

# The Past, Present, and Future of Munki

Greg Neagle, July 2023

Search

Software

Categories

My Items

Updates

# Managed Software Center

Your source for software for your Mac.



Administration | Cloud Storage | Communication | Developer | Drivers | Editorial | Entertainment | File Sharing | Graphics | Internet | Media  
| Production | Productivity | Remote Access | Story | Text Editing | Text Editors | Uncategorized | Utilities | Virtualization | drivers

## All items



Adobe Acrobat Reader DC  
Productivity - Adobe

INSTALL



Amazon WorkSpaces  
Remote Access - Amazon  
Installed

REMOVE



Aspera Connect  
Utilities - IBM Corp

INSTALL



Atom  
Text Editors - GitHub, Inc.

INSTALL



Autodesk Maya 2018  
Production - Autodesk

INSTALL



Autodesk Maya 2019  
Production - Autodesk

INSTALL



Autodesk Meshmixer  
Production - Autodesk

INSTALL



Blender  
Production - The Blender Foun...

INSTALL



BlueJeans  
Communication - Blue Jeans N...  
Installed

REMOVE



# The Past





ANIMATION







Apple Menu Items

13 items, 707.9 MB available

Apple System Profiler

Calculator

Control Panels

32 items, 707.9 MB available

Keychain Access

Launcher

Memory

Monitors

Multiple Users

Numbers

PPC Quicksilver

38 items, 707.9 MB available

| Name                        | Date Modified               | Size   | Kind        |
|-----------------------------|-----------------------------|--------|-------------|
| Disk Copy                   | Thu, Jan 21, 1999, 12:00 PM | 1 MB   | application |
| Documents                   | Today, 8:45 PM              | —      | folder      |
| Illustrator 8.0 Install Log | Wed, Aug 28, 2002, 10:21 PM | 32 K   | SimpleText  |
| Installer Log File          | Tue, Aug 28, 1956, 5:13 AM  | 4 K    | SimpleText  |
| Late Breaking News          | Fri, Feb 18, 2005, 3:18 PM  | 4 K    | alias       |
| System Folder               | Yesterday, 11:55 PM         | —      | folder      |
| Appearance                  | Tue, Aug 28, 1956, 12:54 AM | —      | folder      |
| Apple Menu Items            | Today, 8:13 PM              | —      | folder      |
| Application Support         | Fri, Feb 18, 2005, 3:09 PM  | —      | folder      |
| Clipboard                   | Mon, Aug 27, 1956, 9:38 PM  | 4 K    | file        |
| ColorSync Profiles          | Fri, Feb 18, 2005, 4:06 PM  | —      | folder      |
| Contextual Menu Items       | Mon, Aug 27, 1956, 9:44 PM  | —      | folder      |
| Control Panels              | Tue, Aug 28, 1956, 5:13 AM  | —      | folder      |
| Control Strip Modules       | Fri, Feb 18, 2005, 3:19 PM  | —      | folder      |
| Extensions                  | Mon, Aug 27, 1956, 8:37 PM  | —      | folder      |
| Favorites                   | Fri, Feb 18, 2005, 3:10 PM  | —      | folder      |
| Finder                      | Sat, Oct 7, 2000, 12:00 PM  | 2.3 MB | file        |
| Fonts                       | Fri, Feb 18, 2005, 3:24 PM  | —      | folder      |
| Help                        | Mon, Aug 27, 1956, 9:12 PM  | —      | folder      |

PPC Quicksilver

Mac OS 9.1

Wikipedia

Open Keychain Access

Show Available Keychains

Unlock Keychain...

Lock "Michiel Sikma"

Work

Favorites

Downloads

Trash

Wikipedia

Applications (Mac OS 9)







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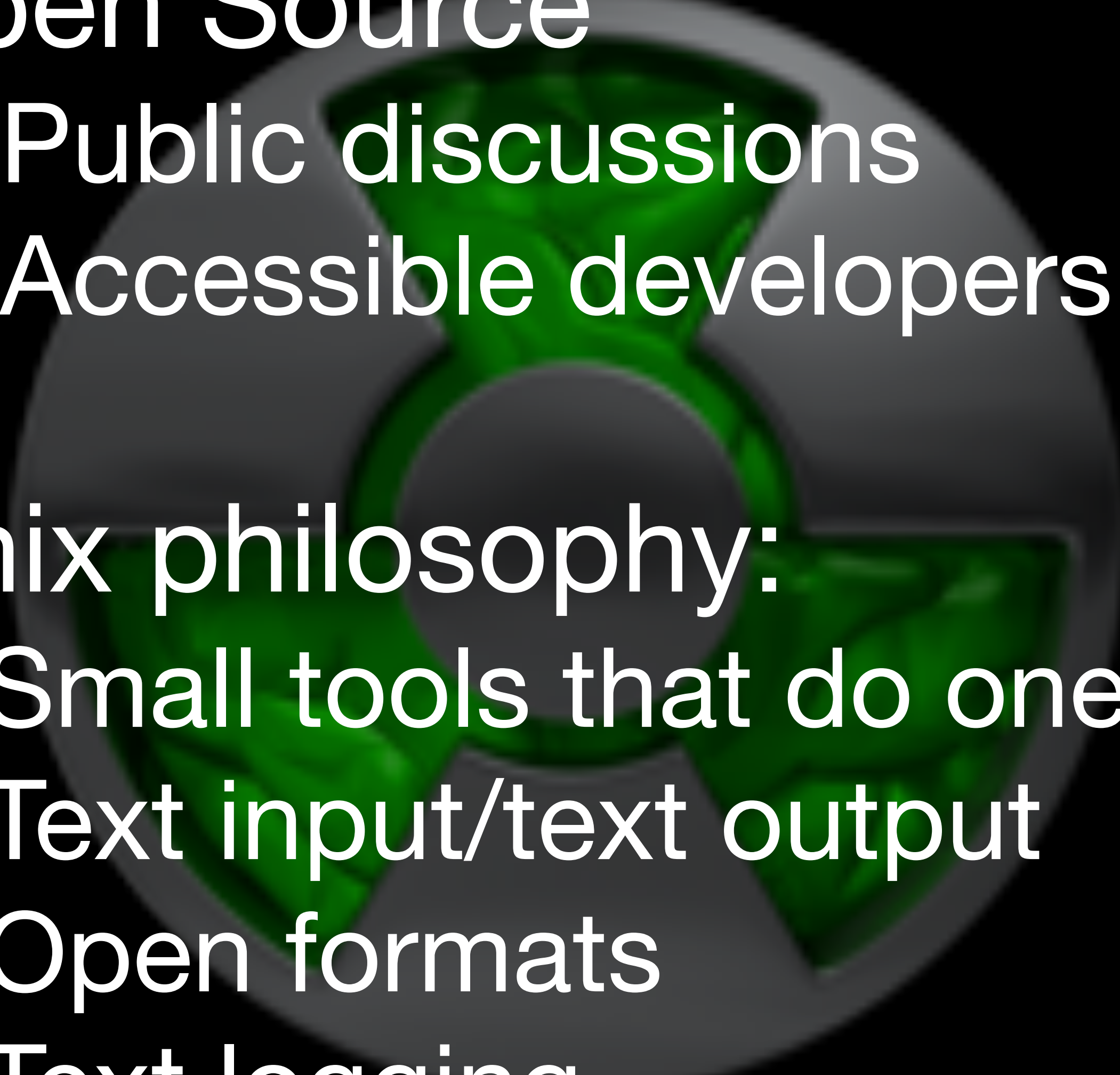
Mac OS X

Version 10.0  
1Z691-2974-A







- 
- Open Source
    - Public discussions
    - Accessible developers
  - Unix philosophy:
    - Small tools that do one thing
    - Text input/text output
    - Open formats
    - Text logging

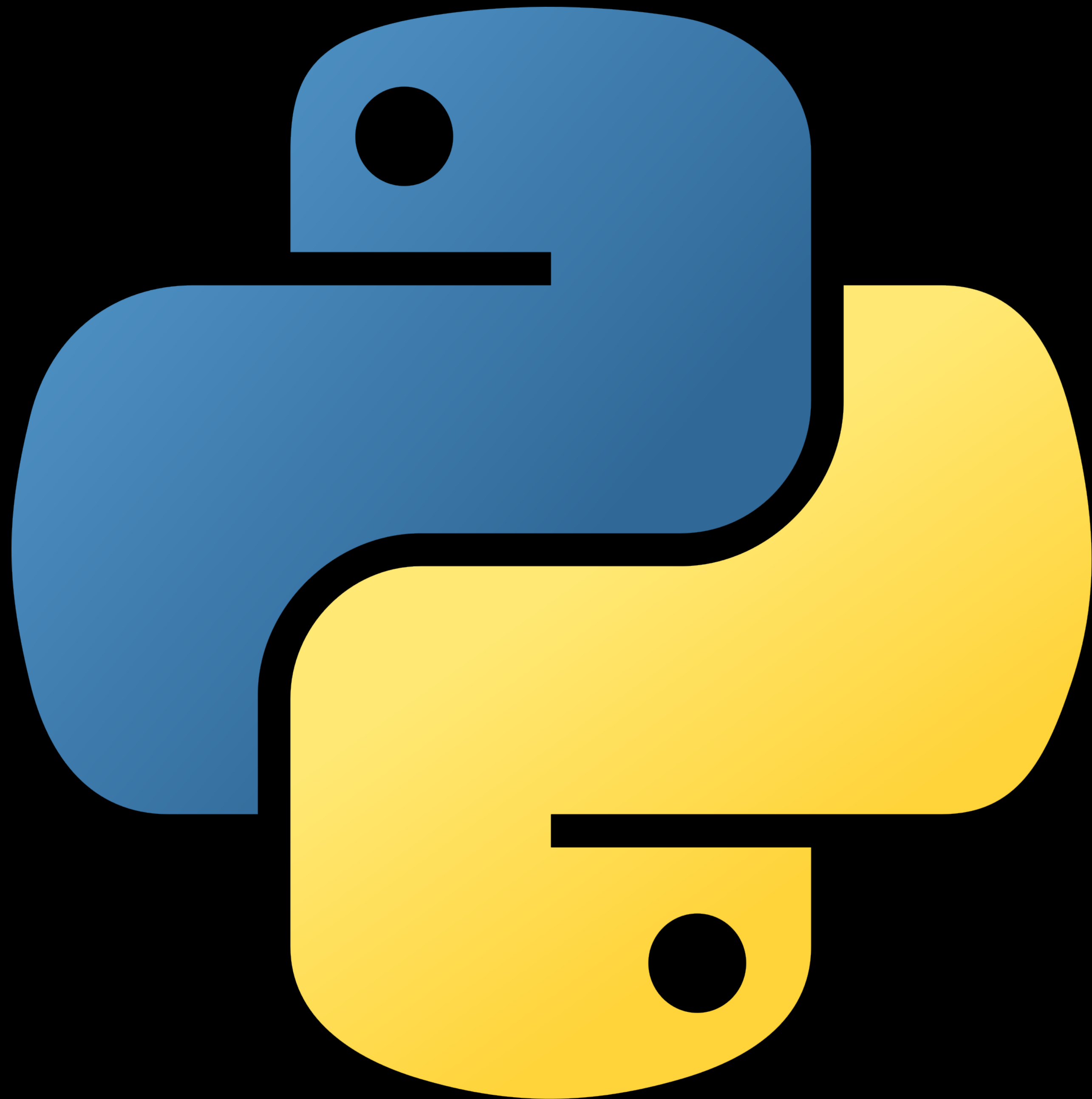








casper  
SUITE





```
#!/usr/bin/env python
# encoding: utf-8
"""
```

```
managedinstallslib.py
```

```
Created by Greg Neagle on 2008-11-18.
```

```
Copyright (c) 2008 Walt
```

```
Common functions used by
"""
```

```
import sys
import os
import plistlib
import urllib2
import urlparse
import time
import calendar
import subprocess
import tempfile
import shutil
from xml.dom import mini
```

```
#####
# managed installs prefe
#####
```

```
def getManagedInstallsPr
```

```
#!/usr/bin/env python
# encoding: utf-8
"""
```

```
makecatalogitem.py
```

```
Created by Greg Neagle on 2008-11-25.
```

```
Creates a managed install catalog item
a .pkg, a .mpkg, or a .dmg containing a
at the root of the mounted disk image.
```

```
You may also pass additional items that
are added to the 'installs' key of the
processing the catalog to check if the
reinstalled.
```

```
The generated plist is printed to STDOUT
```

```
Usage: makecatalogitem /path/to/package
"""
```

```
import sys
import os
import re
```

```
#!/usr/bin/env python
"""
```

```
installomatic
```

```
Tool to automatically install pkgs, mpkgs, and dmgs
(containing pkgs and mpkgs) from a defined folder. Inter
to be run as part of a logout hook, but can be run manu
"""
```

```
import os
import subprocess
import sys
import time
import plistlib
import optparse
import managedinstalls
```

```
def log(message):
    global logdir
    logfile = os.path.join(logdir, 'install.log')
    f = open(logfile, mode='a', buffering=1)
    if f:
        print >>f, time.ctime(), message
        f.close()
```

```
def countinstallcandidates(dirpath):
    """
```

```
Counts the number of pkgs, mpkgs, and dmgs
in dirpath
```



munki

## Workflow example 2 views



**gregneagle@mac.com** <gregneagle@mac.com>

to munki-dev@googlegroups.com

Jan 15, 2009, 12:19:42 PM



Let's try again from the right email address:

I've posted a workflow example on the wiki for the munki project:

<http://code.google.com/p/munki/wiki/WorkflowExample>

It's rather long, but hopefully should get the basic concepts across.

-Greg



Reply all



Reply to author



Forward



code.google.com/archive/p/munki/

Google Code Archive

Search this site

ProjectsSearchAbout


Project

Source

Issues

Wikis

Downloads

munki

THIS PROJECT HAS MOVED TO GITHUB: <https://github.com/munki/>

**ATTENTION! Munki has moved to GitHub!**

- Munki's main code repository has moved here:  
<https://github.com/munki/munki>
- MunkiWebAdmin's repo has moved here:  
<https://github.com/munki/munkiwebadmin>
- createOSXinstallPkg's repo has moved here:  
<https://github.com/munki/createOSXinstallPkg>

Munki documentation has moved here:  
<https://github.com/munki/munki/wiki>

This site will no longer be updated, and will eventually be dismantled when we are certain the transition is complete.

All new and existing issues should be opened/discussed on the appropriate new issue pages on GitHub:

- <https://github.com/munki/munki/issues>
- <https://github.com/munki/munkiwebadmin/issues>
- <https://github.com/munki/createOSXinstallPkg/issues>

Munki is a set of tools that, used together with a webserver-based repository of packages and package metadata, can be used by OS

**Project Information**

- License: [Apache License 2.0](#)
- 329 stars
- git-based source control

<https://code.google.com/p/munki>

# munki

Managed software installation for OS X

 Search projects[Project Home](#)[Downloads](#)[Wiki](#)[Issues](#)[Source](#)[Summary](#) | [Updates](#) | [People](#)

munki is a set of tools that, used together with a webserver-based repository of packages and package metadata, can be used by OS X administrators to manage software installs (and in many cases removals) on OS X client machines.

munki attempts to address some of the limitations of using the Apple package format for managed software installations and removals.

