numecent®

Case Study

Global Banking and Financial Services

How one of the largest banks in the world streamlined its virtual desktop infrastructure (VDI) and achieved a single golden image for more than 100,000 Citrix users with Cloudpaging®

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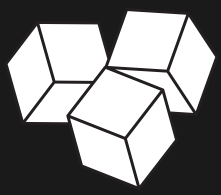
Case Study Summary

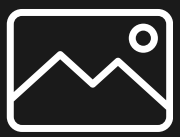
A global bank needed to consolidate its virtual desktop infrastructure (VDI) environment to a single platform provider, while establishing a long-term replacement for Microsoft App-V.

Leveraging Numecent's Cloudpaging® technology, they were able to package and deploy their entire application estate in less than a month. This enabled them to accelerate their application and VDI migration, retire legacy debt, and standardize on non-persistent multi-session desktop environments - the lowest cost solution for enterprises to run Windows.

Numecent successfully packaged more than 500 legacy and modern applications into Cloudpaging containers in 20 days, drastically accelerating their VDI migration.



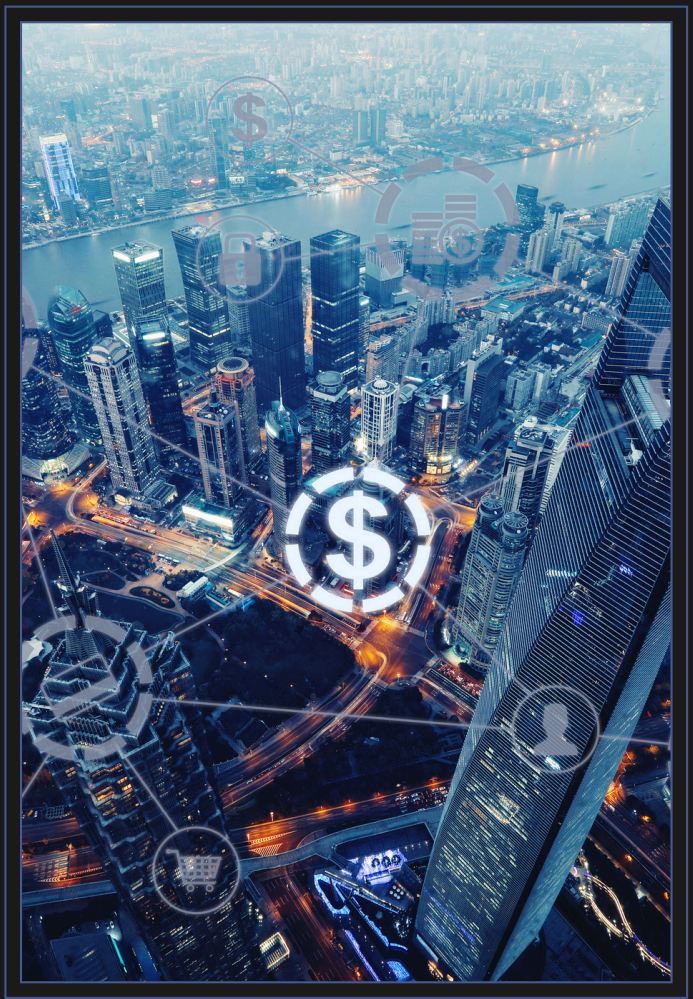
Cloudpaging provided a single application container format to virtualize all their applications so they can run on any modern Windows desktop environment without conflicts, enabling them to retire Microsoft App-V, Citrix App Layering, VMware ThinApp, and VMware App Volumes.



Containerizing all applications enables IT to establish a single desktop image for more than 100,000 Citrix VDI users, drastically reducing application management overhead.

Customer Overview

Our customer is a global banking and financial services company with more than 100,000 employees in over 50 countries. Due to the distributed nature of their workforce, IT must also meet complex security, compliance, and workflow requirements while supporting a wide spectrum of end user desktop capabilities.



The financial institution has three standard end-user experiences available for its many user roles: a non-persistent VDI experience, a persistent VDI experience, and a physical system. Users begin with the non-persistent system and are only granted access to other experiences if they run into difficulties fulfilling their duties in the non-persistent environment.

Using a combination of environments, the company was able to deliver many, though not all, of these experiences to its end users. Prior to engaging with Numecent, they had a large environment consisting of Citrix App Layering and Microsoft App-V. Unfortunately, IT had not been able to make all required applications available across the business.

Challenges

In an enterprise-wide modernization of the Citrix VDI environment, the company needed to move its applications from Windows 7 to Windows 10 to effectively leverage their new Windows Server 2016 environment. This required IT to repackage its Windows application estate.

App-V Virtualization Coverage Was Not Broad Enough

Traditionally, App-V was their virtualization solution of choice. However, they were simply unable to virtualize approximately 30 percent of their applications, with more than 40 percent failing to deploy or raising issues during testing.

