

Advanced Mac Software Deployment and Configuration: *Just Make It Work!*

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*“We’ve decided to move to Maya 2016 for the fall.
Would you be able to install that in the production suites for the start
of classes next week?”*

To install Maya on a Mac OS X using command line parameters:

1. Enter:

```
./setup [--option[=value]]
```

2. Enter:

```
--help
```

To display the argument options of the installer and quit.

3. Enter:

```
--noui
```

To disable the UI of the installer. If it's not specified, the installer starts with the UI.

4. Enter the log filename with the path:

```
--log=<filename>
```

If the path is not specified, /var/log/autodesk/<app><version>INSTALL.log is used as the log file.

5. Enter:

```
--force
```

To force the installation of the rpm.

6. Enter:

```
--nodeps
```

To force all rpms to install.

7. Enter:

```
--serial_number=XXX-XXXXXX
```

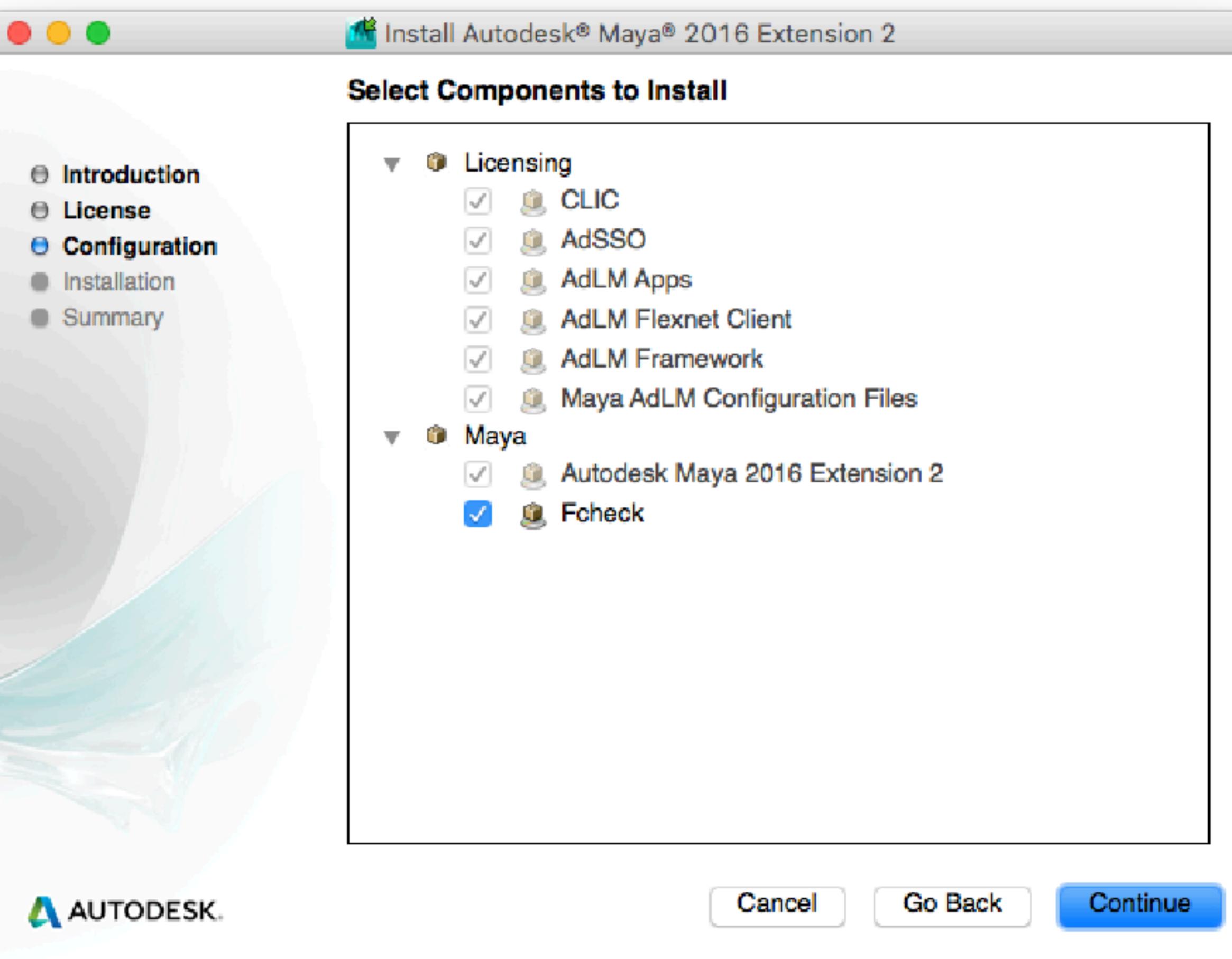
To specify the adm serial number.