Additionally, munki supports Adobe CS3/CS4 Enterprise Deployment "packages", and drag-and-drop disk images as installer sources.

Check out the Wiki for some notes and documentation, and browse and/or check out the source. There's also an installer package in the Downloads section.



munki



munki

Code license: [Apache License 2.0](#)

Featured downloads:

[Show all](#)

[munkitools-0.4.9.pkg.dmg](#)

Featured wiki pages:

[Show all](#)

[CurrentReleaseNotes](#)

[GettingStartedWithMunki](#)

[InstallingOnStandaloneMachine](#)

Feeds: [Project feeds](#)

Groups: [munki-dev](#)

Project owners:

[People details](#)

[gregnea...@mac.com](#)

Project committers:

[nigel.kersten](#),

[Joe.Block](#),

[dayglojesus](#),

[patrick.mcneal](#)



# munki

Managed software installation for OS X

Project Home Downloads Wiki Issu

Summary | [Updates](#) | [People](#)

munki is a set of tools that, used together with a webse administrators to manage software installs (and in mar

munki attempts to address some of the limitations of u

Additionally, munki supports Adobe CS3/CS4 Enterpris

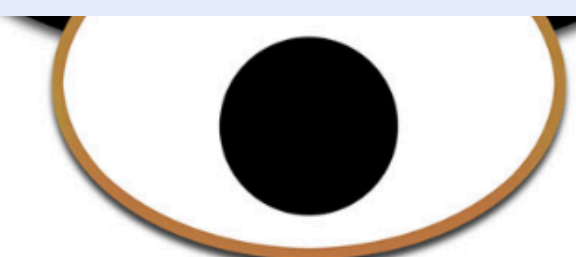
Check out the Wiki for some notes and documentation section.



munki

## Project committers:

[nigel.kersten](#),  
[Joe.Block](#),  
[dayglojesus](#),  
[patrick.mcneal](#)



munki

Code license: [Apache License 2.0](#)

Featured downloads:

[Show all](#)

↓ [munkitools-0.4.9.pkg.dmg](#)

Featured wiki pages:

[Show all](#)

[CurrentReleaseNotes](#)

[GettingStartedWithMunki](#)

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[nigel.kersten](#),

[Joe.Block](#),

[dayglojesus](#),

[patrick.mcneal](#)

Search projects



**Radmind influences**



# Radmind influences

- Open source
- UNIX philosophy
  - Small tools that do one thing  
(managedsoftwareupdate, makepkginfo, makecatalogs)
  - Text files for configuration data  
(manifests, catalogs)
  - Logging
- Desired state

# Radmind influences

- ~~File system diffs/repackaging~~
  - Get filesystem into known state
  - Install new software or make config change
  - Scan filesystem for changes
  - Edit transcript of changes
  - Upload transcript and files to server

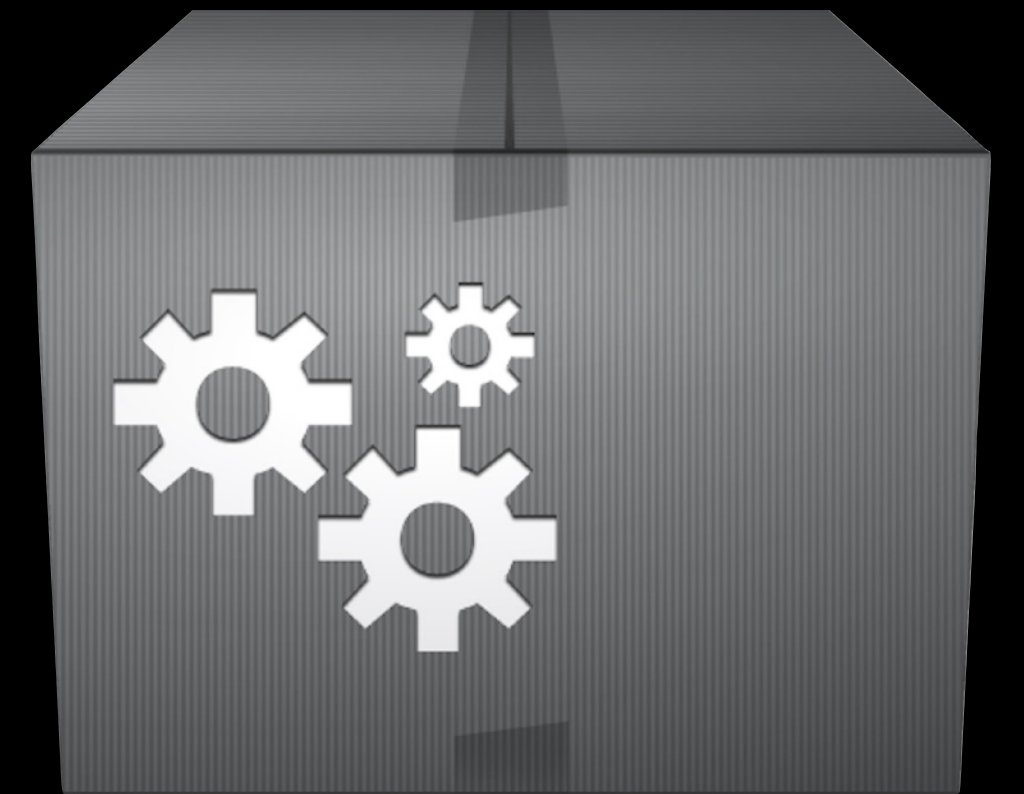


# Radmind influences

- ~~File system diffs/repackaging~~
- **Pros:**
  - Worked with any type of installer
- **Cons:**
  - You were essentially repackaging everything
  - Could not guarantee that radmind was accurately reproducing the vendor-provided installer

# Radmind influences

- ~~• File system diffs/repackaging~~





# Code Evolution

Lines of Python

30000

20000

10000

0

2009

2010

2011

2012

2013

2014

2015

2016

2017

2018

2019

2020

2021

2022

2023

0.0.1

0.4.9

0.8.0

1.0

2.0

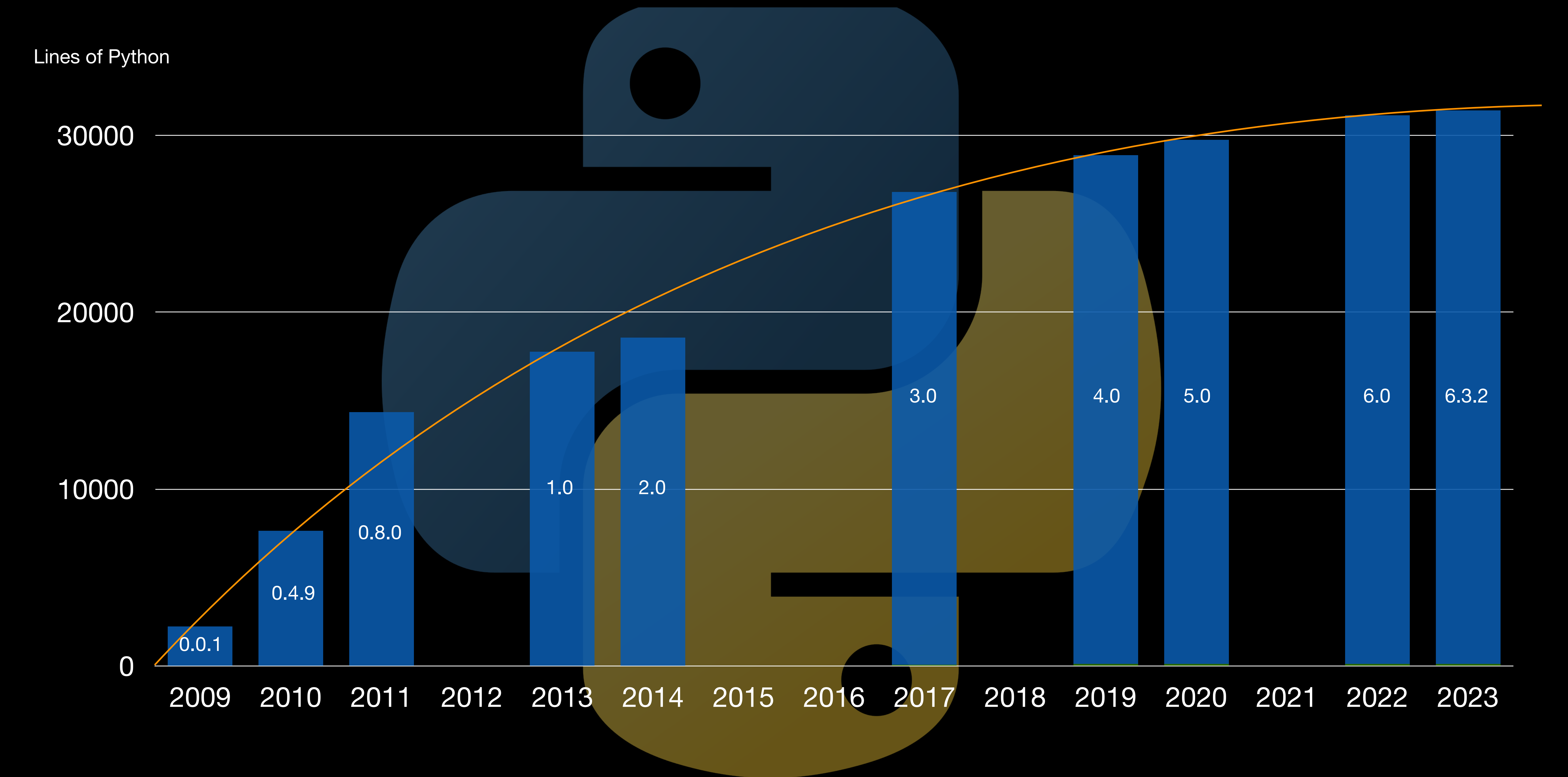
3.0

4.0

5.0

6.0

6.3.2



# Languages



- Python 69.7%
- Swift 20.3%
- CSS 3.5%
- Shell 3.3%
- HTML 1.6%
- Objective-C 1.2%
- JavaScript 0.4%



# GUI Evolution



## Managed Software Update



### Software updates are available for your computer.

Updating your software may take some time. If you're not ready to update now, you can choose to update later.

| Name                                   | Version      | Size    |
|--|--------------|---------|
| Mozilla Firefox                        | 31.0         | 60.1 MB |
| Disney Animation Firefox Configuration | 6.0          | 23.0 KB |
| Mozilla Thunderbird                    | 24.6         | 44.3 MB |
| VLC                                    | 2.1.5        | 32.0 MB |
| Canon Q2 iPS Fiery Driver              | 3.3.1206.... | 45.2 MB |
| Adobe Flash Player                     | 14.0.0.176   | 15.7 MB |
| Microsoft Silverlight                  | 5.1.30514    | 14.5 MB |

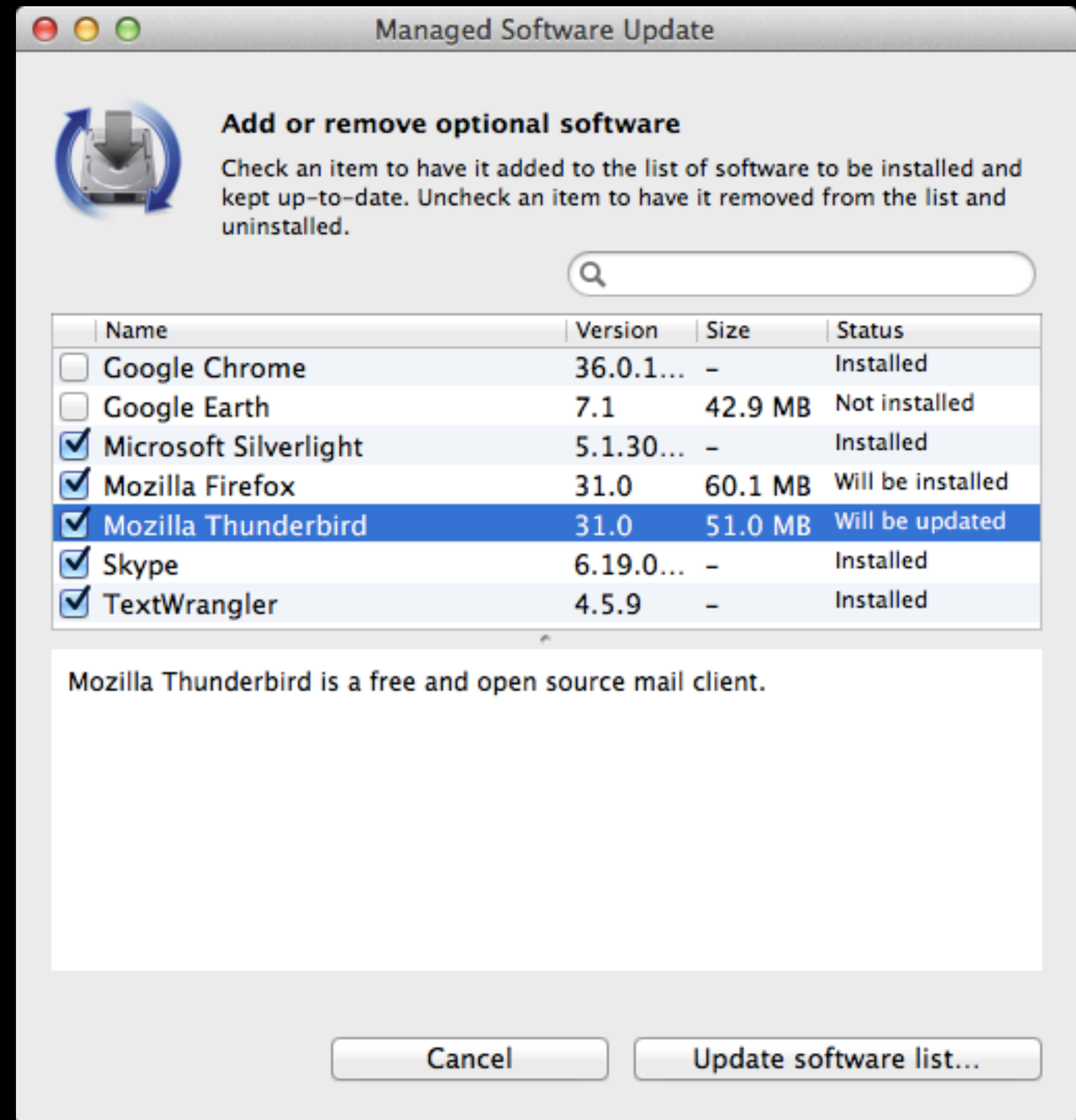
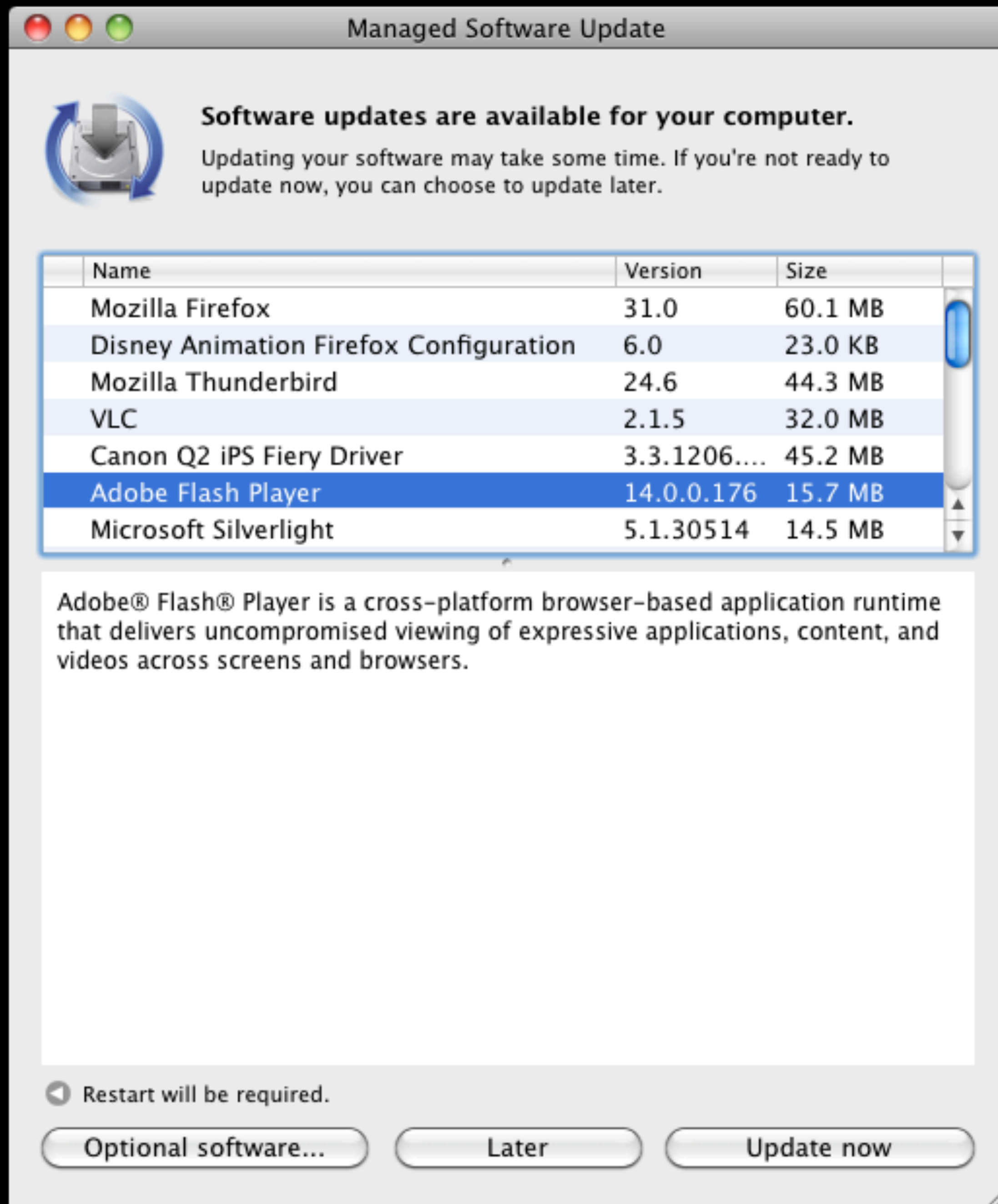
Adobe® Flash® Player is a cross-platform browser-based application runtime that delivers uncompromised viewing of expressive applications, content, and videos across screens and browsers.

