# Migrating Applications for Windows Modern Management With Workspace ONE

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IT teams are tasked to secure and simplify management of end user devices while continuously improving the user experience, even as more and more of those devices reside in mobile and remote-work environments outside of the organization's internal network. Meeting these requirements and adhering to cost constraints require modern management of Windows applications and desktops so organizations can deliver and maintain applications and patches from the cloud. VMware Workspace ONE provides a complete cloud-native modern management solution that eliminates the need for complex on-premises infrastructure, cloud gateways, and hybrid management tools. This paper provides a guide to migrating applications from on-premises management to cloud-native management with Workspace ONE.

Figure 1: Windows management challenges
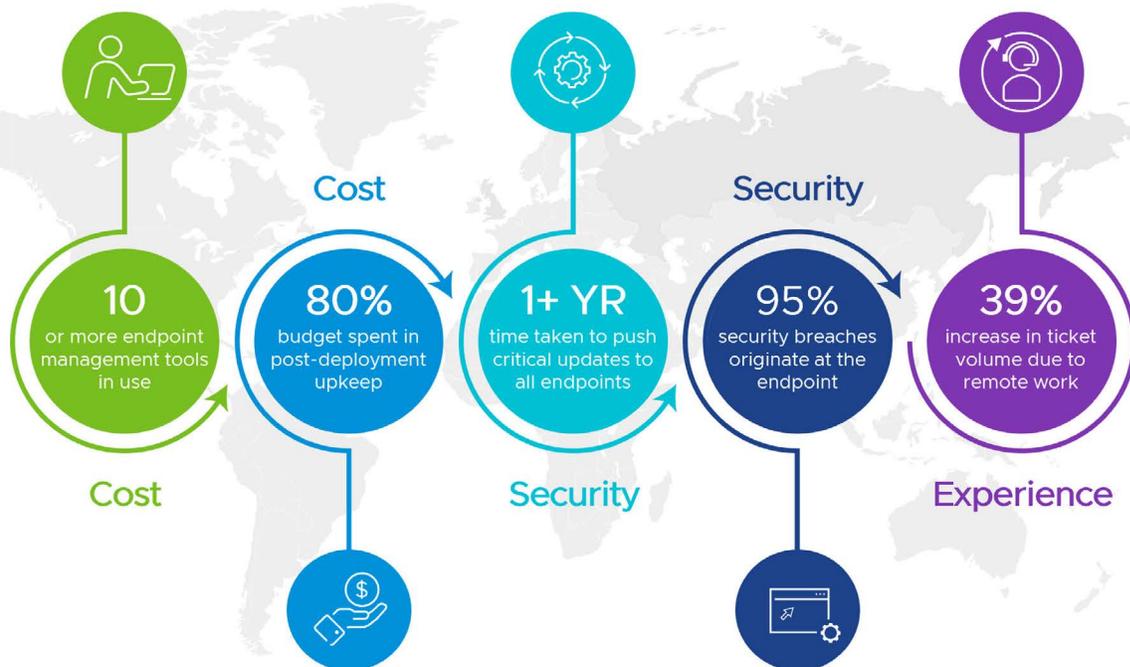
Windows application management and migration challenges

Traditionally, applications and desktops resided on-premises and were maintained by high-touch IT teams that might have needed months to apply patches to all devices in their domain, relying largely on manual processes. Today's modern workforce is increasingly distributed and often rarely connected to the network, with devices and endpoints dispersed among remote corporate locations and home offices that seldom are available for hands-on IT support and are beyond the scope of legacy PC life cycle management (PCLM) tools.

IT organizations typically rely on multiple administrative tools to manage the PC and Windows life cycle. There are separate tools for staging and imaging; maintaining drivers; managing OS updates; configuring firewall, antivirus, and encryption policies; and more — all of which creates multiple layers of complexity that make it difficult to deploy, secure, maintain, and decommission end user desktops and adds to IT support costs. Workspace ONE incorporates these capabilities, automating life cycle processes and integrating with other tool sets where required.

In many cases, applications formally deployed by a legacy PCLM tool would require:

• A script to call the installer and any dependency applications

• The file path to be accessible to the device

• A script to configure the application

• An uninstall script

• A script to provide user interaction if required

There is a better approach to modern management of applications and devices.

Benefits of Workspace ONE application management

VMware Workspace ONE is a simple, secure enterprise platform that integrates identity management, application delivery, and enterprise mobility management (EMM) into a single platform to deliver and manage any app on any device or endpoint. Workspace ONE engages digital employees, reduces the threat of data leakage, and modernizes traditional IT operations for the mobile cloud era.