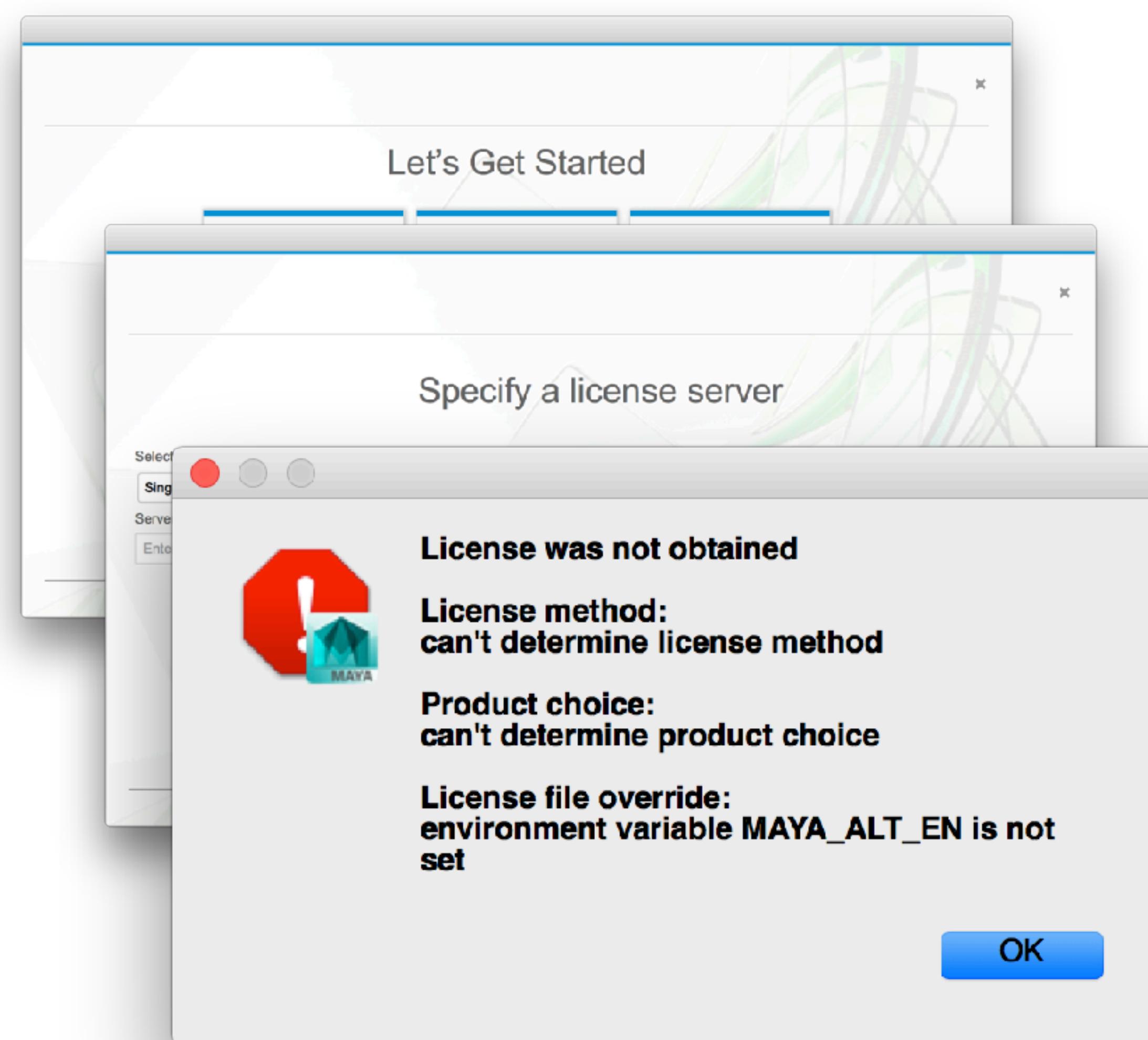
8. Enter:

```
--product_key=<product code>
```

To specify the adm product key.

9. Enter:





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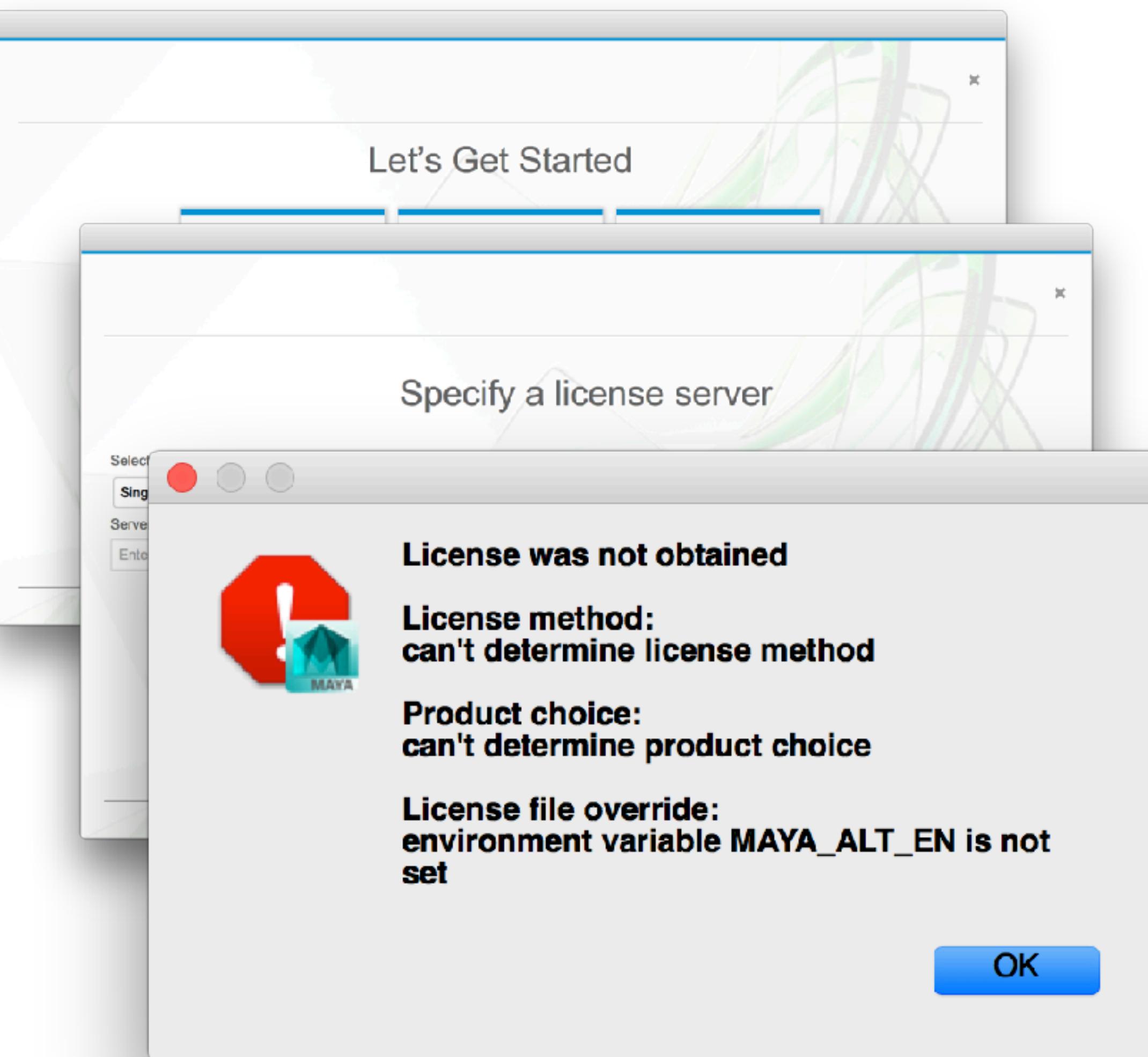
To specify the adm serial number.

