jamf

App Lifecycle Management with Jamf: Determining the best path for your organization

“There’s an app for that”

Try counting the different apps and software you or your users need during any given day of work. The sheer number of applications now used across an organization can be daunting for any IT admin, especially when it comes to onboarding, managing, maintaining, and sunsetting each one as needed. Managing each of these apps throughout the course of their lifespan is known as **App Lifecycle Management**.

App Lifecycle Management (ALM) is the cyclical workflow for applications in an enterprise that looks at all the different points in time of an application. Each stage plays an important part of every organization’s app strategy.

This guide will provide an in-depth view of the lifecycle to show different paths an IT admin can go down as they seek to:

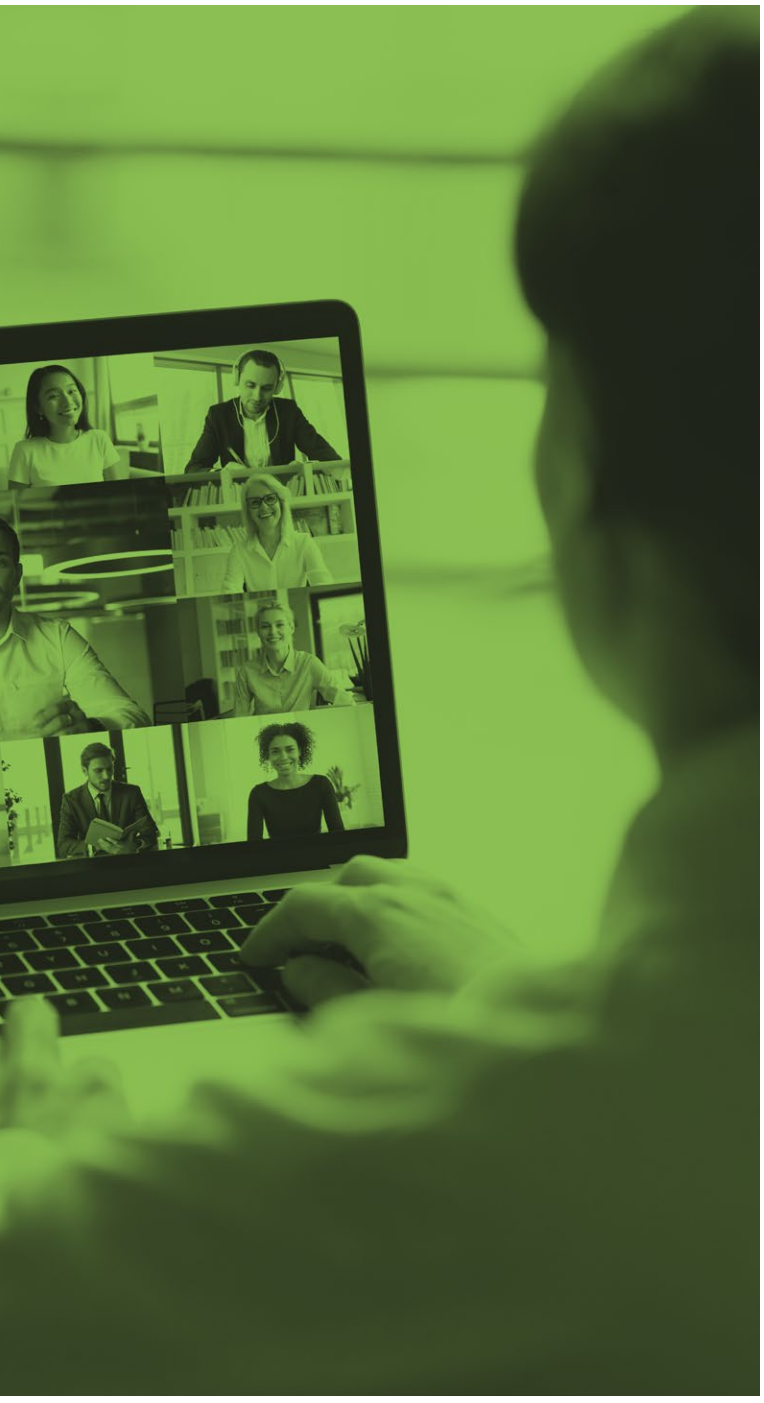
- Source apps
- Host apps
- Deploy and update apps
- Consider the user experience with apps
- Report on apps

Apps are the fabric of the end user experience; they intersect every step of the user’s journey. By considering each of these junctures and ensuring there is a full plan developed for the entire lifecycle, an organization’s ecosystem will stay organized, efficient, and secure.