◀ Restart will be required.

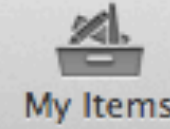
Optional software...

Later

Update now







# Managed Software Center

Your source for software for your Mac.



## All items



### Adium

Communication – The Adium Team  
Update available

UPDATE



### Adobe Flash Player

Internet – Adobe  
Installed

REMOVE



### Adobe Reader

Productivity – Adobe

INSTALL



### Alinof Timer

Productivity – Alinof Software Sàrl

INSTALL



### Arduino

Programming – Arduino

INSTALL



### Atom

Text Editors – GitHub, Inc.

INSTALL



### Audacity

Audio – The Audacity Team

INSTALL



### AutoDMG

Utilities – MagerValp

INSTALL



### Bartender

Utilities – Surtees Studios

INSTALL



### BBEdit

Text Editors – Bare Bones

INSTALL



### Box Sync

Internet and Cloud – Box

INSTALL



### Caffeine

Utilities – Lighthouse Software

INSTALL



### Chicken

Remote Access

INSTALL



### Chocolat

Text Editors

INSTALL



### Citrix Receiver

Remote Access – Citrix

INSTALL



### Coda

Programming – Panic



### Coda 2

Programming – Panic



### Colloquy

Communication

## Categories

Audio  
Communication  
Drivers  
Internet  
Internet and Cloud  
Media  
Organization  
Productivity  
Programming  
Remote Access  
Text Editors  
Utilities



# Managed Software Center

Your source for software for your Mac.



All items

Categories



1Password  
Utilities - AgileBits Inc.

INSTALL



Acorn 4

INSTALL



Adium  
Communication - The Adium Team

INSTALL



Adobe Acrobat Reader DC  
Uncategorized

INSTALL



Adobe Flash Player  
Internet - Adobe  
Installed

REMOVE



Adobe Reader  
Productivity - Adobe

INSTALL



Adware Medic  
Utilities - Thomas Reed

INSTALL



Airfoil  
Media - Rogue Amoeba

INSTALL



Alfred 2  
Utilities - Running with Crayons Ltd

INSTALL



Alinof Timer  
Productivity - Alinof Software Sàrl

INSTALL



Amadeus Lite  
Uncategorized

INSTALL



Android Studio  
Developer - Google

INSTALL



Apache OpenOffice  
Productivity

INSTALL



AppCleaner Uninstaller Utility  
OS Utilities - FreeMacSoft

INSTALL



AppCode  
Uncategorized

INSTALL

- Admin tools
- Audio
- Communication
- Developer
- Developer Tools
- Development
- Drivers
- Editors
- Email
- Graphics & Rendering
- Internet
- Mail Clients
- Mathematics
- Media
- Media Players
- Munki Tools
- Network Utilities
- OS Utilities
- Organization
- Productivity
- Remote Access
- SFTP Clients
- Science
- Security
- Social Networking



# Managed Software Center

Your source for software for your Mac.



All items

Categories



1Password  
Utilities - AgileBits Inc.  
INSTALL



Acorn 4  
INSTALL



Adium  
Communication - The Adium Team  
INSTALL



Adobe Acrobat Reader DC  
Uncategorized  
INSTALL



Adobe Flash Player  
Internet - Adobe  
Installed  
REMOVE



Adobe Reader  
Productivity - Adobe  
INSTALL



Adware Medic  
Utilities - Thomas Reed  
INSTALL



Airfoil  
Media - Rogue Amoeba  
INSTALL



Alfred 2  
Utilities - Running with Crayons Ltd  
INSTALL



Alinof Timer  
Productivity - Alinof Software Sàrl  
INSTALL



Amadeus Lite  
Uncategorized  
INSTALL



Android Studio  
Developer - Google  
INSTALL



Apache OpenOffice  
Productivity  
INSTALL



AppCleaner Uninstaller Utility  
OS Utilities - FreeMacSoft  
INSTALL



AppCode  
Uncategorized  
INSTALL


- Admin tools
- Audio
- Communication
- Developer
- Developer Tools
- Development
- Drivers
- Editors
- Email
- Graphics & Rendering
- Internet
- Mail Clients
- Mathematics
- Media
- Media Players
- Munki Tools
- Network Utilities
- OS Utilities
- Organization
- Productivity
- Remote Access
- SFTP Clients
- Science
- Security
- Social Networking






Q


Search




Software



Categories



My Items



Updates



Steve Küng  
Zürich, Switzerland



[Help](#) | [Support](#) | [Contact Tech Support](#) | [All Categories](#) | [What's new in macOS Ventura](#) | [Apple](#) | [Disney Animation Web](#) | [Change your passwords](#)

## All items



Adobe Reader  
Productivity - Adobe

INSTALL



Amazon WorkSpaces  
Remote Access - Amazon

INSTALL



Anywhere PCoIP Client  
Remote Access - Teradici  
Installed

REMOVE



Aspera Connect  
Utilities - IBM Corp

INSTALL



Autodesk Maya 2018  
Production - Autodesk

INSTALL



Autodesk Maya 2019  
Production - Autodesk

INSTALL



Autodesk Maya 2022  
Production - Autodesk

INSTALL



Autodesk Meshmixer  
Production - Autodesk

INSTALL



Autodesk Mudbox 2019  
Production - Autodesk

INSTALL

**Commercial adoption**





# Centrify Delivers Turnkey Solution for Mac Application Management with Munki

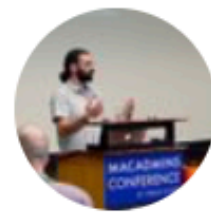
By **Peter** on 04-24-2017 01:59 PM

## Centrify Delivers Turnkey Solution for Mac Application Management with Munki

In the 17.4 update to the Centrify Identity Service we have integrated our Mac management solution with the Munki open source project to deliver a turnkey service for Mac application management that provides a self-service enterprise app store with an awesome end user experience.







**Yoann Gini**

@ygini

Follow



Look like AirWatch is going to be the best MDM for Mac. VMworld announce a roadmap with munki as native agent for your Mac.



8:40 AM - 13 Sep 2017 from [Grans, France](#)

VMware Workspace ONE UEM

Product Documentation

Expand All



- ☐ Configure Workspace ONE UEM for the Software Distribution of macOS applicaton
- ☐ Generate Metadata Using VMware Workspace ONE Admin Assistant Tool
- ☐ Deploy Internal macOS Applications
- ☐ Assign Applications to your macOS Devices
- ☒ **Install macOS Applications using Munki**
- ☐ Troubleshooting macOS Software Distribution Deployment
- ☐ Uninstalling the Software distribution of your macOS application
- ☐ > Software Distribution of Win32 Applications

Docs / VMware Workspace ONE UEM / Software Distribution Management

# Install macOS Applications using Munki



[Add to Library](#) | [RSS](#) | [Download PDF](#) | [Feedback](#)

Updated on 11/16/2020

Selected product version:

VMware Workspace ONE UEM 2209

Munki uses information from the `pkginfo` file and looks for the software items to decide whether or not a given item must be installed. To create a functional `pkginfo` item, understand the methods used by Munki to check the list of software items.



## Important:

Most of the content under this section are from the Munki website.

## Methods

In the order of precedence, Munki uses the following methods to determine if the given item needs to be installed (or removed):

1. Install macOS Applications using the Check Script
2. Install macOS Applications using the Install Items
3. Install macOS Applications using the Receipts

### In this article

#### Methods

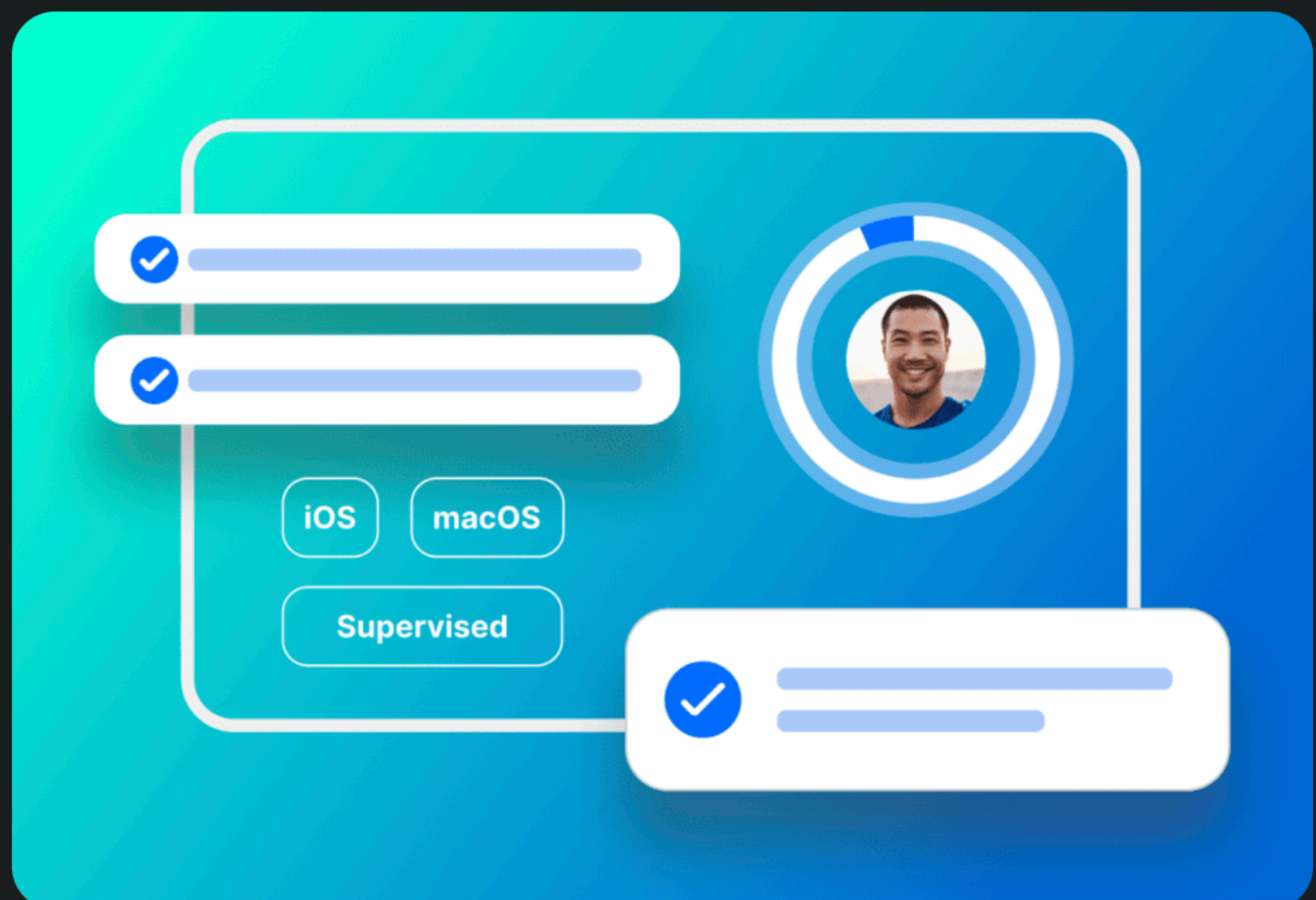
Install macOS Applications using the Check Script

Install macOS Applications using the Install Items

Install macOS Applications using the Receipts

[Send Feedback](#)





← BLOG

# SimpleMDM's hosted Munki integration

SimpleMDM | February 13, 2023

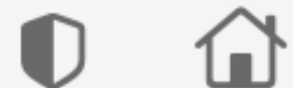
## SECTIONS

Why use Munki with an MDM?

Munki traditionally requires additional cost and administrative effort to configure, maintain, and secure the Munki client software and a repository server. With the







support.quest.com/kb/4214232/kace-patching-and-munki-mac



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Trials

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Commun

Become a portal pro 

 > Support > Knowledge Base > KACE Systems Management Appliance

# KACE Patching and Munki (Mac) (4214232)

[← Return](#)

## Title

KACE Patching and Munki (Mac)

## Description

Munki is a third-party component used for Mac patching as part of the KACE Patching changes in SMA version 10.0. This article describes changes made in 10.1 to avoid common issues with pre-existing Munki installations.