8. Enter:

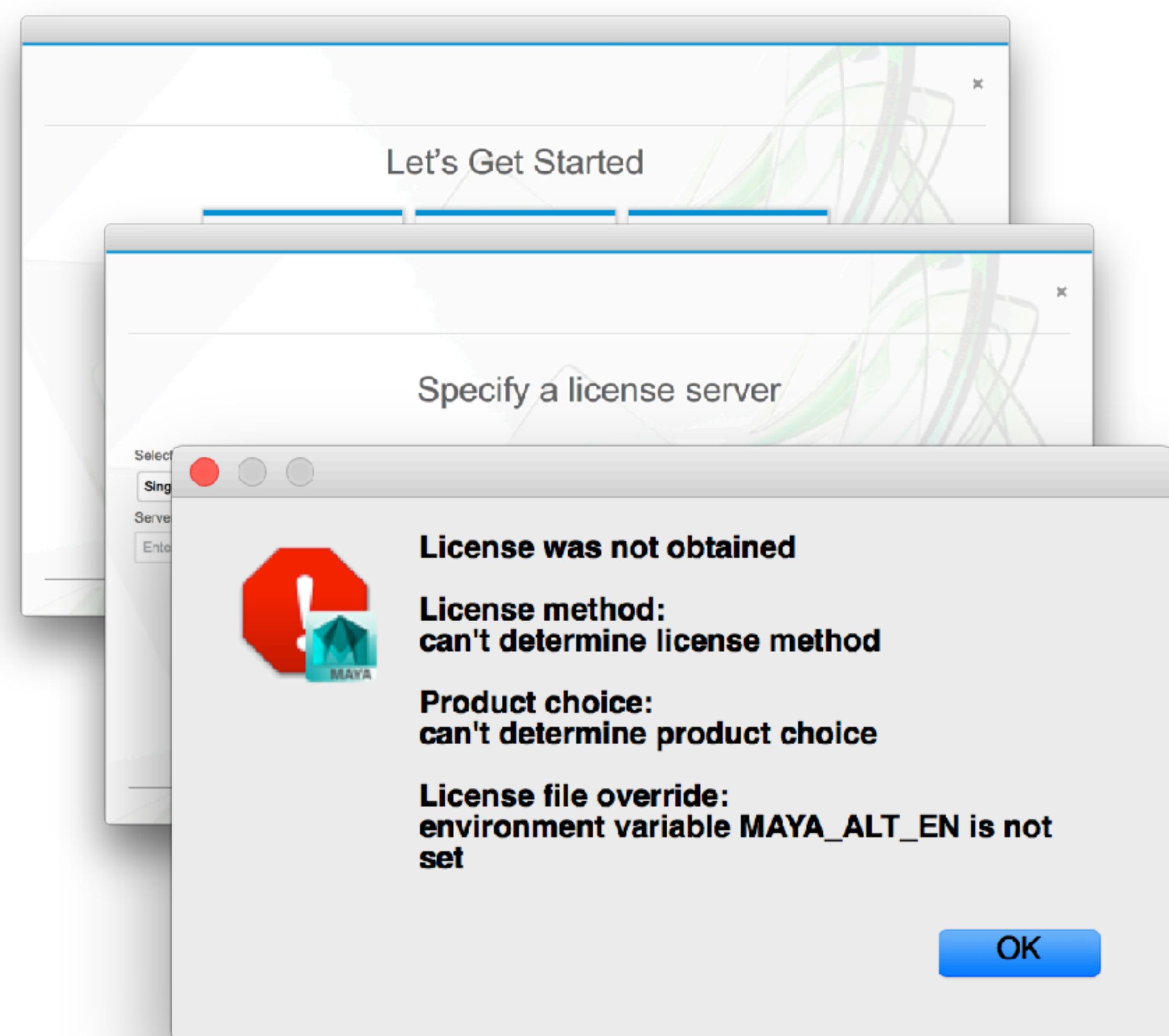
```
--product_key=<product code>
```

To specify the adm product key.