Why App Lifecycle Management Matters

Every company, school, and organization – large or small – should have some kind of app strategy. These app strategies are unique to the needs and workflows of every organization and aim to improve three major areas – security posture, compliance, and end user productivity.

By viewing your app strategy through the lens of the entire lifecycle of apps, and how it influences an organization, IT admins can provide end users with the best experience, while building the application infrastructure needed to help their organization succeed. Incomplete lifecycle management risks negatively impacting an organization in a multitude of ways, from issues at the individual app level to problems compounded across the entire organization.



An inability to pull insights from app usage frequently leads to unnecessary app clutter, while unused apps are a waste of company dollars. Additionally, pulling app usage reports provides insights into apps that need updates. Having outdated applications on users' devices creates potential vulnerabilities, risking exposure on a far greater level.

In addition to security risks on the devices itself, these outdated apps are unreliable when it comes to functioning as intended. When users can't reliably depend on their apps and software it produces a strain on their experience and inhibits their motivation to invest themselves in the workflows that a well-run device can offer.

When a situation like this arises, it's more likely that many people within your organization are facing these obstacles to productivity, versus it being a one-off situation. This means you have people across your organization suffering through a bad experience and producing inefficient workdays or filing IT tickets to get updated features or fix broken apps. Depending on your organization's size this could be hundreds or even thousands of users. Even for smaller organizations, this means a large percentage of your users could be slowing down your lean, fast teams which is just as detrimental, if not more.

Let's take a look at each part of the lifecycle a little closer and the options admins have for managing applications.

Sourcing Apps

Put simply, “where do your apps come from”? Often the answer is a mixture of locations including the Apple Mac App Store, vendor-sourced installer packages (pkg files) and manually created package files. There are considerations to using each of these that are important to be aware of as you plan, or re-plan, your strategy.

Apple Mac App Store

A source that every Apple user will be very familiar with, the Mac App Store is Apple’s app marketplace that not only offers millions of applications, the entire ecosystem is paired seamlessly with Apple Business Manager (ABM), Apple School Manager (ASM), and your mobile device management (MDM) provider like Jamf. Because the App Store is Apple through and through and is so ingrained with ABM/ASM and your MDM, it allows you to find, purchase and distribute apps en masse that are screened for malware and approved by Apple.

Advantages	Considerations
Convenient, secure, easily accessible and updated.	The Mac App Store might not contain all apps that an organization wants to use.

Vendor-sourced apps

Automatic App Updates

The ability to automatically update apps has long been sought after. To date, there have been ways to utilize helper tools for auto updates but those have required the need to manage via configuration profiles with custom settings.

App Installers – part of the **Jamf App Catalog** – offers a streamlined way to automatically source, host, package, validate and deploy apps, mirroring the simplicity of the Mac App Store workflow for titles outside of the App Store, directly from the Jamf Pro console.

Advantages	Considerations
Removes the manual, time consuming process for IT admins having to source, package and deploy apps.	While the list of apps supported in the Jamf App Catalog is robust, it's possible not every vendor-sourced app will be available.

Manually created packages

Application installers outside of the App Store utilize packages. Vendor-sourced installer packages can be downloaded from the developer and then uploaded for delivery through a policy within Jamf Pro. It should be noted that not all vendors make their installers the same, or use .pkg files. Some vendors will place an application file within a disk image (.dmg) which then requires additional work for an IT administrator to process it and convert to a .pkg file. Jamf Composer is one such method to accomplish a package manually.

Advantages	Considerations
Source for a variety of app titles, many of the most used non-App store titles.	Manual, time consuming process for IT admins.

Whether your app strategy contains applications from just the Mac App Store or a mixture from multiple app sources, every type can be sourced, hosted, updated and deployed with Jamf for complete lifecycle management.

Hosting Apps

When it comes to app hosting, it's about knowing and managing where an app is stored. Many modern setups look to leverage cloud infrastructure and its ability to be accessed from any network location, but there are scenarios in which other hosting options are used, and even preferred, that admins should be aware of.

