Student Loan Servicer Finds Right Security-Personalization Balance in Challenging Windows 10 Virtual Desktop Environment

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– Gary Bollman
Assistant Director of IT, MOHELA

Organization:

MOHELA
Chesterfield, MO

Virtual Desktop Infrastructure Environment:

Nearly 100 percent virtual desktops in the VMware View environment, using RDP as Windows 10 broker on Dell Wyse terminals with the Dell Wyse ThinOSi.

Product:

ProfileUnity™

Overview

Years of virtual desktop management experience and current VMware and Microsoft tools were not enough to prevent a federal contractor from experiencing problems when it needed to comply with NIST security standards and run Windows 10 on virtual machines. The agency found that Liquidware's ProfileUnity provided the extra management features and control it needed to meet compliance requirements and keep users happy.

The Challenge

MOHELA is a servicer of student loans and, as such, must comply with strict federal contractor standards, including the NIST 800-53 security framework. Each of MOHELA's approximately 550 employees use virtual desktops. By the time it transitioned to Windows 10, the organization had more than seven-years' experience managing a virtual desktop environment, including a previous migration from Windows XP to Windows 7. Running Windows 10 on virtual desktops presented MOHELA with challenges it had not encountered before – and challenges that its VMware View and Microsoft tools for managing the environment and user profiles could not solve while meeting security requirements.

"Going into the Windows 10 migration, we thought, 'We really understand VDI so this will be a slam dunk,'" says Gary Bollman, Assistant Director of IT at MOHELA. "Changes with Windows 10 and user profile management, coupled with our stringent security requirements, introduced many issues that existing VDI infrastructure and vendors could not resolve."

One of the lesser-known revisions within Windows 10 is that Microsoft made major changes to the way user profiles are created and managed. MOHELA's user profiles, which were stored on persistent virtual machines, frequently corrupted after the change to Windows 10, which the organization had not experienced previously.

MOHELA uses Dell Wyse ThinOS terminals with VMware view, so it investigated profile management tools from Microsoft (UE-V, for User Experience Virtualization and the DISM command-line tool) and VMware (User Experience Manager, or UEM), but neither could get the virtual desktop environment to the levels of reliability and security that MOHELA needed.

"The Microsoft and VMware tools solved some of the problems, but they are like 80 percent and 90 percent solutions. Neither could give us 100 percent of what we needed," says Allen McSparren a Systems Engineer at MOHELA. "After we originally converted some test users to Windows 10 our users told us, 'This is a step backward.' We shouldn't have our call center employees trying to manage their Windows desktops, but that was the position we were in."

The Solution

Having employees reset with their desktop preferences was a big concern to IT administrators because view persona coupled with roaming profiles provided a better experience in Windows 7 than they had with Windows 10 and UE-V or UEM.

Frustrated by its inability to lock down and reliably deliver personalized user desktops using Microsoft and VMware tools, MOHELA reluctantly began looking for a third-party solution.

"The last thing we wanted to do was find another company that we'd have to pay a software license to," says Bollman. "But when we found ProfileUnity, we were sufficiently satisfied with the solution to recommend purchase companywide."

ProfileUnity provides comprehensive user profile management in all types of virtual and physical desktop environments. It delivers the personalized user profile to any desktop platform (virtual, physical, RDS, DaaS, etc.), provides instant application virtualization and has a variety of configurable controls for application-rights management and group policies.

What is NIST 800-53?

MOHELA processes student loans for the U.S. Department of Education. The organization is very vigilant about complying with all federal contractor requirements, including the NIST 800-53 standard for information systems. Here's an overview of NIST 800-53, direct from the U.S. National Institute of Standards & Technology:

All Department of Defense (DoD) contractors that process, store or transmit Controlled Unclassified Information (CUI) must meet the Defense Federal Acquisition Regulation Supplement (DFARS) minimum security standards by December 31, 2017 or risk losing their DoD contracts.

DFARS provides a set of "basic" security controls for contractor information systems upon which this information resides. These security controls must be implemented at both the contractor and subcontractor levels based on the information security guidance in NIST Special Publication 800-171 "Protecting Controlled Unclassified Information in Non-Federal Information Systems and Organizations." The DFARS cybersecurity rule and clauses are found at: acq.osd.mil/dpap/dars/dfars/html/current/204_73.htm.

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ProfileUnity makes it easy for desktop administrators to thread the needle of allowing users to customize their desktops without getting application and administrative rights that would threaten security or cause conflicts in the desktop environment.

Application Rights Management is a standard feature in ProfileUnity that enables administrators to securely modify and/or elevate "standard user" rights in Windows to allow or deny applications from being executed, delivered or installed on select users' desktops. ProfileUnity's security policy management features extend and go beyond Microsoft Group Policies.

While Group Policies can be cumbersome to manage and cause long logon times because they are slow to execute, ProfileUnity's execution of secure policies is streamlined and fast. The solution provides an easy-to-use graphical web-based management console with role-based access and audits for changes to the environment. These features allow desktop administrators to limit the local administrator rights that desktop users typically have in the Microsoft and VMware environments.

MOHELA is using ProfileUnity's FlexApp feature to layer applications and let authorized users access the apps they need on demand. That flexibility has allowed MOHELA to cut the base images it maintains by more than half.

"FlexApp provides a lot of flexibility for delivering applications, which really helps to get creative when we want to deliver applications that we don't want installed our base image, plus it's about to save us a lot of money in software licensing fees. In the past we had installed a particular application on about half our base images that wouldn't work as a thin app but not that many users needed it. Now we can give it to only those that need it, and everything is auditable and controlled by Active Directory security groups. When we go to renew support for our licenses, we'll need a lot fewer."

The Results

Users who initially were not happy with the switch to Windows 10 because certain profile changes were not surviving recomposes are now satisfied. The IT and other senior leadership feel much more comfortable with the organization's security compliance. Users now have more flexibility for configuring their desktops and accessing applications, but at the same time, desktop administrators have much more control over what users can do.

"We don't have the luxury of using bodies to manage our desktop environment, so we have to automate it as much as possible," says Bollman. "We tried doing that with our Microsoft and VMware tools by taking the 'we-don't-have-to-spend-more' approach. You can save some money that way, but you're not really doing effective profile management. Our users weren't happy with that.

"ProfileUnity has been great for us. One of the best things I can say is that we're a company with 550 employees, but only one desktop support person. I think that shows what ProfileUnity can do."

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