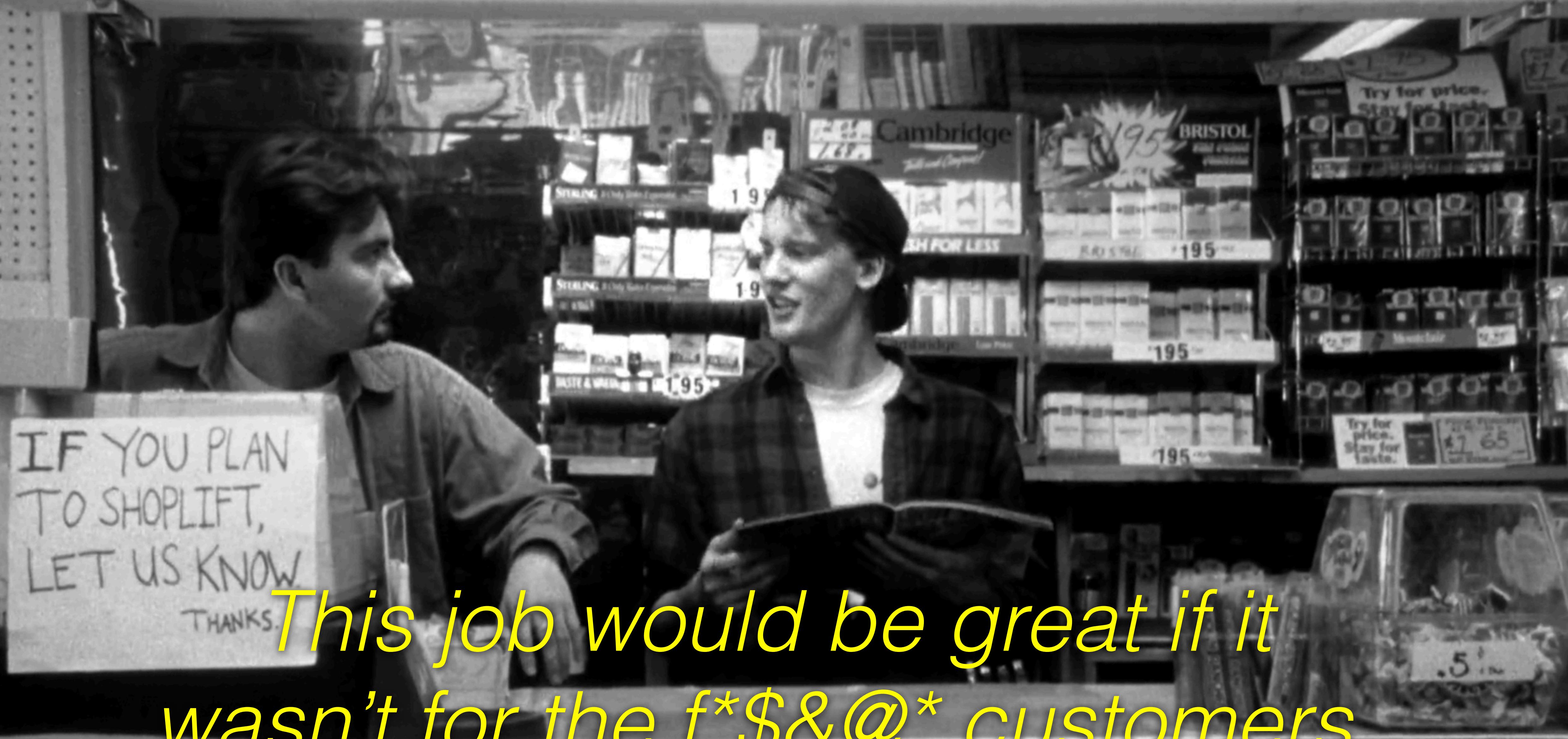
9. Enter:



```
$ packages/autodesk tree
.
└── autodesk-esec2012-settings
    ├── Makefile
    ├── com.autodesk.MC3Framework.plist
    └── postflight
└── autodesk2015-adlmreg
    └── adlmreg2015
└── maya2012-license
    ├── Makefile
    └── postflight
└── maya2012-nuke-semaphore-hook
    ├── Makefile
    └── maya2012_logout.hook
└── maya2013-license
    ├── Makefile
    └── postflight
└── maya2014-license-cinema
    ├── Makefile
    └── postflight
└── maya2015-license
    ├── Makefile
    └── adlmreg2015 -> ../../autodesk2015-adlmreg/adlmreg2015
    └── munkiimport.sh
    └── postinstall
└── maya2015-settings
    ├── Makefile
    └── munkiimport.sh
```



```
└── mudbox2013-license
    └── Makefile
    └── postflight
└── mudbox2014-license-cinema
    └── Makefile
    └── postflight
└── mudbox2015-fix-volume-permissions
    ├── installcheck_script
    ├── munkiimport.sh
    └── postinstall_script
└── mudbox2015-license
    ├── Makefile
    └── postinstall
└── mudbox2015-settings
    ├── Makefile
    └── Mudbox
        └── 2015
            ├── paths
            └── settings
                ├── ImageBrowser.txt
                ├── brushes.sav
                ├── hotkeys.txt
                ├── recent.sav
                ├── settings.sav
                └── ui.sav
    └── munkiimport.sh
    └── postflight
└── setup_mudbox2015_prefs.sh
```



*This job would be great if it
wasn't for the f*\$&@* customers.*



*This job would be great if it
wasn't for the f*\$&@* ~~customers~~ software.*





Additional installation required

Reason needs to install a system extension for the Ignition Key hardware.

This will take a few moments and requires that you provide your Administrator password. After the installation, you will be asked to restart your computer.

Quit

Install and restart



Please enter your computer password for Dropbox to work properly.

Type an administrator's name and password to allow this.

Username:

Password:

Cancel

OK



You are opening the application “Microsoft AU Daemon.app” for the first time. Are you sure you want to open this application?

The application is in a folder named “MacOS.” To see the application in the Finder without opening it, click Show Application.

Show Application

Cancel

Open

Slack - MacAdmins

MacAdmins ▾

- Tim Sutton

All Unreads

All Threads

CHANNELS (489)

- # acn
- # adobeinstalls
- # alphabanana
- # announcements
- # autodesk
- # autodmg
- # autopkg
- # canada
- # chef
- # dep
- # deploystudio
- # devops
- # edu_ios
- # esxi
- # forsale
- # general
- # git

MORE UNREADS ▾

A new version of Slack is available!