**Community contributions**

# Client Authentication



# Client certificate authentication



Brian Warsing  
Vancouver, Canada

<https://github.com/munki/munki/wiki/Using-Munki-With-SSL-Client-Certificates>

**Web request code**

# "Native" web request code



Michael Lynn (aka frogor)  
Washington (State), USA

- Helped with the move from curl to Cocoa's NSURLConnection and NSURLSession
- Lots of PyObjC advice and help

<https://github.com/munki/munki/blob/main/code/client/munkilib/gurl.py>



# Munki and the Cloud

# Web request middleware



Wade Robson

Vancouver, Canada

- Opened the door to using cloud providers for Munki repos

<https://github.com/munki/munki/wiki/Middleware>

# Munki and FileVault



# Authorized Restarts



Wesley Whetstone  
San Francisco, USA

<https://github.com/munki/munki/wiki/Authorized-Restarts>

# A GUI for Munki

# MunkiAdmin



Hannes Juutilainen

Jyväskylä, Finland

<https://github.com/hjuutilainen/munkiadmin>





**Hannes Juutilainen**

Thanks for munki!

To: Greg Neagle

---

January 12, 2010 at 6:00 AM

Hi,

Just wanted to let you know that we are testing munki for our managed software updates and it seems to be the perfect tool. So thank you very much for your efforts! We have about 300 macs in active use and the current managing tools are AD, Open Directory, puppet, Apple Remote Desktop and munki. Computers are deployed using InstaDMG and DeployStudio and I think the only thing that has been missing is a decent Apple-like managed software update (especially for 3rd party applications).

I'm currently testing munki with 15 student lab machines (iMacs with 10.6.2). Munki is providing automatic install facilities for Apple updates as well as our other supported applications (Firefox, Thunderbird, etc.).

## One thing that I have been toying around recently is a GUI for munki

to help with that but I see you are using mainly Python for the code base. Python is a bit new to me but I have been wanting to write something useful with that too so at least I'm eager to learn. One thing that I have been toying around recently is a GUI for munki package management and I think it might actually be a useful addition. For example it might be useful to have a single Firefox item with multiple versions (packages) that are all sharing the same name/description etc.

Let me know what you think. I would be very happy to join the munki project and help developing a great managed software update facility for Mac!

Best,  
Hannes Juutilainen  
University of Jyväskylä, Finland  
Information Management Centre



**Greg Neagle**

MunkiAdmin 0.1

To: Hannes Juutilainen

📁 Sent - iCloud    October 1, 2010 at 3:37 PM

---

After stupidly playing with MunkiAdmin 0.1 on my production server, I discovered **it had erased the receipts and installs arrays on all of my pkginfo items.**

I'm sure I'll be able to recover from my stupidity, but just a word of warning...

-Greg





**Hannes Juutilainen** <hjuutilainen@mac.com>

Dec 15, 2011, 3:41:41 AM



to munki-dev@googlegroups.com

If anyone on the list is brave enough to run alpha, I've uploaded MunkiAdmin v0.2.4 to GitHub. It isn't complete and it's definitely not ready for production use on its own, but it has reached a point where I'd like to see how it handles different kinds of repositories.

A few notes to get started:

1. Don't use MunkiAdmin alphas on a repo that doesn't have backups or version control. I mean it.
2. Debug logging can be turned on/off from the app preferences. Use Console.app to see what MunkiAdmin is doing.
3. Changes in pkginfo and manifest files are written to disk only when you do a save. Quitting the app discards any unsaved changes.
4. Everything is always read from and written to the repository. This means that you can continue editing your pkginfos and manifests by hand, just don't make changes with your text editor and MunkiAdmin at the same time.

**Don't use MunkiAdmin alphas on a repo that doesn't have backups or version control. I mean it.**

If you're uncomfortable running MunkiAdmin on a real repo but you'd still like to see it in action, there's a create-test-repo.py script included in MunkiAdmin git repository. The script can be used to create a very basic dummy repo with dummy content.

Usage: ./create-test-repo.py --packages 100 --catalogs 2 --manifests 100 --output /tmp/testrepo

The main things that you should focus on:

- When opening a repo and choosing File -> Save without changing anything, is MunkiAdmin writing something back to disk? In most cases, it shouldn't be doing that.
- Is MunkiAdmin fast enough to open a decent size repository?

And of course I'd be happy to hear any kind of feedback.

Links:

<https://github.com/hjuutilainen/munkiadmin/downloads>

<https://github.com/hjuutilainen/munkiadmin/blob/master/create-test-repo.py>





## Repository

All Packages

Recently Modified

## Installer Types

- Copy from Disk Image
- Installer Package
- No Package
- Apple Update Metadata
- startosinstall
- Configuration Profile
- On Demand
- Adobe Installer

## Categories

- Uncategorized
- 
- Communication
- Internet
- Media
- Productivity

## Developers

Unknown

Any

|  | Name           | Display Name    | Version         | Catalogs   | Modified       |
|--|----------------|-----------------|-----------------|------------|----------------|
|  | Arduino        | Arduino         | 1.8.19          | testing    | 1/12/23, 8...  |
|  | Firefox        | Mozilla Firefox | 52.0.1          | testing    | 6/29/17, 1...  |
|  | GoogleChrome   | Google Chrome   | 100.0.4896.60   | production | 3/30/22,...    |
|  | GoogleChrome   | Google Chrome   | 106.0.5249.1... | testing    | 11/14/22,...   |
|  | Keynote        | Keynote         | 7.1.1           | production | 5/29/17, 9...  |
|  | MicrosoftTeams | Microsoft Teams | 1.00.531156     | testing    | 12/1/22, 9...  |
|  | Numbers        | Numbers         | 4.1.1           | production | 5/29/17, 9...  |
|  | Pages          | Pages           | 6.1.1           | production | 5/29/17, 9...  |
|  | Podman         | Podman          | 4.3.1           | testing    | 11/29/22,...   |
|  | PodmanDesktop  | PodmanDesktop   | 0.9.1           | testing    | 11/29/22,...   |
|  | Slack          | Slack           | 4.0.3           | testing    | 10/1/19, 1...  |
|  | VLC            | VLC             | 3.0.11          | testing    | 7/17/20, 9...  |
|  | Zoom           | Zoom            | 3.6.11639.11... | production | 11/9/16, 8:... |
|  | Zoom           | Zoom            | 5.13.7.15481    | production | 2/21/23, 1...  |
|  | ZoomRooms      | Zoom Rooms      | 5.0.2542.0703   | testing    | 7/22/20, 4...  |

## Summary

- Pkginfo keys
- Architectures
- Blocking apps
- Catalogs
- Choices XML
- Installs
- Items to copy
- Receipts
- Requires
- Update for

## Pkginfo

Location VLC-3.0.11.plist

Created 7/17/20, 9:14 AM

Modified 7/17/20, 9:14 AM

Last opened 9/4/22, 3:05 PM

## Installer

Location VLC-3.0.11.dmg

Created 7/17/20, 9:14 AM

Modified 7/17/20, 9:14 AM

Last opened 3/12/22, 1:01 AM



Properties...

<https://github.com/hjuutilainen/munkiadmin>

# Web Consoles

# Web Consoles



Jordan Raine  
Vancouver, Canada

MunkiServer

<https://github.com/munkiserver/munkiserver>



Arjen van Bochoven  
Amsterdam, Netherlands

MunkiReport-PHP

<https://github.com/munkireport/munkireport-php>



Per Olofsson  
Gothenburg, Sweden

MunkiReport

<no longer available>



Graham Gilbert  
London, UK (at the time!)

Sal

<https://github.com/salopensource/sal>



# Reporting



Arjen van Bochoven  
Amsterdam, Netherlands

MunkiReport-PHP

<https://github.com/munkireport/munkireport-php>



Graham Gilbert  
London, UK (at the time!)

Sal

<https://github.com/salopensource/sal>

MunkiReport

Dashboard

Reports

Listings

Admin

abn290

Client Activity

ActiveInactive

5382

Total Clients: 6553 | Clients per hour: 1588

Events

parinaz | 2 Munki warnings2 minutes ago

MacBook Pro van Farzanah | 2 Munki warnings3 minutes ago

Raoul Eireiners MacBook Air | 2 Munki warnings3 minutes ago

MacBook Air van Anniek | Munki warning: Download of ATLAS.ti.license failed: HTTP result 403: forbidden4 minutes ago

MacBook Air van Jeyam | Munki error: Could not retrieve managed install primary manifest.4 minutes ago

Floris's MacBook Air | Munki warning: Download of ATLAS.ti.license failed: HTTP result 403: forbidden4 minutes ago

MacBook Air van Desiree | Munki warning: Download of endnote\_x8\_license failed: HTTP result 403: forbidden5 minutes ago

MacBook Pro van Hugen | 2 Munki warnings5 minutes ago

New Clients31

Yash's MacBook Proan hour ago

MacBook Air van Titiaan hour ago

Niels's MacBook Pro3 hours ago

Zhaoxin's MacBook Pro4 hours ago

MacBook Pro van Max18 hours ago

Pending Apple Updates

Security Update 2018-005 10.12.68

Safari 12.0.14

iTunes 12.83

Security Update 2018-004 10.12.62

Security Update 2018-004 10.11.61

Pending Installs

Microsoft Word for Mac 16.16.1811100178

Microsoft Excel for Mac 16.16.1811100149

Microsoft Outlook for Mac 16.16.1811100146

Google Chrome 70.0.3538.11044

Microsoft PowerPoint for Mac 16.16.1811100131

Munki

50Errors

250Warnings

Free Disk Space

411< 5GB

801< 10GB

574410GB +

Uptime

31317 Days +

1849< 7 Days

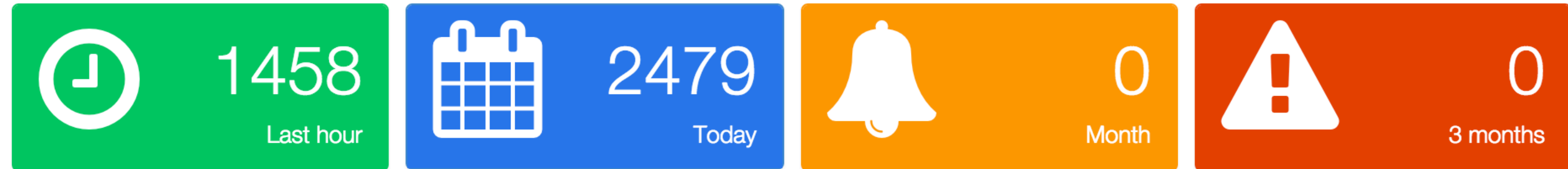
1573< 1 Day

## Business Units

|         |     |
|---------|-----|
| Site 1  | 0   |
| Site 2  | 277 |
| Site 3  | 283 |
| Site 4  | 228 |
| Site 5  | 460 |
| Site 6  | 54  |
| Site 7  | 250 |
| Site 8  | 15  |
| Site 9  | 0   |
| Site 10 | 236 |
| Site 11 | 0   |
| Site 12 | 0   |
| Site 13 | 571 |
| Site 14 | 603 |
| Site 15 | 224 |
| Site 16 | 0   |

[+ New Business Unit](#)

## Activity



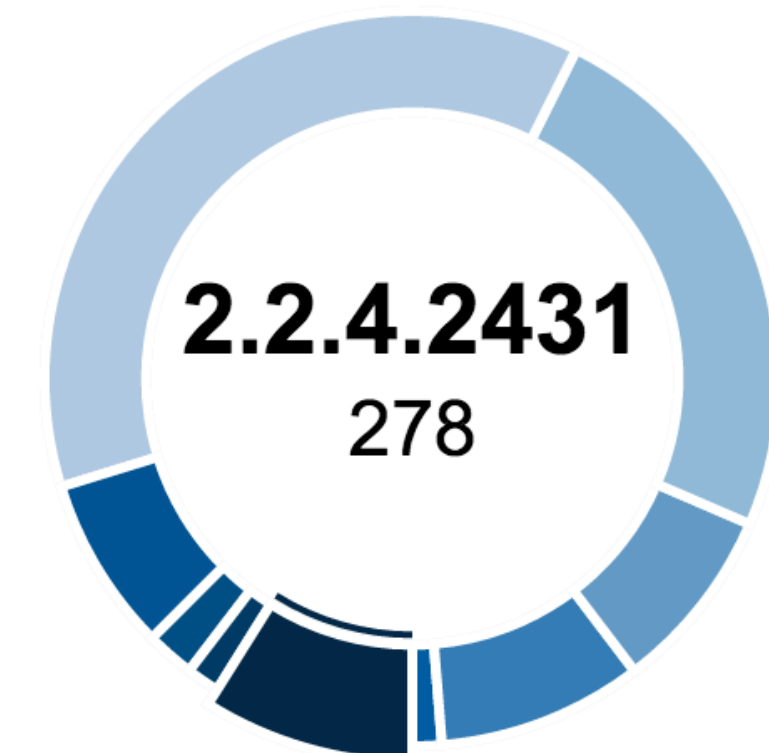
## Status

|                       |      |
|-----------------------|------|
| Clients with errors   | 0    |
| Clients with warnings | 93   |
| Clients with activity | 1104 |
| All machines          | 3201 |

## Operating Systems

|         |      |
|---------|------|
| 10.10   | 6    |
| 10.10.1 | 3    |
| 10.10.2 | 40   |
| 10.10.3 | 709  |
| 10.10.4 | 2401 |
| 10.9.0  | 1    |
| 10.9.2  | 2    |
| 10.9.4  | 1    |
| 10.9.5  | 38   |

## Munki Version



## Uptime

|                 |                  |                 |
|-----------------|------------------|-----------------|
| 1896<br>< 1 Day | 1673<br>< 7 Days | 359<br>7 Days + |
|-----------------|------------------|-----------------|

## Memory

|               |              |            |
|---------------|--------------|------------|
| 2585<br>8GB + | 615<br>4GB + | 1<br>< 4GB |
|---------------|--------------|------------|

## Disk Space

|               |            |            |
|---------------|------------|------------|
| 3078<br>< 80% | 6<br>80% + | 0<br>90% + |
|---------------|------------|------------|



Google



Justin McWilliams



MacOps  
(circa 2011)