App Store

Applications that are sources from the App Store are hosted by Apple, and devices can be instructed to install the latest available version via native Apple MDM commands.

Applications that are sourced from the App Store are stored and hosted within the App Store. This isn't often something that most admins are concerned about as App Store apps are often considered low maintenance.

Advantages	Considerations
App store is built natively into every Apple device and compatible with native MDM framework for delivery methods while also providing the benefit of Apple verifying and hosting apps. In addition, Volume Purchasing of apps does not require the use of an Apple ID or for the organization to have an Apple ID strategy.	Apps delivered through Volume Purchasing can be set to automatically update when new versions are available through global MDM settings, or per each individual app's settings if additional testing is required before updates are queued to devices.

Software developers can also make custom applications for organizations that are verified and hosted by Apple, yet are unavailable to others in the App Store. For more information, see **https://developer.apple.com/custom-apps/**

Jamf Cloud Distribution Service (JCDS)

Jamf Cloud offers Jamf customers and admins easy cloud-based app hosting that is included with Jamf for all their app package needs. With the seamless integration with Jamf, it's simple to package and deploy to scoped devices wherever they are.

Advantages	Considerations
Included with Jamf allowing admins an easy workflow to host their app packages and deploy to scoped devices.	Most organizations will already be using a Cloud DP, and do not see a need to include another in their ecosystem.

Cloud Distribution Point

A common and critical component to most modern setups, cloud hosting offers access to app packages almost anywhere – remote or on-premises.

Advantages

An organization might have their own cloud infrastructure set up to host app packages, such as Amazon S3, Akamai NetStorage or more. They can use this instead of JCDS if they choose to for deploying app packages to remote/ hybrid workers wherever they are.

Considerations

For some, the cost associated may not be wort it when they could be using JCDS within Jamf Pro.

On-Prem/File Share Distribution Point

Some organizations may have strict requirements that disallow the use of external, cloud-hosted services, or there may be other network bandwidth limitations for particular locations. For those reasons, self-hosted file share distribution points may be used as an alternative or additional method to deliver installer packages.

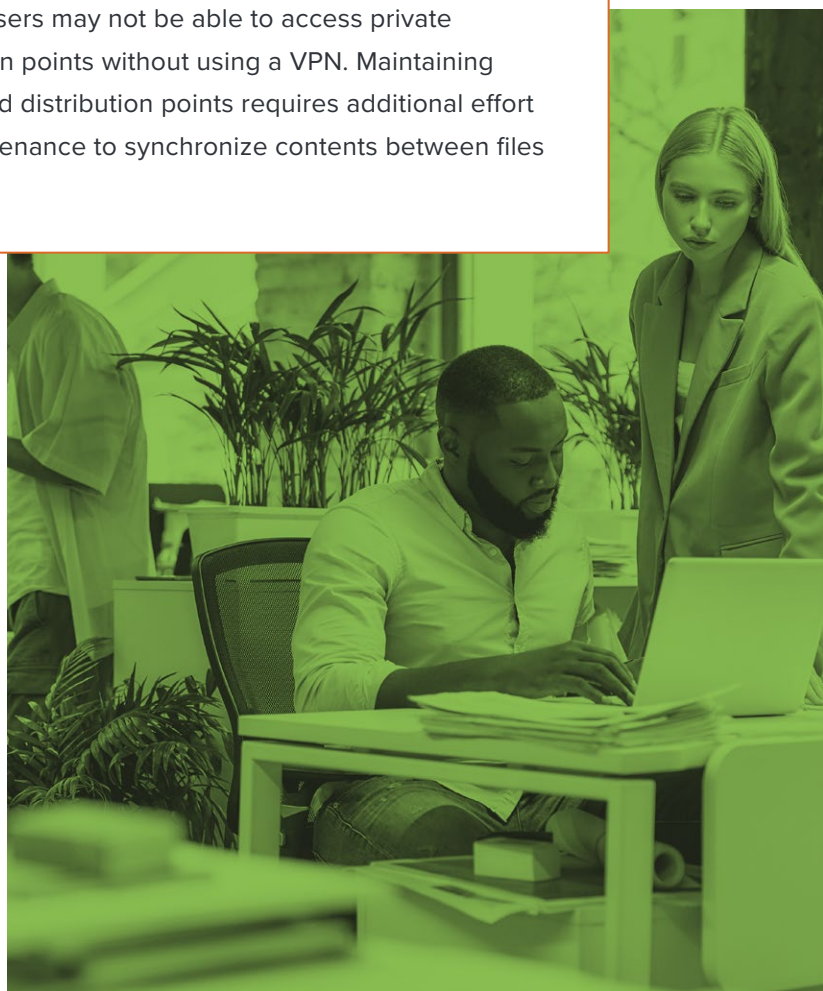
Advantages

Organizations can save money on time and network bandwidth when packages are installed from a local file share.