Update Now What's New Close

Tom Bridge 2:50 PM
I was always Cannonball in college

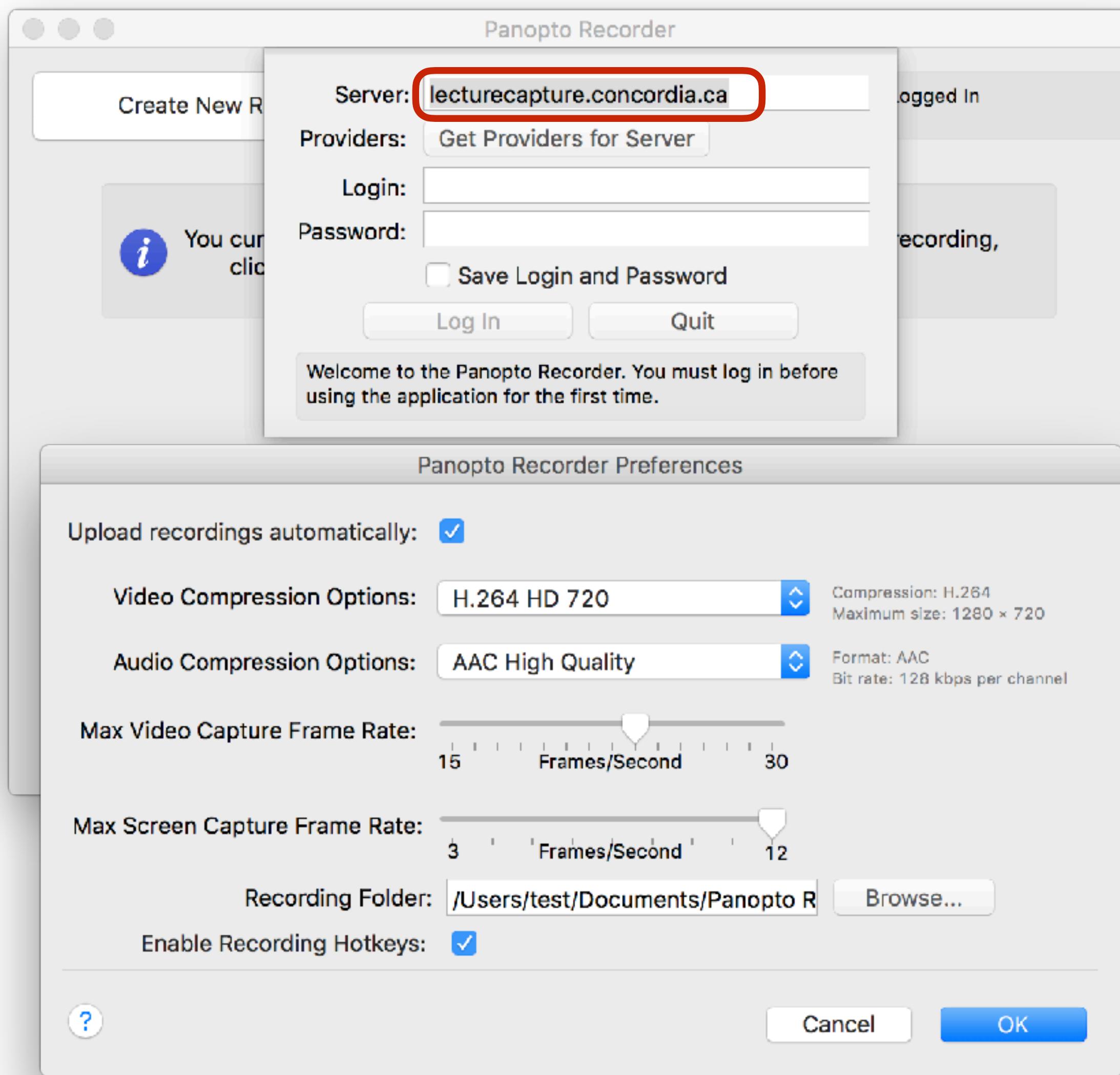
Nick McSpadden 2:51 PM
I'd accept "Iron Stomach"
or maybe "Bottomless Brunch" 😊

Ben Toms 2:52 PM
nah.. it's "\$20 toast"

Nick McSpadden 2:54 PM
Oh come on it's only \$8 at most
usually
that avocado toast with the chili oil, truffle salt, and fried egg on top made
its \$11 price tag quite reasonable

Pepijn Bruienne 3:00 PM
I have a crisp \$20 bill for whoever on the organizing team prints Nick a 🍔
Tshirt