Ed Eigerman



John Randolph

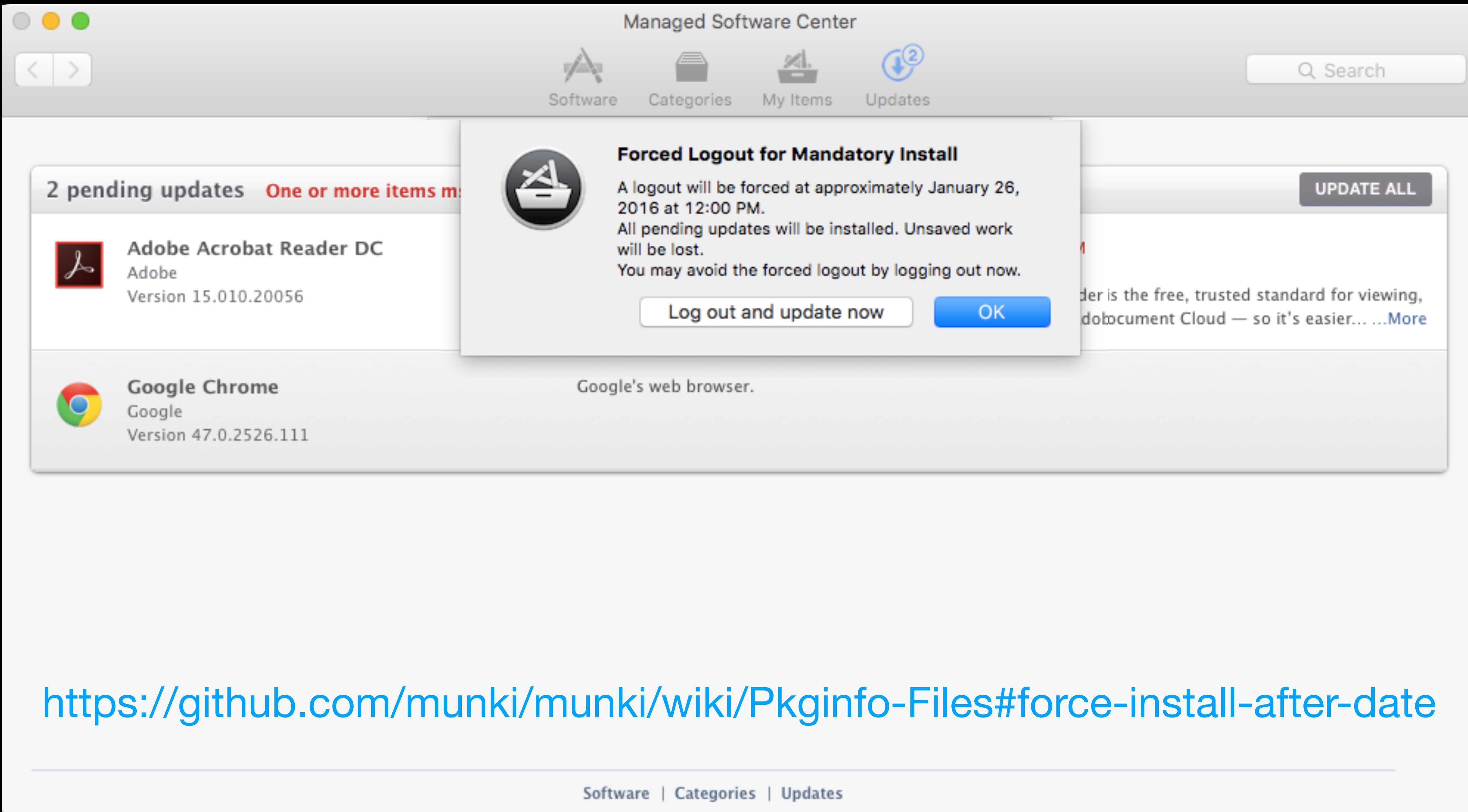


Ed Marczak



Clay Caviness





<https://github.com/munki/munki/wiki/Pkginfo-Files#force-install-after-date>



# SimianAtAGlance

Justin McWilliams edited this page on Jun 15, 2015 · 5 revisions

(TODO: Add table of contents.)

## Web-based Package Management

Admins can see what catalogs and manifest packages are in with a glance, quickly view pkginfo plists, download package DMGs, etc.

Summary

Search

Munki Packages

Package Admin

Logs

Historical List

Installs

Failures

Other Install Problems

Apple Updates

Manifests

Admin Tools

New Package

| Package                            | Files    | Success* | Failed* | Avg Secs | Pending** | Properties             | Catalogs | Manifests | Manifest Mod Access |
|------------------------------------|----------|----------|---------|----------|-----------|------------------------|----------|-----------|---------------------|
| Acrobat X Pro Update-10.0.0        | 695.9 MB | 238      | 7       | 186      | 83        | update unattd          | u t s    | u t s     |                     |
| Adium-1.4.3                        | 22.0 MB  | 419      | 7       | 47       | 1         | update optional unattd | u t s    | u t s     |                     |
| Adobe Acrobat Update-10.1.1        | 135.0 MB | 143      | 6       | 137      | 84        | update unattd          | u t s    | u t s     |                     |
| Adobe Acrobat X Pro-10.0.0         | 695.9 MB | 629      | 1       | 159      | 16        | optional               | u t s    |           | support             |
| Adobe Captivate-5.5.1              | 1.2 GB   | 26       | 1       | 235      | 0         | optional               | u t s    |           | support             |
| Adobe CS 5.5 Design Premium-11.5.1 | 3.7 GB   | 202      | 7       | 1109     | 5         | optional               | u t s    |           | support             |
| Adobe CS 5.5 DS-5.5.1              | 2.5 GB   | 308      | 2       | 667      | 2         | optional               | u t s    |           | support             |

To upload a new package, use HTML forms to upload a pkginfo directly copied/pasted from makepkginfo, and a DMG associated with the pkginfo.

Pages15

Find a page...

Home

Admin Setup

AppEngineAtAGlance

Configuration

CorporateNetworkDetection

Cron Configuration

DesignDocument

DynamicManifestApi

DynamicManifests

Network Detection Backoff

# AutoPkg

<https://github.com/autopkg/autopkg>

# AutoPkg

<https://github.com/autopkg/autopkg>



Per Olofsson  
Gothenburg, Sweden



Nick McSpadden  
San Francisco, USA



Tim Sutton  
Québec



Elliot Jordan  
Seattle, USA



To: Greg.Neagle@disneyanimation.com  
Subject: autopkg run results  
Date: Wed, 19 Jul 2023 07:37:36 -0700 (PDT)

The following packages were built:

| Identifier                               | Version | Pkg Path  |
|--|---------|---|
| -----                                    | -----   | -----   |
| com.github.autopkg.cgerke-recipes.AWSCLI | 1.29.5  | /Users/admin/Library/AutoPkg/Cache/local.munki.AWSCLI/AWSCLI-1.29 |

The following new items were imported into Munki:

| Name          | Version              | Catalogs   | Pkginfo Path                                      | Pkg Repo Path                |
|---------------|----------------------|------------|---|------------------------------|
| ----          | -----                | -----      | -----   | -----                        |
| AWSCLI        | 1.29.5               | production | developer/AWSCLI-1.29.5.plist                     | developer/AWSCLI             |
| Blender       | 3.6.1                | production | apps/Blender/Blender-3.6.1.plist                  | apps/Blender/Blender         |
| GoogleChrome  | 115.0.5790.98        | testing    | apps/GoogleChrome-115.0.5790.98.plist             | apps/GoogleChrome            |
| MSOutlook2019 | 16.75.23071400       | testing    | apps/Microsoft/MSOutlook2019-16.75.23071400.plist | apps/Microsoft/MSOutlook2019 |
| Spotify       | 1.2.16.947.gcfbaa410 | production | apps/Spotify-1.2.16.947.gcfbaa410.plist           | apps/Spotify-x86_64          |
| Spotify       | 1.2.16.947.gcfbaa410 | production | apps/Spotify-1.2.16.947.gcfbaa410__1.plist        | apps/Spotify-arm64           |

More

# More



**Rob Middleton**  
Sydney, Australia

Code review



**Sam Keeley**  
Chicago, USA

UnattendedAppleUpdates



**Christopher Grande**  
Connecticut, USA

CSS/HTML work for MSC



**Henry Stamerjohann**  
Hamburg, Germany

Zentral



**Allister Banks**  
Tokyo, Japan

Wiki improvements



**Tom Bridge**  
Washington, DC, USA

Munki-in-a-box



# And More...



Ben Goodstein

Oxford, UK

Munki-Rebrand, Mañana



Marko Jung

Oxford, UK

Mañana



Ben Toms

London(ish), UK

jamJAR



Eric Holtam

Texas, USA

manifestutil improvements



Alan Siu

Los Angeles, USA

Wiki; end-user support



Joaquín Cabrerizo Egea

Spain

MSC localizations

# The Present

Releases / v6.3.2

# Munki 6.3.2 Official Release Latest

 **gregneagle** released this 3 weeks ago  v6.3.2  6591df3

This is the official release of Munki 6.3.2, a bug-fix and minor change release of the Munki tools.

## Fixes

- A fix for an issue with `munkiimport` and `makepkginfo`, where they crash with distribution-style packages containing a payload-free package. See [#1179](#)

## Other changes

- Remove distutils.LooseVersion dependency; this is deprecated in Python 3.10. [213cc35](#) and [a8494ab](#)
- Bump Python to 3.10.11. Bump PyObjC to 9.1.1. [5f64d79](#)
- Add macOS Sonoma software update catalog to the list of catalogs: [6591df3](#)

A complete list of changes from the 6.3.1 release is here: [v6.3.1...v6.3.2](#)

## Build info

The GUI apps and the Python framework were built under Xcode 14.3 on macOS 13.4.1. Other versions of Xcode have not been tested and may cause different results.



# Staging macOS Installers

<https://github.com/munki/munki/wiki/Staging-macOS-Installers>



<https://github.com/munki/munki/wiki/Staging-macOS-Installers>

# Default Installs

<https://github.com/munki/munki/wiki/Default-Installs>



# Managed Installs

- Chosen by admin
- User has no control
- User cannot remove

# Optional Installs

- User can choose to install
- User has control
- User can remove

<https://github.com/munki/munki/wiki/Default-Installs>

# Managed Installs vs Optional Installs

<https://github.com/munki/munki/wiki/Default-Installs>

```
<key>managed_installs</key>  
<array>  
  <string>MSExcel2019</string>  
  <string>MSOneNote2019</string>  
  <string>MSOutlook2019</string>  
  <string>MSPowerPoint2019</string>  
  <string>MSWord2019</string>  
</array>
```



```
<key>default_installs</key>
<array>
  <string>MSExcel2019</string>
  <string>MSWord2019</string>
</array>
<key>optional_installs</key>
<array>
  <string>MSExcel2019</string>
  <string>MSOneNote2019</string>
  <string>MSOutlook2019</string>
  <string>MSPowerPoint2019</string>
  <string>MSWord2019</string>
</array>
```



Search

Software

Categories

My Items

Updates

# My Items



Anywhere PCoIP Client  
Teradici  
Version 23.06.0 • 62.3 MB  
Installed

REMOVE



Google Chrome  
Google  
Version 114.0.5735.198 • 211.6 MB  
Installed

REMOVE



iMovie  
Apple  
Version 10.3.6 • 2.7 GB  
Installed

REMOVE



Keynote  
Apple  
Version 13.0 • 365.7 MB  
Installed

REMOVE



LastPass for Mac  
LastPass US L.P.  
Version 4.116.0 • 82.1 MB  
Installed

REMOVE



Microsoft Excel for Mac  
Microsoft  
Version 16.74.23061100 • 936.0 MB  
Installed

REMOVE



Microsoft Word for Mac  
Microsoft  
Version 16.74.23061100 • 1.1 GB  
Installed

REMOVE



Mozilla Firefox  
Mozilla  
Version 114.0.2 • 127.1 MB  
Installed

REMOVE



Numbers  
Apple  
Version 13.0 • 270.0 MB  
Installed

REMOVE



Pages  
Apple  
Version 13.0 • 303.7 MB  
Installed

REMOVE



Visual Studio Code  
Microsoft  
Version 1.79.2 • 205.8 MB  
Installed

REMOVE



VLC  
VideoLAN  
Version 3.0.18 • 80.6 MB  
Installed

REMOVE



Xcode 14  
Apple  
Version 14.3 • 9.8 GB  
Installed

REMOVE



Zoom  
Zoom Video Communications, I...  
Version 5.15.2.19786 • 161.5 MB  
Installed

REMOVE

Default installs

# TCC

Transparency, Consent, and Control



NDM  
PPPC  
Privacy Preferences Policy Control

TCC



Search



Network



VPN



Notifications



Sound



Focus



Screen Time



General



Appearance



Accessibility



Control Center



Siri & Spotlight



Privacy & Security



Desktop & Dock



Displays



Wallpaper



Screen Saver



Battery



Lock Screen



Touch ID & Password



Users & Groups



Passwords



Internet Accounts



Game Center



Wallet & Apple Pay



Keyboard



Trackpad



Printers & Scanners

## Privacy & Security

### Privacy



Location Services



Contacts



Calendars



Reminders



Photos



Bluetooth



Microphone



Camera



HomeKit



Speech Recognition



Media & Apple Music



Files and Folders



Full Disk Access



Focus



Accessibility



Input Monitoring



Screen Recording



Passkeys Access for Web Browsers



Automation



App Management







# App Management TCC



Search



Sound



Focus



Screen Time



General



Appearance



Accessibility



Control Center



Siri & Spotlight



Privacy & Security



Desktop & Dock



Displays



Wallpaper



Screen Saver

## Privacy & Security



Input Monitoring



Screen Recording



Passkeys Access for Web Browsers



Automation



App Management



Developer Tools



Analytics & Improvements



Apple Advertising



## Security





Search



Sound



Focus



Screen Time



General



Appearance



Accessibility



Control Center



Siri & Spotlight



Privacy & Security



Desktop & Dock



Displays



Wallpaper



Screen Saver

## < App Management

Allow the applications below to update or delete other applications.

No Items



Search

Software

Categories

My Items

Updates

# Managed Software Center

Your source for software for your Mac.



Administration | Cloud Storage | Communication | Developer | Drivers | Editorial | Entertainment | File Sharing | Graphics | Internet | Media  
| Production | Productivity | Remote Access | Story | Text Editing | Text Editors | Uncategorized | Utilities | Virtualization | drivers

## All items



Adobe Acrobat Reader DC  
Productivity - Adobe

INSTALL



Amazon WorkSpaces  
Remote Access - Amazon  
Installed

REMOVE



Aspera Connect  
Utilities - IBM Corp

INSTALL



Atom  
Text Editors - GitHub, Inc.

INSTALL



Autodesk Maya 2018  
Production - Autodesk

INSTALL



Autodesk Maya 2019  
Production - Autodesk

INSTALL



Autodesk Meshmixer  
Production - Autodesk

INSTALL



Blender  
Production - The Blender Foun...

INSTALL



BlueJeans  
Communication - Blue Jeans N...  
Installed

REMOVE

2023-01-25 09:15:40-06 SERIAL installer[14136]:  
install:didFailWithError:Error Domain=PKInstallErrorDomain Code=120 "An  
unexpected error occurred while moving files to the final destination."  
UserInfo={NSUnderlyingError=0x6000024327c0 {Error  
Domain=NSPOSIXErrorDomain Code=1 "Operation not permitted"},  
NSLocalizedDescription=An unexpected error occurred while moving files  
to the final destination.,



macOS Ventura  
App Management TCC  
can partially break Munki

**So what's the fix?**



Search

Screen Time

General

Appearance

Accessibility

Control Center

Siri & Spotlight

Privacy & Security

Desktop & Dock

Displays

Wallpaper

Screen Saver

Battery

Lock Screen

## App Management

Allow the applications below to update or delete other applications.