Considerations

Remote users may not be able to access private distribution points without using a VPN. Maintaining self-hosted distribution points requires additional effort and maintenance to synchronize contents between files shares.

Where you host and deploy apps is a vital consideration in having a more agile ALM strategy. Strategically thinking about the hosting location creates a system to keep an eye on your entire application ecosystem, making sure the end user experience remains flawless.



Updating and Deploying Apps

While sourcing and managing where apps are hosted matters, probably the most significant chunk of an application's lifecycle is updating, patching and deploying. Therefore, having a well-mapped out plan for these aspects will be critical to your app strategy.

Using Apple Business Manager and Apple School Manager, integrated with an MDM provider like Jamf is the ideal foundation for anyone looking to purchase and deploy apps to their fleet of devices and easily keep those apps up-to-date. However, not every app an organization wants to use for their Mac fleet is available in the Mac App Store.

For updating and deploying applications, we consider these methods:

Volume Purchasing

Volume Purchasing distribution and updates comes from apps purchased through the App Store. These are distributed using ABM or ASM and attached to a configuration profile within Jamf Pro or a Blueprint in Jamf Now. Apps deployed via Volume Purchasing can be automatically updated when Jamf Pro becomes aware of newer versions available in the App Store. These apps are updated depending on update and install commands set by the admin within Jamf Pro, which includes an organization's preferred update cadence. Selecting from these is about finding the right fit that consistently meets your needs and goals surrounding user experience and the rest of your app strategy.

Automatic app updates

Similar to automatic updates for Mac App Store apps, App Installers in Jamf Pro offers a simple way to deploy third-party Mac apps and automatically keep them up to date, eliminating the need to monitor for updates, repackage apps or manage hosted files. In addition, App Installers will validate the integrity of each new version before it is deployed to machines designated by the IT admin.

Packages and policies

Packages allow IT to package up an app, scope it to a device or profile and deploy it through a policy. Using a policy, you can run scripts, manage accounts, and distribute software. When you create a policy, you specify the tasks you want to automate: execution frequency (how often it should run), triggers (when the policy should run), scope (the users and computers for which it should run) and the user experience. All of these attributes can be set on a per policy basis.

Patch Policies

Admins can select which applications they wish to target for patch policies from the Jamf App Catalog, as well as external patch definition feeds. The Jamf App Catalog is a robust list of software titles, for unmatched capabilities to organize and maintain versions for patch management and reporting needs.

In addition to the expanding list of titles available, **Jamf Title Editor** provides admins with the ability to create and maintain their own custom titles within the Jamf App Catalog, or customize information provided by Jamf app title definitions. Admins can also customize the closing of apps and user notification for a particular patch.

App Lifecycle Management is a strategy framework, meaning no one size fits all. Depending on an app environment, individual apps will have differing needs when it comes to updating and deploying. Customers will have the flexibility to update and deploy some apps with App Installers and other apps with Policies and Patch Policies. One factor that does apply to all app strategies however is that unpatched software is unsecured software, making your patch management plans critical to your app strategy success.

User Experience with Apps

A complete and comprehensive app strategy finds a way to maximize organization, efficiency and security without harming their user experience. Balancing these aspects isn't always as simple as it seems, and no one method is best. Users want their apps to work, when they need them to work, and if done right, they won't even know about the role the IT admin plays in the background, ensuring they have the most flawless experience with apps needed to be productive.

Striking the right balance of user involvement or interruption when keeping apps updated, while keeping security in mind, is key to establish. Whether it's fully up to the user as to when they install their apps or IT pushes apps without user interaction are decisions needed when attempting to find that balance – and you may find that you have a little bit of all the strategies below, depending on the app.

Silent Installation

This method can happen either initially during enrollment or via Self Service. During enrollment, users power on their Apple device and have everything they need, including apps, based on how an admin provisions a users' machine, often based on cloud identity.