+ Message #macaduk 😊



```
# /Library/Preferences/com.panopto.PanoptoRecorder.plist

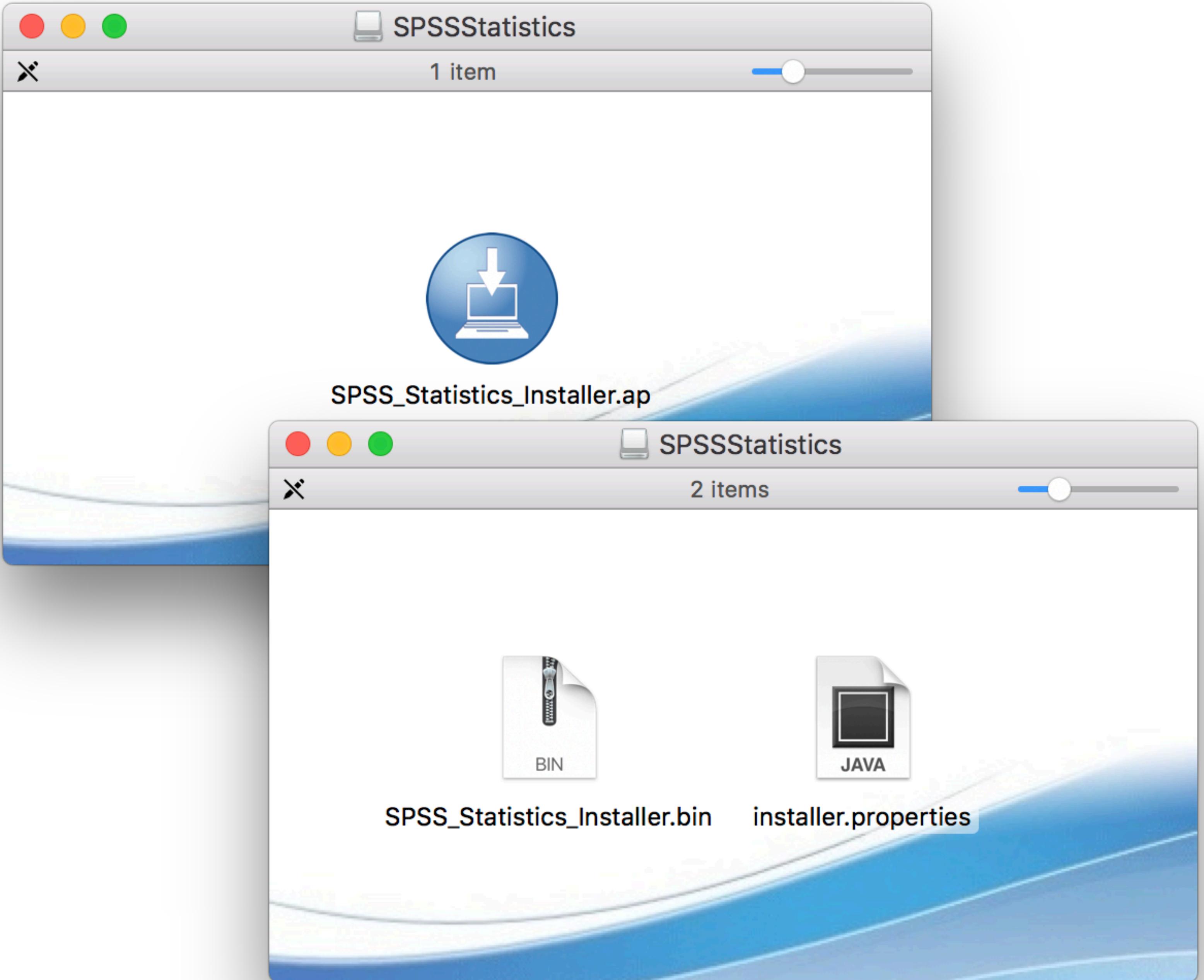
<plist version="1.0">
<dict>
    <key>recordAudioVideo</key>
    <true/>
    <key>recordKeynote</key>
    <true/>
    <key>recordPowerpoint</key>
    <true/>
    <key>recordScreenCapture</key>
    <true/>
    <!-- ScreenCaptureFrameRate can only be set to a maximum of
12 in the GUI -->
    <key>ScreenCaptureFrameRate</key>
    <real>12</real>
    <key>Server</key>
    <string>lecturecapture.concordia.ca</string>
    <key>VideoCompressionOption</key>
    <string>QTCompressionOptionsHD720SizeH264Video</string>
    <key>VideoFrameRate</key>
    <real>24</real>
</dict>
</plist>
```



Sophos Installer.app



Maple2016.1MacInstaller.app



How could this be so hard?

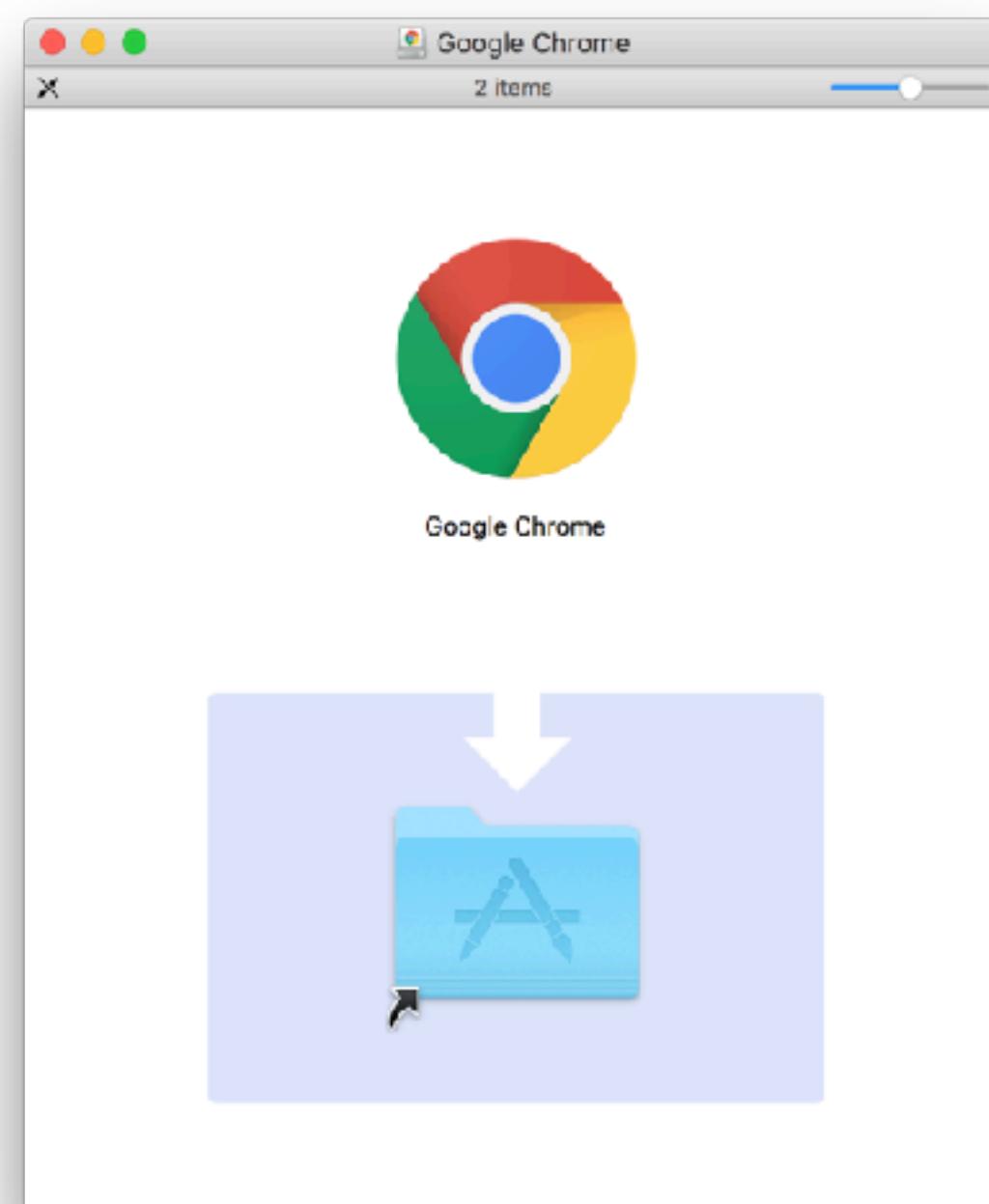
- Automated install contexts
- Multi-user (and network) user environments
- Non-admin users

