



Understanding the App Lifecycle: Automate Updating and Deploying



Managing apps through their [lifecycle](#) — from sourcing to updating to the experience users have — is a critical component of an IT admin’s job. It’s also something that often goes unconsidered or is left in a state of *good enough*. But all too often the workflow is not good enough, creates more work and headaches for IT, and may disrupt the user experience in the long run.

By considering the approach to each step of the app lifecycle workflow, IT can deliver a flawless experience for end users while keeping an eye on compatibility issues and security risks that come with outdated software. A major component of the workflow that aids in keeping up with compatibility issues is patch management.

This solution brief explains:

- The basics of updating and deploying apps
- Why should you patch software
- App Installers in Jamf Pro
- Patch Management in Jamf Pro

Basics of updating and deploying apps

Much of an application's lifecycle is spent updating and deploying that app. Volume Purchasing through Apple Business Manager or Apple School Manager automatically updates apps as new versions become available, however, many applications used for business come from outside the Mac App Store, like Google Chrome or the Adobe Suite. For these apps, a little more work is needed to update and deploy.

Patch management is the process of updating these apps and, while necessary, can be a time consuming and manual task for IT admins. First, let's talk about why patch management is necessary for software environments.

Why should you patch software?

Updating software to take advantage of new features requested by users.

Major (and minor) point-releases of software often bring new features, which users are likely to request well before IT has been made aware of any such point-release.

Updating software to take advantage of bug fixes can decrease the number of tickets submitted to IT support teams.

While users appreciate new features being added to business-critical applications, system administrators also appreciate a less bug-ridden environment, decreasing the ticket workload of IT support teams.

Updating software to quickly respond to security vulnerabilities.

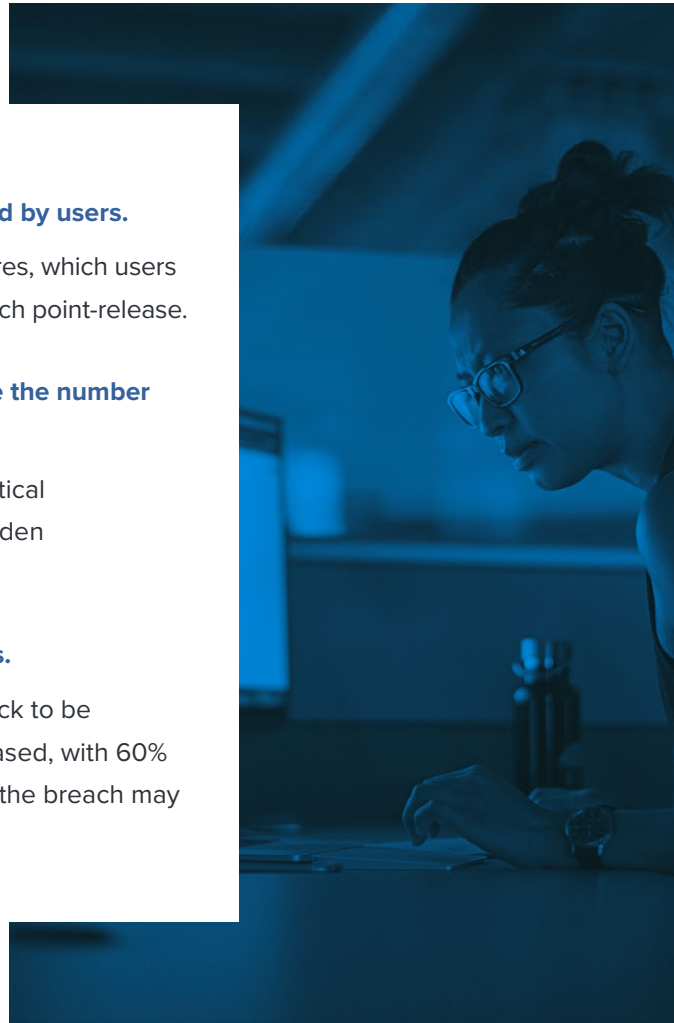
This [ServiceNow study](#) found that it takes 43 days for a cyberattack to be attempted once a patch for a security vulnerability has been released, with 60% of survey respondents who experienced a data breach reporting the breach may well have been avoided had the relevant patch been applied.

Why doesn't everyone immediately patch software?

The same [ServiceNow study](#) found that the common reasons for a delay in patching were:

- A lack of available or usable resources needed for patching.
- No single view of installed applications and devices.
- No ability to schedule downtime for patching.

Luckily, **Jamf Pro** can assist on all three fronts.





How to update apps with Jamf Pro

Jamf Pro offers admins two different workflows to achieve their patch management goals: App Installers and patch policy workflows. App Installers brings automation to the patch management process to reduce time spent sourcing and deploying new versions, while patch policy workflows are far more manual but may be more familiar to Apple administrators, since they have been the only option for Jamf patch management in the past.



Version history

A version history is a collection of software versions alongside their corresponding release dates. Although useful for determining whether a software title has patches available, this often is not enough information for an administrator to make an informed decision on the complexity involved in patching the affected title.