If the admin chooses to user App Installers as the method for updating apps, updates will silently install in the background and users do not need to take any action. Its hands off for IT admins, and unnoticed by users.

Notifications

Admins may choose to start building a culture of easily keeping apps up to date by giving your users a little nudge and guiding them to install updates in a timely manner. Admins can call out that an update is available via notifications, badges, and reminders and if that doesn't prompt the user enough to install the update, patch policies can be set to enforce an update after a set period of time. Reminders are a great way to have a mix between user and IT-driven app updates.

Self Service

Using Jamf Pro's Self Service empowers users to use and update the IT-approved apps that keep them productive and enhance their use of technology users to select the apps they need for their own success. IT admins can still track which apps are installed within the fleet of devices and shift the strategy for a particular app if more management of updates needs to occur.

Install with no deferral option

Admins may choose to install an application ASAP with no option for the user to defer the installation. Although this could be considered intrusive if using the device, it is an important method when admins have an app with important security updates and want to ensure that the update happens immediately to avoid potential security risks. Because of the potential interruption to a user, this method should be used wisely if patches can't be scheduled for "off" heavy work times.

The ability to customize your user experience allows you to cater directly to your organization's needs, your users' needs and maintaining the security of apps. Whether your app strategy runs on employees being empowered to seek out what they need or having everything from app selection to deployment and updates automated so your team spends more time focused on customers, Jamf allows you to deliver the exact experience you want.

Reporting on Apps

With any good strategy, the ability to monitor, measure, and react is important to continually tweaking and improving it – ALM strategies are no different. Finding methods to gather data and report on aspects like app versions and app usage across an entire device fleet offer admins the power to tie applications to real business goals, budgets, and organizational success.

Viewing reports

Pulling the numbers and reports surrounding apps is nice but being able to visualize the data and map app data throughout the application lifecycle is a goal to strive to achieve. It allows you to monitor key figures, KPIs, and moments that require IT-interaction. You can also enable reporting on as many apps as you want to get a visual representation of how up-to-date your fleet of devices is, even if you may not be actively patching every single app that you are using. There are a few common ways to view these reports:

Jamf Pro Dashboard

The Jamf Pro dashboard is built into Jamf Pro and is ready to use, enabling IT admins to monitor the status of licensed applications. Jamf Pro dashboards allow you to add a list of items including policies, patch reports, licensed software, and more.

Patch Reporting

Devices submitting inventory reports on specific apps with regular frequency offer IT the ability to see which devices are carrying which version of specific apps. A key juncture to track when it comes to taking action and monitoring for potential flaws in security. These reports can be exported to CSV or TXT formats for sharing.

App Version reports

See which devices have the latest versions of apps and take action when needed.

App Usage reports

Understand how much, and by whom, certain applications are used. Take action to reallocate or revoke apps from devices.

Advanced Search

Advanced Search gives the ability to display only the fields an administrator wants to see about an app while allowing admins to configure criteria to display only the devices or users that meet that criteria. It's common to use advanced search reporting to combine patch reporting with other, specific, related criteria to pull customized reports.

Marketplace integrations

e.g., Splunk, Tableau

Bring your data to life and map your secure and support app lifecycle with the help of third-party tools. It's important to expect and plan for additional cost and time to onboard and integrate these tools to your organization's liking, but it offers the ability to display your management success in a viewer-friendly way that combats glazed eyes that can come with row after row of data sheets. In addition, there are also API possibilities to consider, such as Jamf Pro sending webhooks to Slack/Teams with the webhook PatchSoftwareTitleUpdated.

The Path Forward

It's important to remember that no single app lifecycle management plan fits all organizations, but that all should work toward having a complete ALM strategy. Whether your needs demand apps from every source and routine patch management, or a few well-curated apps deployed in Self Service for each department to access, knowing where your apps come from, where they are hosted, how they are deployed and updated, and how you will pull reports on apps is key to ensuring your environment remains organized, efficient and secure.

Once apps are in the wild and licenses are issued, things can get hectic. Having a well thought out, comprehensive strategy to manage apps throughout the lifecycle saves time, money, and headaches, while simultaneously delivering a better user experience. From sourcing apps to streamlined deployment, patching, and reporting, Jamf is built to help you deliver success to the entire organization.

See how Jamf can elevate your app strategy.
Request Trial.