User experience

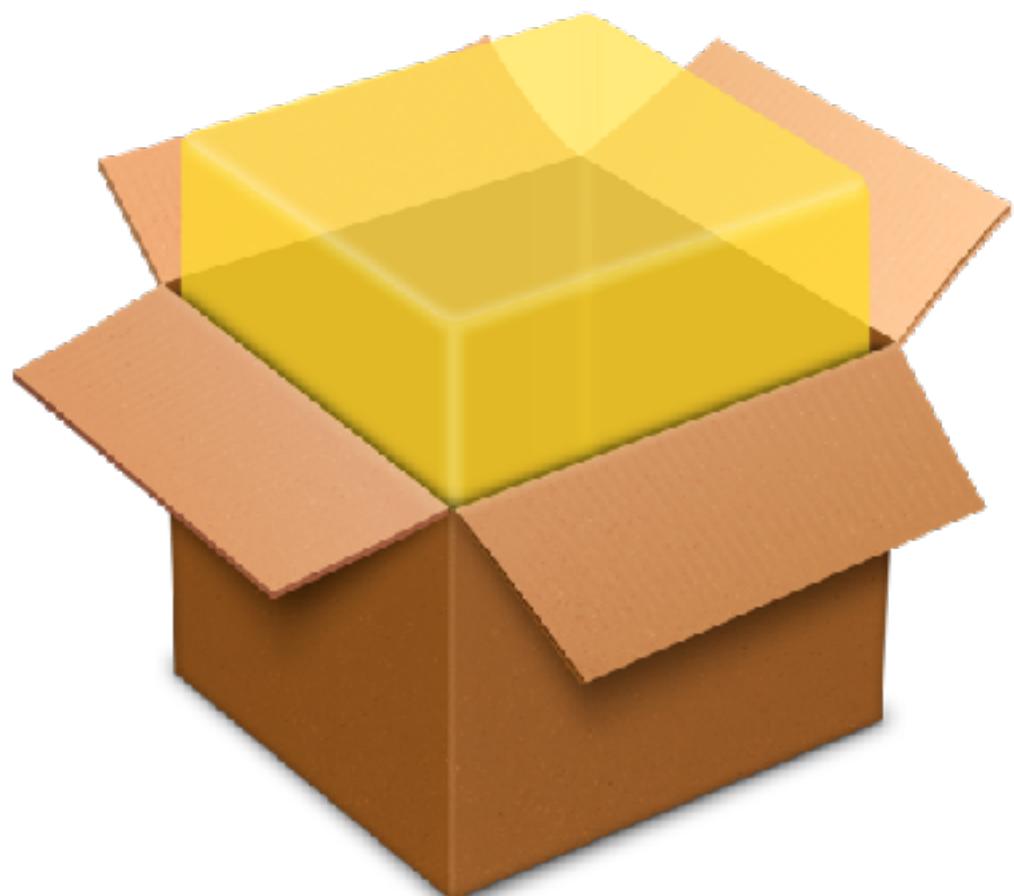
Consistency

Avoid duplication of effort

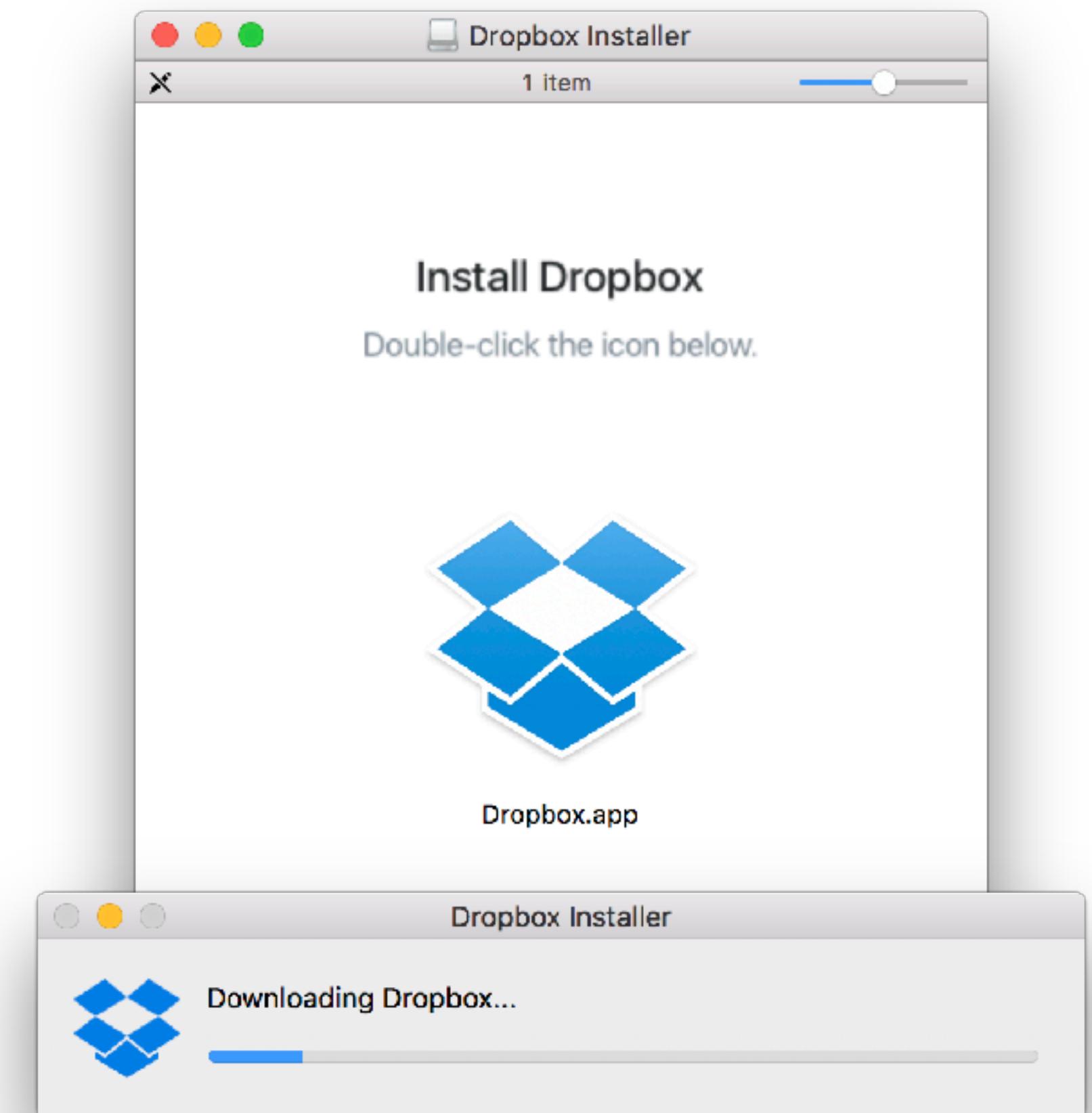
“Installer”