Figure 2: At-a-glance benefits of Workspace ONE for software delivery
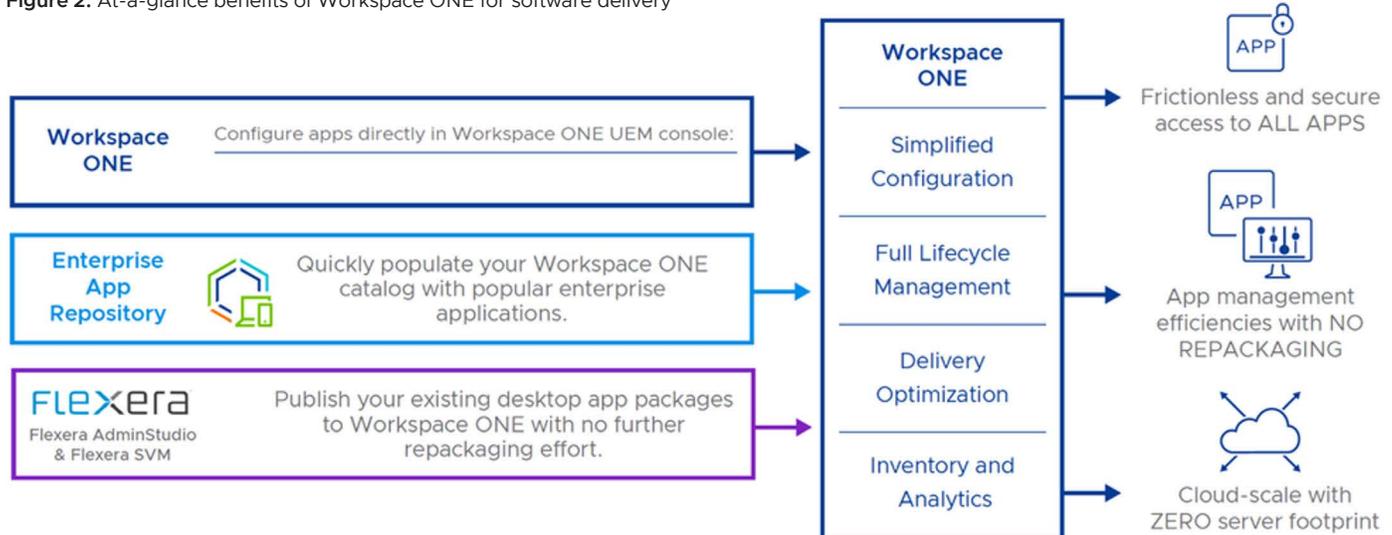
With Workspace ONE, the enterprise can deliver native, software-as-a-service (SaaS), web, or virtual applications securely from a single catalog, with secure single sign-on and multifactor authentication. SaaS, web, and virtual applications can also be configured to include additional authentication requirements, commonly known as step-up authentication. IT can now deliver out-of-the-box, day 1 productivity for worker desktops and applications, no matter where they are deployed. Organizations can automate and speed up patching and manage applications at cloud scale.

Incorporating modern device management, application management, and security that's effective both inside and outside the corporate network, Workspace ONE enables IT to manage, monitor, and support all corporate-owned devices as well as bring-your-own-device (BYOD) platforms via a single secure solution, rather than having to rely on multiple tool sets.

With Workspace ONE's unified endpoint management (UEM), organizations can deliver applications to Windows devices, including Universal Windows Platform (UWP), MSIX, cloud-based, hosted or remote, and classic Windows (Win32) applications. Workspace ONE also supports delivering files/folders, registry settings, and scripts to support applications that do not have installers or to configure applications outside of the installer process.

Among the other capabilities of Workspace ONE:

- Automating the onboarding process of devices over the air

- Intelligently managing every device on every platform

- Flexibly supporting all use cases: BYOD, corporate-owned, frontline, or purpose-built

- Simplifying management of the application life cycle with a consistently positive employee self-service experience

- Automating important repetitive processes

- Securing devices, apps, and data at rest and in transit

VMware Workspace ONE migration best practices

Migrations can be complex and can have a negative impact on user experience if not managed carefully. Migrating applications into a new device management platform can require the most effort, because the number of applications used within organizations is large and ever-growing.

IT teams often try to migrate applications as is and as fast as possible. But an organization cannot migrate all devices at once; instead, it should migrate devices in logical groups — called waves — based on role, business unit, or location. Migrating in waves allows for an ordered migration of all needed resources: applications, profiles and policies, security configuration, sensors and telemetry, monitoring dashboards and service desk integration, and enrollment and provisioning processes. After completing a "pilot wave," IT can add capabilities to support subsequent waves, building upon the core platform and capabilities in an ordered, easily consumable manner.

Rationalizing the application inventory prior to migration saves time and money that would be wasted on migrating unnecessary or obsolete applications. This planning or analysis phase may be time-consuming, but it provides huge benefits by removing unnecessary effort.