Munki



CONFIG





Search


- Sound
- Focus
- Screen Time
- General
- Appearance
- Accessibility
- Control Center
- Siri & Spotlight
- Privacy & Security
- Desktop & Dock
- Displays
- Wallpaper
- Screen Saver


## Privacy & Security


- Input Monitoring
- Screen Recording
- Passkeys Access for Web Browsers
- Automation
- App Management
- Developer Tools
- Analytics & Improvements
- Apple Advertising


## Security


Q Search


 Sound


 Focus


 Screen Time


 General


 Appearance


 Accessibility


 Control Center


 Siri & Spotlight

 Privacy & Security

 Desktop & Dock

 Displays

 Wallpaper

 Screen Saver

Q Search

 Input Monitoring

 Screen Recording

 Passkeys

 Automation

 App Management


 Developer Tools


 Analytics


 Apple Intelligence


Security


Q Search


 Sound


 Focus


 Screen Time


 General


 Appearance


 Accessibility


 Control Center


 Siri & Spotlight

 Privacy & Security


 Desktop & Dock


 Displays


 Wallpaper


 Screen Saver


Q Search


 Speech Recognition


 Media & Apple Music


 Files and Folders


 Full Disk Access


 Focus

 Accessibility

 Input Monitoring

 Screen Recording

 Passkeys Access for Web Browsers

 Automation



Search

Software

Categories

My Items

Updates

# Managed Software Center

Your source for software for your Mac.



Administration | Cloud Storage | Communication | Developer | Drivers | Editorial | Entertainment | File Sharing | Graphics | Internet | Media  
| Production | Productivity | Remote Access | Story | Text Editing | Text Editors | Uncategorized | Utilities | Virtualization | drivers

## All items



Adobe Acrobat Reader DC  
Productivity - Adobe

INSTALL



Amazon WorkSpaces  
Remote Access - Amazon  
Installed

REMOVE



Aspera Connect  
Utilities - IBM Corp

INSTALL



Atom  
Text Editors - GitHub, Inc.

INSTALL



Autodesk Maya 2018  
Production - Autodesk

INSTALL



Autodesk Maya 2019  
Production - Autodesk

INSTALL



Autodesk Meshmixer  
Production - Autodesk

INSTALL



Blender  
Production - The Blender Foun...

INSTALL



BlueJeans  
Communication - Blue Jeans N...  
Installed

REMOVE



/usr/local/munki/managedsoftwareupdate

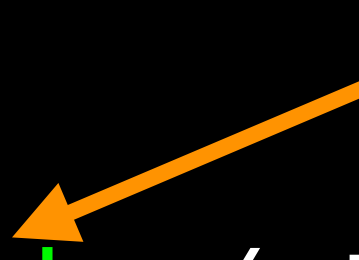
```
#!/usr/local/munki/munki-python
# encoding: utf-8
#
# Copyright 2009-2023 Greg Neagle.
#
# Licensed under the Apache License, Version 2.0 (the "License");
# you may not use this file except in compliance with the License.
# You may obtain a copy of the License at
#
#     https://www.apache.org/licenses/LICENSE-2.0
"""
managedsoftwareupdate
"""
```

munki-python



**A compiled wrapper**

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE plist PUBLIC "-//Apple//DTD PLIST 1.0//EN" "http://
www.apple.com/DTDs/PropertyList-1.0.dtd">
<plist version="1.0">
<dict>
    <key>AbandonProcessGroup</key>
    <true/>
    <key>Label</key>
    <string>com.disneyanimation.autopkg_run</string>
    <key>ProgramArguments</key>
    <array>
        <string>/Users/admin/tools/fudo</string>
        <string>/Users/admin/tools/run_autopkg.sh</string>
    </array>
```



Compiled wrapper binary

```
<?xml version="1.0" encoding="UTF-8"?>
```

```
<!DOCTYPE
```

```
www.apple.
```

```
<plist ver
```

```
<dict>
```

```
<ke
```

```
<tr
```

```
<ke
```

```
<st
```

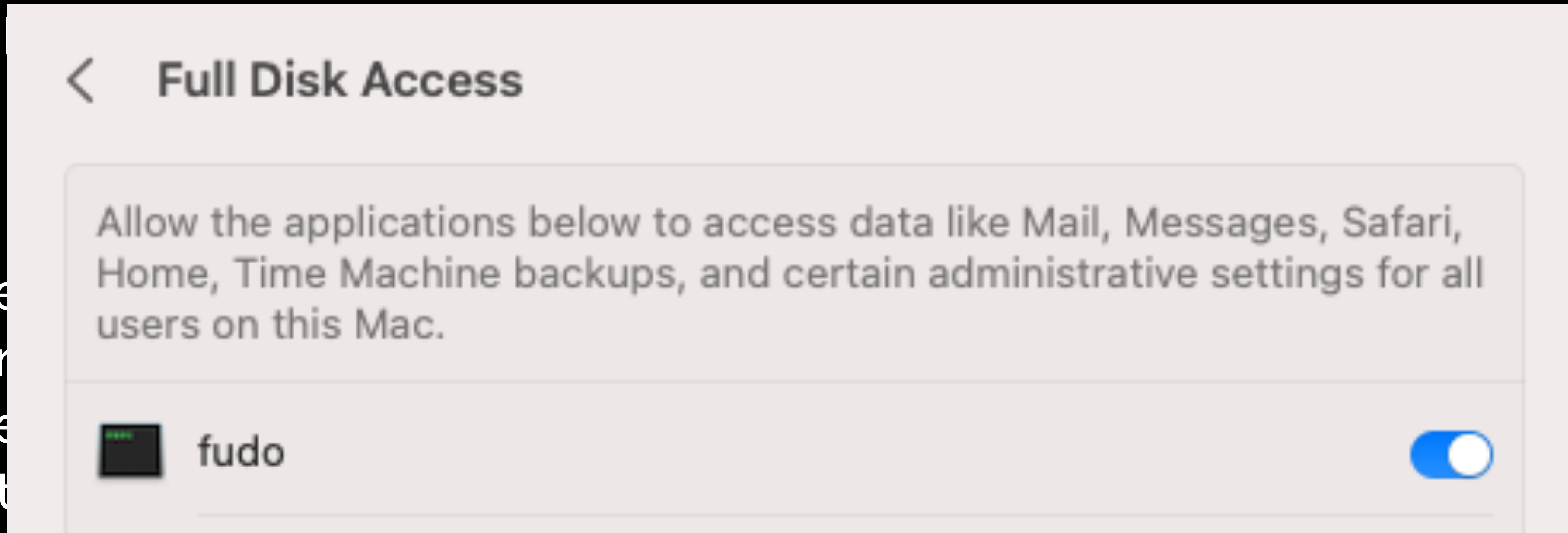
```
<key>ProgramArguments</key>
```

```
<array>
```

```
<string>/Users/admin/tools/fudo</string>
```

```
<string>/Users/admin/tools/run_autopkg.sh</string>
```

```
</array>
```



Compiled wrapper binary





## Testing for Ventura App Management privacy protections 241 views



**gregneagle@mac.com** <gregneagle@mac.com>

Dec 5, 2022, 9:31:49 AM



to munki-dev

Apple has added a new “privacy protection” to macOS Ventura: “App Managment”. The intent is to prevent unauthorized software from modifying (including updating) or removing application bundles.

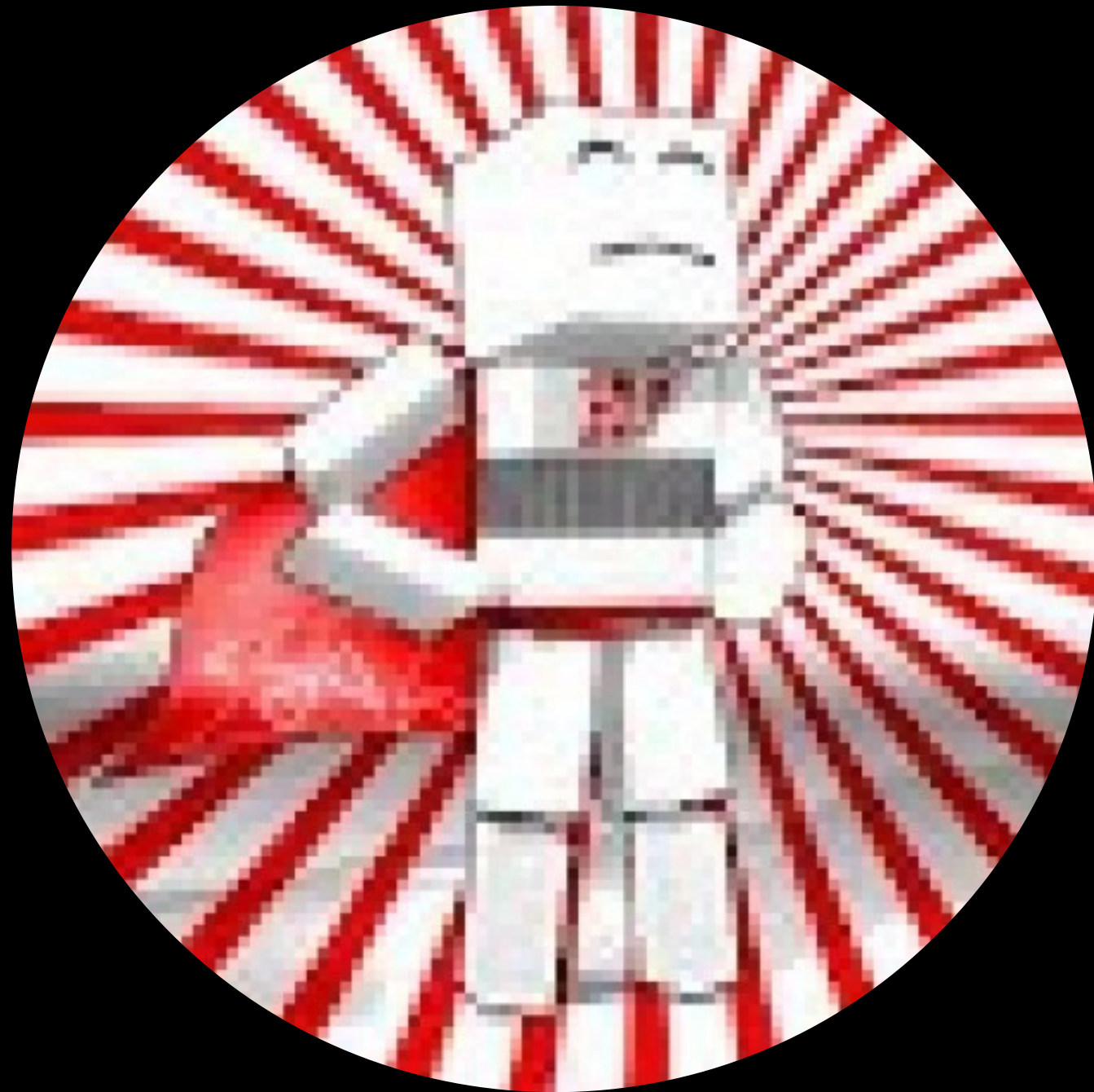
In practice, this protection isn’t triggered very often with Munki: /usr/bin/installer is allowed to install signed packages if the identifier and developer ID match; Munki removes the existing app bundle before copying in the updated bundle with copy\_from\_dmg items, so in most cases, Munki is allowed to install and update and remove app bundles.

But it is possible to trigger this protection, and Munki will need changes to allow admins to approve managedsoftwareupdate as allowed to update apps.

I need help in testing. Since it’s fairly tricky to reliably trigger the protections, I’ve made available an archive here ([https://www.dropbox.com/s/ci6putvmylanct/Munki\\_App\\_Management\\_test\\_resources.zip?dl=1](https://www.dropbox.com/s/ci6putvmylanct/Munki_App_Management_test_resources.zip?dl=1)) that contains resources and instructions for 1) replicating the issue, and 2) allowing the admin to approve managedsoftwareupdate for App Management, and thereby avoid the issue.

If you can test, please do, and share your results and findings here.

-Greg



Kory Prince

@korylprince

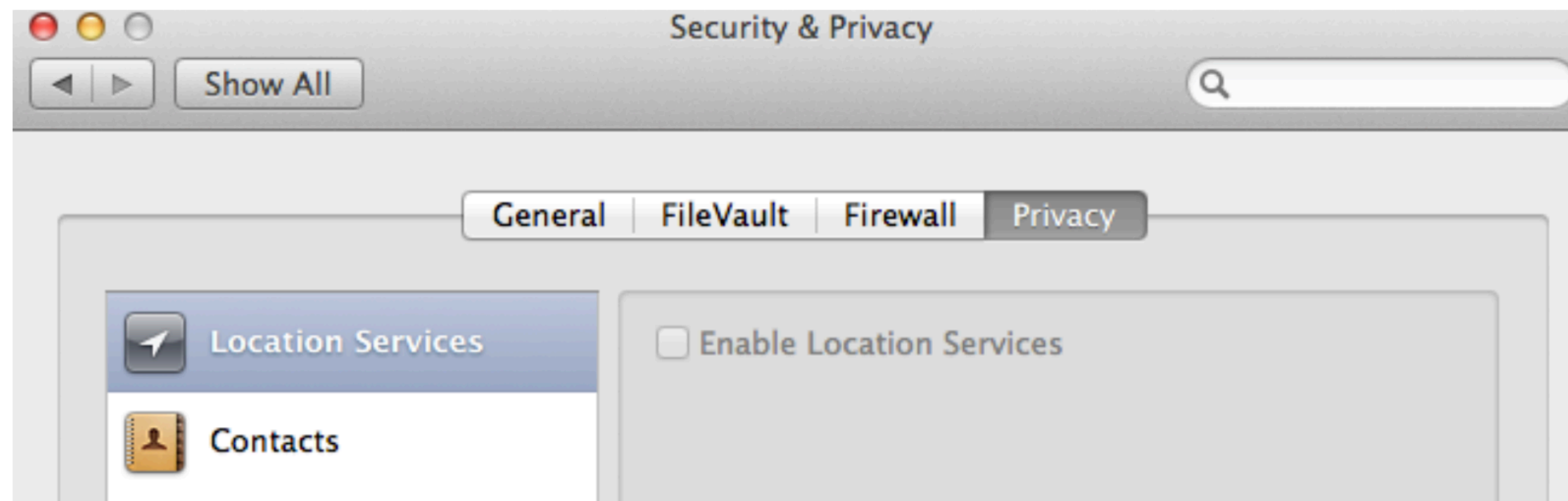
Somewhere, USA (I think)



# The Curious Case of the Responsible Process

February 04, 2022 by [Tor Arne Vestbø](#) | [Comments](#)

As of some of you might remember, Mac OS X Mountain Lion (10.8) added a new Privacy tab to the Security & Privacy pane of System Preferences.



Subscribe to our newsletter

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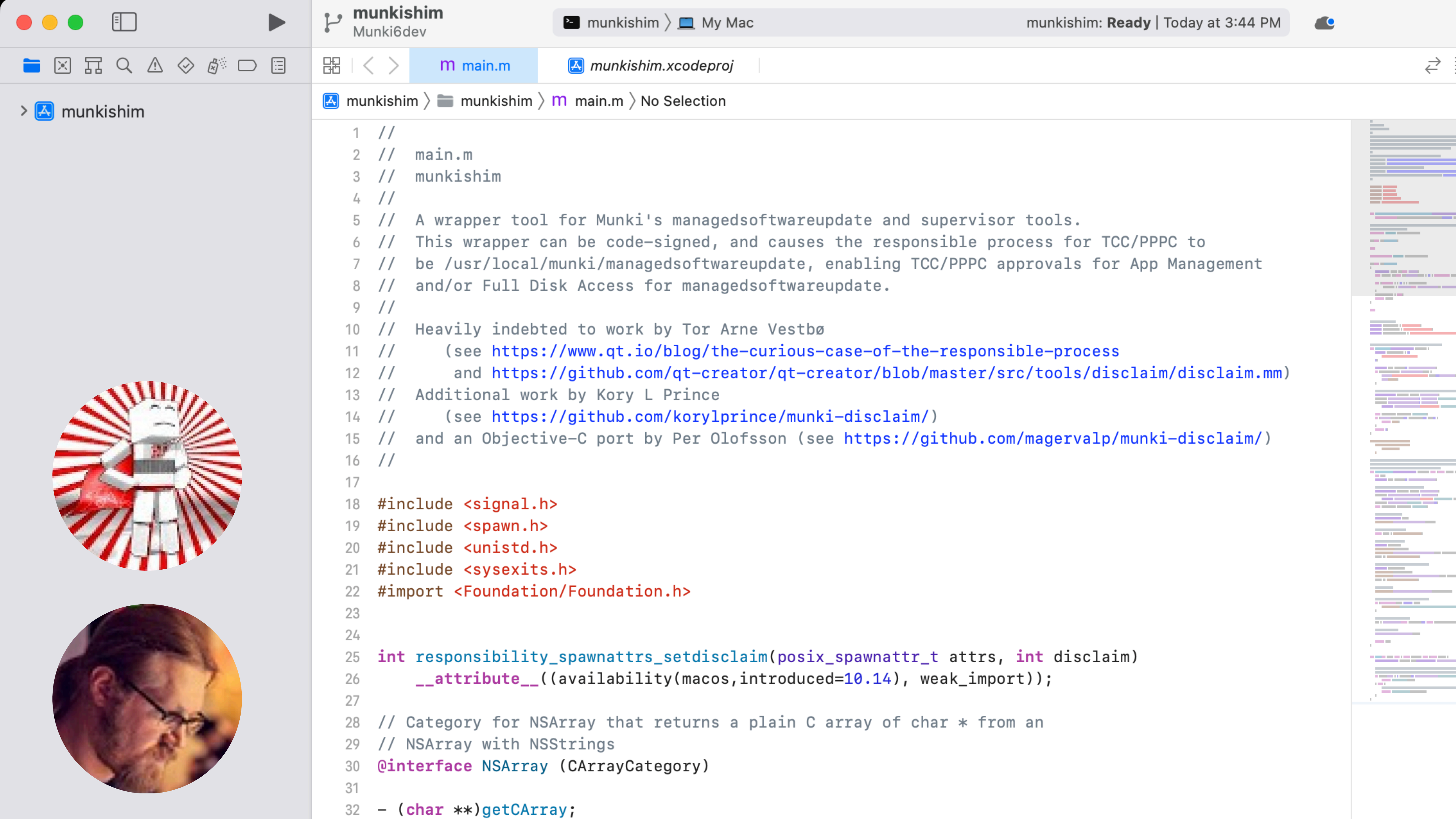
Try Qt 6.5 Now!

Download the latest release  
here: [www.qt.io/download](http://www.qt.io/download).

Qt 6.5 is the latest Long-Term-Support  
release with all you need for C++ cross-  
platform app development.

Explore Qt World


Check our Qt demos and case studies in  
the virtual [Qt World](#)