Legacy Application Dependencies Cause Conflicts on Modern Windows Operating Systems

As an example, many of the applications had a prerequisite requiring a specific Java version. The applications would need the ability to communicate or integrate with each other, but at the same time, use only the specific version of Java needed by each individual application. IntelliJ required the 64-bit Oracle 18_1_04 JDK while NodeJS 4.2.2 required JDK 7u111.

Traditional Approaches to Application Management Created Desktop Image Bloat

A direct migration to Citrix did not provide the company with business advantages, as challenges with their existing application management tools persisted across legacy and new systems. Native installs of the problematic applications would bloat the base image or cause multiple base images to be maintained, which prevented IT from achieving their end goal of singular gold images.

Challenges (cont.)

Application Layering Technologies Didn't Work for Non-Persistent Desktop Environments

Even for the applications that were already packaged, IT found large volumes of applications that could not run on non-persistent systems. As a result, IT created a second and third desktop IT stack utilizing using VMware's AppVolumes and AppStacks as workarounds for delivering applications that could not run in the primary non-persistent environment. This yielded significant overhead for the IT team, as they had far too many base images to manage, compounding scaling challenges and licensing costs.

Why Application Containers Over Application Layering?

Application containers take a fundamentally different approach than application layering when it comes to application virtualization.

Application layering exposes application components widely on systems and typically integrates applications at boot time for compatibility reasons.

Application containers can be used to dynamically deliver any Windows applications while isolating applications in sandboxes and delivering per-user reducing the surface layer for cyber-attacks, extending DevOps capabilities to the management of Windows applications. This enables faster, more reliable application deployments and updates while improving performance, compatibility, security and cost-efficiency.

Read why application containers are the key to truly modern IT operations in Rory Monaghan's blog "Embrace Modern Provisioning and Agile Application Management with Containers".

Solution

Due to its unprecedented application compatibility rate and ease of deployment, the company chose Cloudpaging to virtualize its Windows desktop application estate.

The initial engagement consisted of packaging forty applications that were incompatible with Windows 10 and Windows Server 2016. Numecent was given 30 days to package the applications with Cloudpaging and deliver them to Windows 7 and Windows 10 persistent and non-persistent sessions, as well as Windows Server 2016 RDS.

The Numecent team achieved 100 percent packaging and deployment success within just 20 days. The banking and financial institution then expanded Cloudpaging coverage to more than 500 legacy and modern applications across the enterprise.

Cloudpaging containers also enabled them to run applications on non-persistent multi-session operating systems, including those that were not inherently designed to do so. According to Microsoft's own cost calculator, running Windows 10 Enterprise multi-session can cut VDI costs more than 5X.

Results

After successfully remediating all application compatibility issues using Cloudpaging, the financial institution integrated these new packages into their existing App-V delivery mechanisms, allowing IT to maintain their existing workflows to mount and unmount Cloudpaged applications from their desktop environments. This reduced adoption friction from the organization's helpdesk and other IT teams that would be interacting with the solution.

Ultimately, Cloudpaging helped IT consolidate its Citrix platform without compromising goals of single base image management, security, and the ability to deliver any application needed by a user to the various user experiences available at the organization.

On top of that, the bank was able to get its entire Windows application estate running on a non-persistent multi-session operating system, the least expensive Windows operating environment. This drastically reduced the amount of resources and Windows licenses consumed across the enterprise.

Key outcomes also included:

- Consolidation to Citrix for all application needs
- Successfully virtualizing 500+ legacy and modern applications
- No prerequisite conflicts
- Enabled application deployment to any physical or virtual Windows desktop
- Any version of a Windows application can run across their enterprise
- IT achieved a single base image for more than 100,000 virtual desktop users

The enterprise also benefited from significantly reduced administrative effort and costs associated with packaging by utilizing Cloudpaging, further reducing the expense of the solution.

Looking Ahead

Numecent provided the enterprise financial institution with the means to consolidate to its Citrix platform and achieve a single base image to service more than 100,000 virtual desktop users. IT can seamlessly deliver any application needed by a user in a secure and compliant manner, regardless of where they reside or their varying desktop capability requirements.

Because Cloudpaging containers can run on any modern Windows desktop environment, these same applications will be able to seamlessly lift and shift across their enterprise without the need to be repackaged. This is true for existing and emerging Windows technologies alike, including Azure Virtual Desktop, Windows 365, Windows 11, and future iterations of Windows operating systems.

Request a Demonstration

Witness the power of Cloudpaging application containers and Cloudpager, the first and only cloud-native application container management platform for Windows desktops, by requesting a live demo at www.numecent.com/demo.

About Numecent

Numecent is an award-winning cloud technology provider headquartered in Irvine, California. The company's technology portfolio, built upon 66 patents (and counting), simplifies the mobilization and management of Windows applications across modern desktop and multi-cloud environments.

Enterprises around the world – including the largest Fortune 500 companies, cloud service providers, and MSPs – leverage these technologies to package and deploy thousands of applications to millions of end-users in a friction-free manner every day.

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