Figure 3: Taking the correct approach to migration is key

| Rationalize, prioritize, and then migrate | Assign, distribute, and deploy | Operationalize |

VMware best practices are designed to reduce the risk and enhance the user experience of a migration from a legacy PCLM tool set. Those best practices are focused on three core areas:

1. Rationalize, prioritize, and then migrate

i) Leverage the existing legacy PCLM tool to list all applications, and then check the list for accuracy. Rationalization should focus on answering the following questions:

(1) Are manually installed applications overlooked?

(2) Are there old versions or duplicates? Or are there legacy applications that are incompatible with Windows 10 or Windows 11?

(3) Do multiple applications duplicate functions? For example, the application portfolio might include multiple PDF readers, multiple ZIP/compression tools, or multiple graphics editing tools that can be consolidated.

(4) Are there duplicate packages for the sole purpose of delivering different application configurations? Separating installation from configuration might provide opportunities for consolidation.

(5) Workspace ONE will likely not require tools, driver packages, uninstall packages, or notification packages, many of which can be eliminated.

ii) Prioritize application migration in order of device migration or wave:

(1) Identify the applications that are core to the organization, have high distribution, and are critical to the business. These highest-priority applications are commonly referred to as Tier 1.

(2) Align applications with waves or logical groups of devices, such as business unit or line of business (LOB). Commonly categorized as Tier 2 or Tier 3, these should be prioritized according to the designated wave.

(3) Low-priority, Tier 4 applications may be utilized by very few users spread across the organization. These can be installed manually by the service desk as required during the migration and eventually migrated into Workspace ONE.

iii) Plan to migrate in sprints aligned with device migration waves:

    (1) Leverage the Enterprise Application Repository (EAR) in Workspace ONE UEM to ingest common applications curated by VMware.

    (2) For simple or small applications not provided within EAR, migrate one application at a time, using the console, ensuring that Install Command, Uninstall Command, and Install Detection Methods are all populated correctly.

    (3) Migrate large applications or applications in bulk via API to enable the upload to run in the background, or schedule the upload after hours.

VMware Workspace ONE migration tools

Migrating applications into Workspace ONE is a simple exercise involving use of the modern web console UI to upload the application installer or package and then capture relevant metadata. This works very well for ad hoc migrations or additions, but for migrating applications in bulk, several scripts are available for using Workspace ONE's RestAPI.

2. Assign, distribute, and deploy

i) Deploy in waves in a continuous, phased delivery approach that aligns with logical groups of users and devices. Gradually increase coverage across a site and an organization, and increase the percentage of apps available.

ii) Assign applications for deployment based on the logical grouping in the wave. That might be by Active Directory group if migrating by LOB. User self-service is also a viable option, in which case assign the applications as Optional; they will appear in the catalog for relevant users who will have the option to install the application.

iii) Leverage Peer Distribution distributed mode to provide peer-to-peer sharing between managed devices. This will reduce bandwidth consumption, speed up application installer download, and allow stop/restart of installer downloads.

3. Operationalize

i) Adopt a modern app packaging mindset.

    (1) Keep it simple, and use native installers. Packaging is not required for most applications.

    (2) Separate the installer from configuration where possible. For example, do not package and include a virtual private network (VPN) configuration within the VPN software installer package. Deploy the configuration as a profile instead, to provide flexibility, modular reuse, and simple upgrades.

    (3) Evaluate current package formats of existing applications to determine if they need to be repackaged to support "over the air" deployment.

    (4) Determine if existing packages have dependencies and complex chaining requirements. If so, leverage Freestyle Orchestrator in Workspace ONE to control the deployment of installer(s), profile(s), and script(s).

ii) Document a repeatable methodology and process that incorporates:

(1) A review of applications within the existing PCLM to prevent duplication of application functions and to reuse the silent installer/uninstaller configuration

(2) Standards and processes of "packaging"

(3) Test and promotion processes

(4) Roles and responsibilities for each process

iii) Utilize an application knowledge base, or package database, to store the intellectual property of how to silently install and uninstall applications your organization uses. This can be as simple as a spreadsheet or as complex as a web application.

iv) Utilize Workspace ONE Intelligence to monitor deployments and the application inventory in general.

MODERN MANAGEMENT APPROACH TO MIGRATION

Application and device migration can be expensive, slow, and prone to security risks. VMware Workspace ONE is a simple, secure enterprise platform that delivers and manages any app on any device or endpoint. It provides a modern management approach to automating onboarding and laptop and mobile device configuration. It delivers real-time application life cycle management that bridges legacy enterprise client/server apps to the mobile cloud era. For more information on Workspace ONE capabilities and best practices for migration, visit our website.