```
$ file /usr/local/munki/managedsoftwareupdate
/usr/local/munki/managedsoftwareupdate: Mach-O universal binary with 2 architectures:
[x86_64:Mach-O 64-bit executable x86_64] [arm64:Mach-O 64-bit executable arm64]
/usr/local/munki/managedsoftwareupdate (for architecture x86_64):
    Mach-O 64-bit executable x86_64
/usr/local/munki/managedsoftwareupdate (for architecture arm64):
    Mach-O 64-bit executable arm64
```

github.com/munki/munki/releases/tag/v6.3.0



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Releases / v6.3.0

Munki 6.3 Official Release

Compare

 gregneagle released this Apr 18 · 6 commits to main since this release v6.3.0 6c27df4

/usr/local/munki/managedsoftwareupdate

 is now a compiled binary. This makes it much easier to grant Munki PPC/TCC permissions

This is the official release of Munki 6.3, a enhancement release of the Munki tools.

Changes since beta 3:

- Build script improvements to support signing and notarization. Thanks to @erikng

Enhancements

- /usr/local/munki/managedsoftwareupdate

 is now a compiled binary. This makes it much easier to grant Munki PPC/TCC permissions (like Full Disk Access) without having to grant too-wide permissions to 

/usr/sbin/installer

 or to Munki's embedded Python.  
In the package attached to this release, the binary is ad-hoc-signed only. You can create a PPC/TCC configuration profile with the ad-hoc signature, but the designated requirement will change with each build/release. Consider signing the binary with your own Developer ID, or using the build at <https://github.com/macadmins/munki-builds/releases>.
- The 

make\_munki\_mpkg.sh

 script has been updated to (optionally) sign the managedsoftwareupdate binary. Thanks to @korylprince. 9006c81
- The 

make\_munki\_mpkg.sh

 script has been updated to (optionally) sign the Python framework, and to sign the applications in a way more compatible with notarization. Thanks to @erikng (6c27df4)



**Nate Walck**  
Pennsylvania, USA



**Erik Gomez**  
Texas, USA

Mac Admins Open Source  
<https://macadmins.io>



github.com/macadmins/munki-builds/releases

macadmins / munki-builds

Q

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>\_

+

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CodeIssues

1

Pull requestsActionsProjectsSecurityInsights

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Tags

Q

Find a release

2 days ago

github-actions

v6.3.2.4588

5db0597

Compare

Munki v6.3.2.4588

Latest

This is a signed and notarized build of munki

See <https://github.com/munki/munki/releases/tag/v6.3.2> for detailed release notes.

▼ Assets

3

munkitools-6.3.2.4588.pkg

49.6 MB

2 days ago

Source code (zip)

2 days ago

Source code (tar.gz)

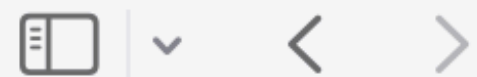
2 days ago

```
bash-3.2$ codesign -dr - /usr/local/munki/managedsoftwareupdate
Executable=/usr/local/munki/managedsoftwareupdate
designated => identifier munkishim and anchor apple generic and certificate
1[field.1.2.840.113635.100.6.2.6] /* exists */ and certificate
leaf[field.1.2.840.113635.100.6.1.13] /* exists */ and certificate
leaf[subject.OU] = T4SK8ZXCXG
```

```
bash-3.2$ pkgutil --check-signature ~/Downloads/munkitools-6.3.1.4580.pkg
Package "munkitools-6.3.1.4580.pkg":
  Status: signed by a developer certificate issued by Apple for distribution
  Notarization: trusted by the Apple notary service
  Signed with a trusted timestamp on: 2023-05-02 16:20:44 +0000
  Certificate Chain:
    1. Developer ID Installer: Mac Admins Open Source (T4SK8ZXCXG)
       Expires: 2028-02-09 02:34:05 +0000
       SHA256 Fingerprint:
           B1 06 B6 26 DA 3B A8 48 34 F3 DF D2 CC 5E AC 03 91 31 05 3F A9 A2
```

**Commercial adoption**





www.jamf.com/resources/press-releases/jamf-announces-its-acquisition-of-data



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# Jamf announces its acquisition of dataJAR, a leading Apple technology managed services provider

*Acquisition will help Jamf expand its partnerships with managed service provider partners through dataJAR's proprietary technology that makes it easier for organizations to harness the power of Jamf's leading management and security platform*

**MINNEAPOLIS – July 13, 2023** – Today, [Jamf](#) (NASDAQ: JAMF), the standard in managing and securing Apple at work, announced it has acquired dataJAR, a U.K.-based leading managed services provider ("MSP") focused on providing powerful Apple and Jamf services for businesses and educational organizations. Terms of the transaction were not disclosed.

dataJAR's proprietary software provides a single pane of glass for Jamf MSP partners who assist in managing multiple organizations' deployments, reducing support tickets, and allowing partners to more seamlessly manage devices. This acquisition will help Jamf partner more closely with its more than 600 MSP partners and expand the reach of its leading Apple-first and Apple-best management and security platform.

# Home

Edit New page

macmule edited this page on Oct 29, 2020 · 22 revisions



Pages 13

Introduction

# jamJAR combines Jamf Pro & Munki.

Jamf Pro updates items in a Mac Clients jamJAR LocalOnlyManifest & then runs Munki. After every Munki run, the jamJAR postflight then processes the ManagedInstallReport.plist found within the Managed Installs directory &, (based on conditions explained later), either:

- Removes the item(s) from the LocalOnlyManifest.
- Sends a notification that the item(s) have been installed.
- Sends a notification that installs are pending & advises a logout.
- If an install occurs, updates the clients inventory on Jamf Pro, & the optional jamJAR extension attribute.

## Requirements

To start using jamJAR, the following requirements must be met:

- [jamJAR Preferences](#)
- [Client Installation](#)

### Jamf Pro Setup

- [Script](#)
- [Policy](#)
- [Extension Attribute](#)

### How It Works

- [Step by Step](#)
- [Logging](#)

### Stupid jamJAR Tricks

**One More Thing**



# The Future





*Always in motion is the future.*



# Technical Future



## Definites:

- React to macOS changes (technical, visual)
- Update Python
- Update Python modules

## Maybes:

- Re-write command-line tools in Swift
- Drop all Apple update support
- ???

# Organizational Future



## Invite member



## Failed invitations

Role ▼






# Organizational goals:

- Add at least one more owner by end of 2023
- Develop and recognize more "maintainers"

**I want to contribute, but I'm not  
confident in my coding skills**

github.com/munki/munki/wiki



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Greg Neagle edited this page on Apr 18 · 57 revisions

Getting started with Munki

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Overview

See here for a basic overview of what Munki does and does not do.

Searching the wiki

To search this wiki use the "Search or jump to..." field in the GitHub navigation bar above. Then on the search results page select the "Wiki" option or click here and search.

Details

See Demonstration Setup for a walk-through of setting up a functional Munki client and server on a single machine; no separate web server needed. This is a quick and easy way to get started with Munki, and is a recommended starting point for people new to Munki.

macOS Ventura info

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groups.google.com/g/munki-discuss

Groups

New conversation

My groups

Recent groups

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Starred conversations

munki-discuss

Conversations

99+

Approved

99+

Pending

People

Members

Pending members

Banned users

About

My membership settings

Group settings

Conversations

Search conversations within munki-discuss@...

☆ munki-discuss

650 members

1-30 of 1149

<

>

This is a group for discussing the use of Munki, an OS X software management tool.

Before posting, please check out the documentation here: <https://github.com/munki/munki/wiki> and especially the FAQ here: <https://github.com/munki/munki/wiki/FAQ>

All are welcome: a new participant's first posting is held for moderation; this prevents unwanted spam. To join the list, send an email to [munki-discuss+subscribe@googlegroups.com](mailto:munki-discuss+subscribe@googlegroups.com)

|             |  |              |   |                    |              |
|-------------|--|--------------|---|--------------------|--------------|
| <div></div> | <div>d_sw...@h... , d_sw...@h...</div>   | <div>3</div> | <div>Minimum requirements — Nooooo how did I miss that... I'm truly sorry for wasting time, and all ...</div>   | <div>2:33 PM</div> | <div>☆</div> |
| <div></div> | <div>bryan...@g... , ... Kevin ...</div> | <div>7</div> | <div>managed_updates — OK thanks folks - I think I'll go the route of moving the app On Wednesday,...</div>   | <div>May 18</div>  | <div>☆</div> |
| <div></div> | <div>aslam..... , ... dhmo...@...</div>  | <div>5</div> | <div>Centralized package repository — SimpleMDM has a Munki integration and hosts a number of ...</div>   | <div>May 9</div>   | <div>☆</div> |
| <div></div> | <div>Gregory Neagle</div>                |              | <div>Munki 6.3.1 release — <a href="https://github.com/munki/munki/releases/tag/v6.3.1">https://github.com/munki/munki/releases/tag/v6.3.1</a> -Greg</div>        | <div>May 2</div>   | <div>☆</div> |
| <div></div> | <div>Dimitri Van... , Gregory N...</div> | <div>5</div> | <div>Forbidden 403 error — In System Settings/Privacy &amp; Security/ Full Disk Access, you need to ad...</div>   | <div>Apr 25</div>  | <div>☆</div> |
| <div></div> | <div>antony...@... , b...@mac...</div>   | <div>2</div> | <div>Munki Versioning miss-match — There isn't a single used version number for each Munki comp...</div>  | <div>Apr 21</div>  | <div>☆</div> |
| <div></div> | <div>Gregory Neagle</div>                |              | <div>Munki 6.3 Official Release — <a href="https://github.com/munki/munki/releases/tag/v6.3.0">https://github.com/munki/munki/releases/tag/v6.3.0</a> -Greg</div> | <div>Apr 18</div>  | <div>☆</div> |
| <div></div> | <div>Gregory Neagle</div>                |              | <div>Please test: Signed and notarized Munki builds — Thanks to the people and their efforts behind ...</div>   | <div>Apr 5</div>   | <div>☆</div> |

Groups

New conversation

My groups

Recent groups

Favorite groups

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munki-discuss

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Pending members

Banned users

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Group settings

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Search conversations within munki-discuss@...

☆munki-discuss650 members

1-30 of 1149

vmiller12:08 PM

I've been on site all this

Joe2:56 PM

joined #munki.

Joe2:58 PM

Those of you who use A

average cost look like?

Thanks

1 reply4 days ago

Ford Myler8:10 PM

joined #munki. Also, Art

#munki

☆

Enable Notifications

About

Members4,589

Integrations

Settings

Topic

New to Munki? Read this first <https://github.com/munki/munki/wiki/FAQ> then this: <https://github.com/munki/munki/wiki/Troubleshooting>. Searching the wiki? <https://github.com/munki/munki/wiki#searching-the-wiki>

Description

All things munki

Managed by

# Organizational goals:

- Add at least one more owner by end of 2023
- Develop and recognize more "maintainers"
- Clean up, reorganize and expand the wiki
  - More "how-to" pages
  - More links to complementary tools
- Get more people answering support questions
  - munki-discuss
  - MacAdmins Slack



# Projects

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Greg Neagle edited this page on Apr 18 · 57 revisions

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Getting started with Munki

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Overview

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Munki Versions

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Munki 6



# Demonstration Setup

Edit

New page

Greg Neagle edited this page on Nov 12, 2019 · 47 revisions

*Setting up a demonstration Munki Repo and client*

► Pages **142**

## Introduction

Since Munki can use virtually any web server as its server, and since macOS ships with Apache 2, it's very easy to set up a demonstration Munki server on any available Mac. You can even set up a Munki server on a single machine that is also a Munki client, and that is what we'll do here. We will set up Munki on a machine running macOS without Server.app installed.

**If you attempt this Demonstration Setup on a Mac with Server.app installed you will encounter pain and suffering. For this demonstration, use a Mac that does not have Server.app installed.**

It is certainly possible to set up a Munki repo on a machine with Server.app installed. A Munki repo is simply a set of files on a web server. The exact configuration details vary from version to version of macOS Server, and are not documented here. See Apple documentation on how to configure the web service for your specific version of macOS Server.

Nick McSpadden has published some notes on setting up a Munki repo on Yosemite Server here:  
<https://osxdominion.wordpress.com/2015/02/26/setting-up-munki-with-os-x-yosemite-server/>

### macOS Ventura info

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#### Munki 6.1

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#### Munki 6

regular users would interact with Managed Software Center app. You'll find it in the `/Applications` folder. Double-click it to launch it.

Managed Software Center will check for updates with the Munki server, and should shortly display a window (closely resembling Apple's App Store application's main window) displaying Firefox 61.0.2.

If you click on **Update**, Firefox will be installed.

## Conclusion

You've set up a demonstration of Munki's server and client components. Please be sure to also read [Munki's Frequently Asked Questions](#)

## Next steps

The demonstration setup involved setting up a Munki server on the same Mac you are using as a Munki client. For a "real" deployment, you'd want a "real" web server hosting your Munki repo. You'll have the easiest time configuring your Munki clients if you can set up that Munki repo so it is available at `http(s)://munki.yourdomain/repo`. This is not *required*, but allows your Munki clients to find your repo with no specific configuration. See [Default Repo Detection](#) for more information.

## Addendum: cleaning up

If you want to remove and clean up the temporary local Munki server you've created:

```
sudo apachectl stop
sudo rm /Library/WebServer/Documents/munki_repo
sudo rm -r /Users/Shared/munki_repo
```



If you also want to remove the local install of the Munki client and its data, see [Removing Munki](#).



## How to draw an owl

1.



1. Draw some circles



## How to draw an owl

1.



1. Draw some circles

2.



2. Draw the rest of the ducking owl

# MWA2 modernization

Search manifests

New manifest

| Name                |
|---------------------|
| hostnames/oskaloosa |

hostnames/oskaloosa

Basics

Details

plist

Delete

Duplicate

catalogs

development

testing

production

included\_manifests

groups/DisneyStandardConfiguration

managed\_installs

theadminv2

TextMate

AdobeCreativeCloudDesktop

AppleConfigurator2

VirtualBuddy

managed\_uninstalls

managed\_updates

Q


chrome

all ▾

⚙

▾

| Name         | Version                                 |
|--------------|---|
| GoogleChrome | 114.0.5735.198 <input type="checkbox"/> |
|              | 114.0.5735.133 <input type="checkbox"/> |
|              | 103.0.5060.134 <input type="checkbox"/> |
|              | 103.0.5060.114 <input type="checkbox"/> |
|              | 87.0.4280.141 <input type="checkbox"/>  |
|              | 87.0.4280.88 <input type="checkbox"/>   |
|              | 67.0.3396.99 <input type="checkbox"/>   |
|              | 67.0.3396.87 <input type="checkbox"/>   |
|              | 49.0.2623.112 <input type="checkbox"/>  |
|              | 49.0.2623.110 <input type="checkbox"/>  |

 apps/GoogleChrome-114.0.5735.198.plist

Basics

Details

plist

Delete

Name

GoogleChrome

Version

114.0.5735.198

Display name

Google Chrome

Description

Google's web browser.

Catalogs

production

+

Category

Internet

Developer

Google

Unattended install

☒

Unattended uninstall

☐





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📁 Projects


🛡 Security


📈 Insights


 **mwa2** Public

forked from [munki/mwa2](#)

 Watch 1 ▾

 Fork 36 ▾

 Star 1 ▾

 master-py3 ▾

🔗 4 branches


🏷 0 tags

Go to file

Add file ▾

<> Code ▾

This branch is [5 commits ahead](#), [2 commits behind](#) munki:main.

 **chrisgrande** Import housekeeping

bae8a05 on Feb 21, 2020 🕒 138 commits

|                 |                                   |             |
|-----------------|-----------------------------------|-------------|
| 📁 api           | Import housekeeping               | 3 years ago |
| 📁 catalogs      | Switch to Munki plistlib wrappers | 3 years ago |
| 📁 manifests     | Switch to Munki plistlib wrappers | 3 years ago |
| 📁 munkiwebadmin | Switch to Munki plistlib wrappers | 3 years ago |
| 📁 pkginfo       | Switch to Munki plistlib wrappers | 3 years ago |
| 📁 process       | py3 initial pass                  | 3 years ago |
| 📄 .gitignore    | Ignore IDE Settings               | 3 years ago |
| 📄 LICENSE.md    | Initial commit                    | 8 years ago |

## About

Version 2 of MunkiWebAdmin

- 📖 Readme
- 📜 View license
- 🔗 Activity

☆ 1 star

👁 1 w



Rep

## Rel

No rele

## Packages



- Migrate to Python 3
- Update open-source components

| Component  | mwa2 version | Latest version |
|------------|--------------|----------------|
| Django     | 1.9.1        | 4.2.3          |
| jQuery     | 1.11.3       | 3.7.0          |
| jQueryUI   | 1.11.4       | 1.13.2         |
| Bootstrap  | 3.3.6        | 5.3            |
| DataTables | 1.10.10      | 1.13.5         |
| Ace        | 1.2.2(?)     | 1.23.3         |

**munki-pkg**



Code

main

Go to file

SuppressSetupAssistant

TurnOffBluetooth

munki\_kickstart

LICENSE.md

README.md

munkipkg

requirements.txt

munki-pkg / README.md

PreviewCodeBlame407 lines (273 loc) · 22.7 KB

RawDownloadEdit

Package notarization

Important notes:

Please read the Customizing the Notarization Workflow web page before you start notarizing your packages.

Xcode 10 (or newer) is required. If you have more than one version of Xcode installed on your Mac, be sure to use the xcode-select utility to choose the appropriate version: sudo xcode-select -s /path/to/Xcode10.app .

Unproxied network access to the Apple infrastructure (Usually 17.0.0.0/8 network) is required.

Notarization tool tries to notarize not only the package but also the package payload. All code in the payload (including but not limited to app bundles, frameworks, kernel extensions) needs to be properly signed with the hardened runtime restrictions in order to be notarized. Please read Apple Developer documentation for more information.

You may notarize SIGNED PACKAGES as part of the build process by adding a notarization\_info dict

```
<key>notarization_info</key>
<dict>
  <key>username</key>
  <string>john.appleseed@apple.com</string>
  <key>password</key>
  <string>@keychain:AC_PASSWORD</string>
  <key>asc_provider</key>
  <string>JohnAppleseed1XXXXXX8</string>
  <key>staple_timeout</key>
  <integer>600</integer>
</dict>
```

or, in JSON format in a build-info.json file:

```
"notarization_info": {
```

↑ Top

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Michael Moravec

@MichalMMac

Czech Republic



Latest

- TN3153: Adopting API ch...
- TN3152: Migrating to the...
- TN3151: Choosing the ri...
- TN3149: Fetching Conta...
- TN3138: Handling App S...
- TN3150: Getting ready f...
- TN3117: Resolving archit...
- TN3147: Migrating to th...**
- TN3145: HDR video met...
- TN3133: Packaging a Me...
- TN3137: On Mac keychai...
- TN3136: AVAudioConver...
- TN3135: Low-level netw...
- TN3128: Starting ShareP...
- TN3134: Network Extens...
- TN3132: Changes to Eve...
- TN3130: Changes to Fir...

Article

# TN3147: Migrating to the latest notarization tool

Migrate your notarization workflows to `notarytool` from the deprecated `altool`.

## Overview

At [WWDC 2021](#) Apple introduced `notarytool`, a new tool for interacting with the Apple notary service. When it comes to notarization, this tool is faster and more reliable than the previous `altool`. If you're still notarizing with `altool`, it's time to switch to `notarytool`.

### Important


Apple has deprecated `altool` for the purposes of notarization and [announced that it will stop working for notarization on 2023-11-01](#). However, `altool` is still a good way to perform other tasks, like submitting an app to the App Store.





🔍 Type  to search

# Fix notarization #65

 Conversation **9** |  Commits **2** |  Checks **0** |  Files changed **1**



This updates the notarization code to use notarytool instead of altool, which is gone in Xcode 13 and later.



- 🔗  Update notarization code for Xcode 13 and later.

- 🔗  Update notarization code for Xcode 13 and later.

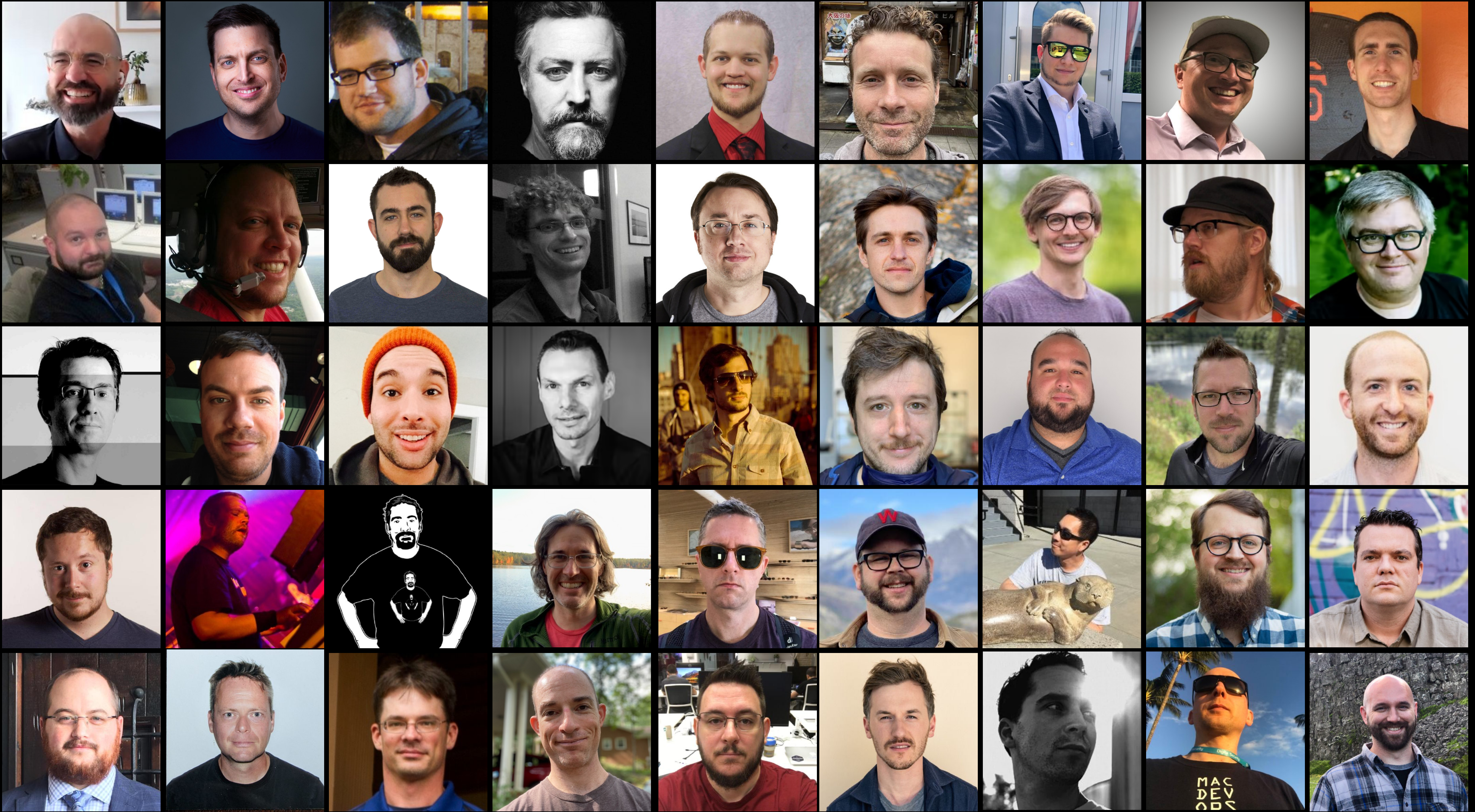


# Sterling Anderson

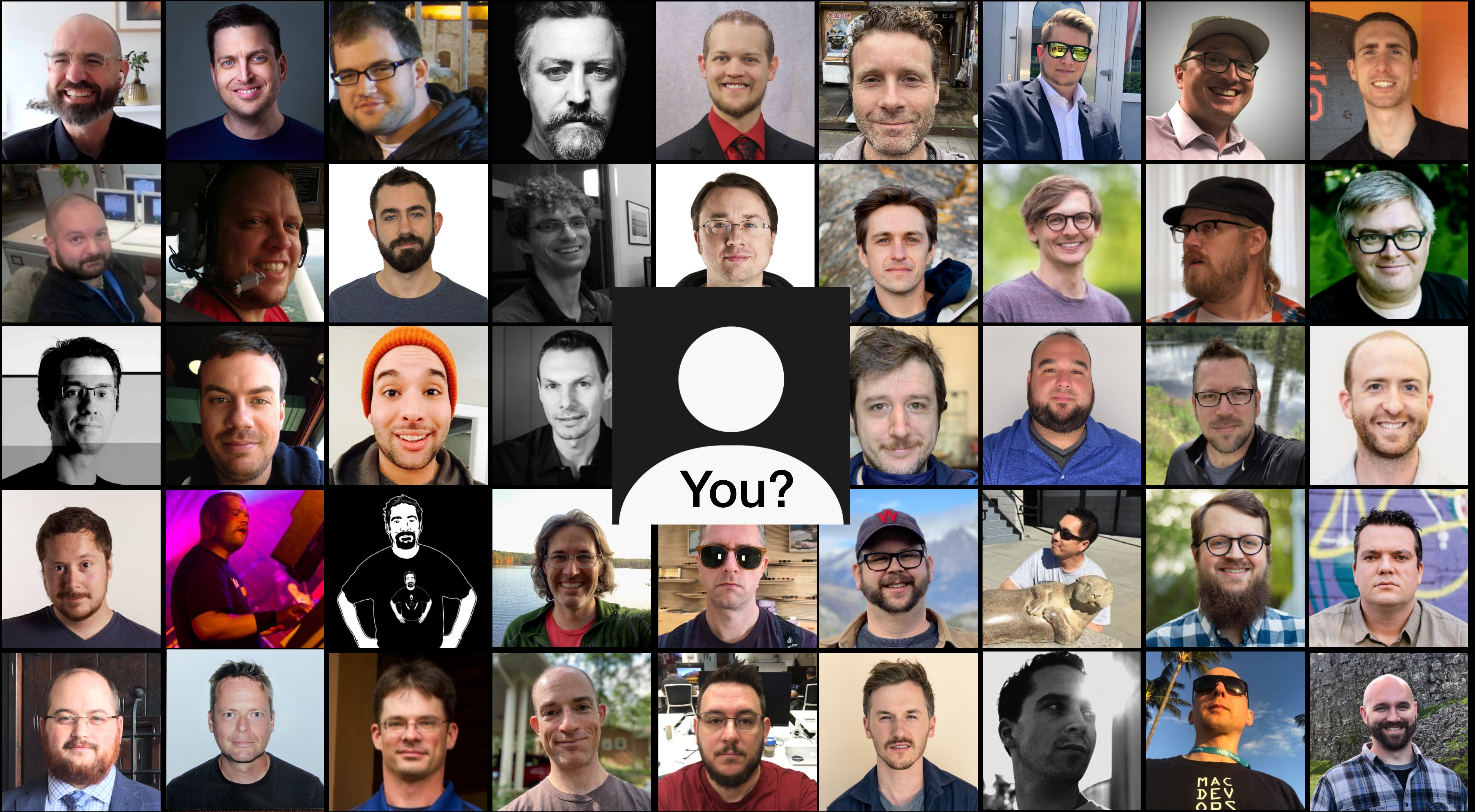
@string

Madison, WI, USA















# Links



<https://tinyurl.com/3aabbba46>

Q&A