The Jamf patch management titles include details critical to the patching process for each and every software title version, such as whether a patch requires a reboot of the macOS device, the minimum macOS version required, as well as which applications must quit in order for the patch to be applied.

Automated patch workflows with App Installers

One method of keeping apps up-to-date is with automated updates. App Installers, part of the Jamf App Catalog – offers a streamlined way to deploy and update third-party Mac applications, removing the tedious tasks of sourcing, deploying and maintaining application titles.

How App Installers keep apps up-to-date automatically

App Store and Vendor-sourced apps in one place

The App Store was revolutionary when it created a marketplace of applications a user may want on their device. Jamf Pro makes sourcing both Mac App Store and third-party applications easy, via the Jamf App Catalog. App Installers offer a simplified “automatic update” workflow, meaning updating apps has a low maintenance point.

Admins can select which applications from the Jamf App Catalog they wish to target for patch policies, as well as external patch definition feeds. 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.

STEP 1

Automatically Source, Host and Package Apps

Jamf monitors and sources new versions of apps directly from the vendor and once a new version is available, Jamf downloads the new version, repackages if needed and uploads it to the distribution point. Once uploaded, Jamf Pro links the package to the patch definition.

STEP 2

App security through packaging

Before apps can be deployed, the integrity of the patch definition needs to be validated to ensure security. Once verified, the new app version will be deployed automatically to all compatible Mac in the [Smart Group](#) designated by the admin. This install is silent in the background so users do not need to take any action.



Patch management workflows in Jamf Pro

Alternatively, admins may choose to use patch policy workflows in Jamf Pro to patch apps, or a combination with App Installers. Admins can select applications from the Jamf App Catalog they wish to target for patch policies.

Jamf Pro collects inventory containing a wealth of information about each enrolled device, including a comprehensive list of software titles installed, along with the software's version information.

Version history is important as it tells admins when an app is outdated. With Jamf Pro's patch management feature, admins can subscribe to an ongoing feed of software version data, empowering them with timely reporting information, as well as with the ability to take action and patch a device.

Jamf Pro combines inventory data and software version data to produce timely reports on software compliance, as well as equipping a Jamf Pro administrator with the information necessary in order to undertake the patching process.



What's in a version?

For the purposes of patch management, Jamf Pro uses an application's name (.app) and bundle identifier (CFBundleIdentifier) in order to identify a software title, as well as the application's short version string (CFBundleShortVersionString) in order to assess the software title's version.

To use Google Chrome as an example:

App name: Google Chrome.app

CFBundleIdentifier:
com.google.Chrome

CFBundleShortVersionString:
88.0.4324.150

In some cases, a software title might use alternate methods of reporting its version information, such as a configuration file in a non-standard location, or is only accessible via the command line. In these instances, Jamf Pro uses an extension attribute, which allows Jamf Pro to collect extra inventory information in order to query a software title's version.

STEP 1

Tracking a software title with Jamf Pro

Patch management software titles can be configured for reporting and updating purposes. If a software title requires the use of an extension attribute in order to collect versioning information, any scripts required will be presented for acceptance, ensuring full transparency of the data collection process.

STEP 2

Building reports

Generate reports to identify which computers have the software title installed and which titles need to be patched. Reports can be displayed on a Jamf Pro dashboard to provide an instant overview of software compliance or exported as either a comma-separated values file (.csv), or a tab-delimited text file (.txt).

For greater visibility, leverage advanced computer searches and smart computer groups for a comprehensive state of the environment.

STEP 3

Get notified

Configure Jamf Pro to notify administrators of mission-critical software title update availability and users on a per-software title basis allowing them to update on their own. If provisioned with a Jamf Pro account, a security team can also be notified alongside an administrator, allowing them to work in tandem.

This is critical as [ServiceNow](#) reports that 62% of respondents said they were unaware of any vulnerabilities. Had they been notified, they may have been able to take immediate action and patch the issue.

STEP 4

Patch

With software titles added to Jamf Pro, an administrator is given full control over the deployment of any required patches through the creation of patch policies, a patch-specific variant of a regular Jamf Pro policy.

includes choosing whether to distribute patches automatically or making them available for users in Jamf Self Service, which can also notify users via Notification Center. Both a decline and grace period can also be added, so that users can install updates at a time of their choosing, rather than that of IT.



Simplified app management with Jamf

As organizations grow, so does the need for easier app management. Maintaining a healthy application environment – especially keeping apps up-to-date – is a vital part to any IT admin's job. Whether manually updating titles via patch management, or using a more automated process with App Installers, sourcing, deploying and updating applications with Jamf Pro has never been easier.

This is just the beginning. Jamf continues to invest in new workflows in order to help IT admins be successful with Application Lifecycle Management, however a software environment is set up.

To learn more and put our App Lifecycle Management workflows to the test, [start your free trial today](#).

Or contact your preferred reseller of Apple hardware to get started.