challenges with managing roaming profiles.

Network environment

- 198 HP BL20 and BL25 Servers
- 2800+ concurrent users
- 650 Citrix printers
- 274 published applications and 5 production desktops
- Thin client terminals and PC users

About AppSense
We are the leading provider of user virtualization technology to enterprise organizations. User virtualization is a way of managing user-specific information independent of the desktop, and applying this information into any desktop (local install, virtualized, published, streamed etc) on-demand. This enables IT to standardize the desktop build, automate desktop and application delivery, and migrate users to new desktops – all while ensuring the user experience is seamless, personal, predictable and easily manageable.