Drag and drop bundle



Installer package



Installer app

AvidCodecsLE-2.7.3.39170.pkg

Install Extract To... Verify Show Info View Files Search Find

Package is a metapackage
Package requests authentication
Package has a valid signature: Developer ID Installer: Avid Technology Inc (Developer ID Certification Authority)
Size: 9.1 MiB compressed, 22.9 MiB uncompressed
Size of selected files: 0 bytes

Contents **Resources**

Filename	Size	Owner	Group	Permissions
Contents of AvidCodecsLE-2.7.3.39170.pkg	22.8 MiB	root	wheel	drwxr-xr-x
Contents of AvidCodecsLE_component.pkg	22.8 MiB	root	wheel	drwxr-xr-x
Applications	1.7 MiB	root	wheel	drwxr-xr-x
Library	21.1 MiB	root	wheel	drwxr-xr-x
Application Support	777 bytes	root	wheel	drwxr-xr-x
Avid	777 bytes	root	wheel	drwxr-xr-x
CustomDataAppMan	777 bytes	root	wheel	drwxr-xr-x
Codecs LE.xml	777 bytes	root	wheel	-rwxrwxrwx
QuickTime	21.1 MiB	root	wheel	drwxr-xr-x
AvidAV1xCodec.component	35.7 KiB	root	wheel	drwxr-xr-x
AvidAVd1Codec.component	3.0 MiB	root	wheel	drwxr-xr-x
AvidAVdhCodec.component	5.7 MiB	root	wheel	drwxr-xr-x
AvidAVDJCodec.component	212.0 KiB	root	wheel	drwxr-xr-x
AvidAVdnCodec.component	3.7 MiB	root	wheel	drwxr-xr-x
AvidAVdvCodec.component	3.4 MiB	root	wheel	drwxr-xr-x
AvidAVj2Codec.component	4.2 MiB	root	wheel	drwxr-xr-x
AvidAVpkCodec.component	377.5 KiB	root	wheel	drwxr-xr-x
AvidAVrpCodec.component	479.4 KiB	root	wheel	drwxr-xr-x
AvidAVUICodec.component	82.2 KiB	root	wheel	drwxr-xr-x



Pacifist



Suspicious
Package

/usr/bin/pkgutil
/usr/bin/lsbom
/usr/sbin/installer



(Office 2011, viewed with Suspicious Package QuickLook plugin)

```
/usr/sbin/installer -pkg /tmp/the.pkg -target /
```

\$USER (tim root)

\$HOME or ~ (/Users/tim /var/root)

defaults read/write

launchctl load/unload (sudo -u \$USER? 🙃)

osascript

Skype for Business

```
#!/bin/sh
# postinstall from https://go.microsoft.com/fwlink/?LinkId=831677

parent_dir=`/usr/bin dirname "$0"`

/bin/cp -R MeetingJoinPlugin.plugin /Library/Internet\ Plug-Ins/
/usr/bin/osascript -e 'tell application "System Events" to make login item at end with properties {path:"/Applications/Skype for Business.app", hidden:false}'
/usr/bin/osascript -e 'tell application "Dock" to quit' -e 'delay 0.25'
/usr/bin/sudo -u $USER "$parent_dir/register_default_app"
/usr/bin/sudo -u $USER "$parent_dir/set_dock_tiles" add "/Applications/Skype for Business.app"
/usr/bin/killall -HUP Dock &> /dev/null
/usr/bin/osascript -e 'delay 1.0' -e 'tell application "Dock" to activate'

exit 0

# /var/log/install.log (no user logged in)
PackageKit: Executing script "./postinstall" in /private/tmp/PKInstallSandbox.ChKgiE/Scripts/com.microsoft.SkypeForBusiness.duPdd2
./postinstall: 36:134: execution error: An error of type -10810 has occurred. (-10810)
./postinstall: 2017-01-26 15:34:20.513 osascript[5942:203610] CFPasteboardRef CFPasteboardCreate(CFAllocatorRef, CFStringRef) : failed to create global data
./postinstall: 2017-01-26 15:34:20.515 osascript[5942:203610] CFPasteboardRef CFPasteboardCreate(CFAllocatorRef, CFStringRef) : failed to create global data
./postinstall: 2017-01-26 15:34:20.516 osascript[5942:203610] CFPasteboardRef CFPasteboardCreate(CFAllocatorRef, CFStringRef) : failed to create global data
./postinstall: 2017-01-26 15:34:20.526 osascript[5942:203610] CFPasteboardRef CFPasteboardCreate(CFAllocatorRef, CFStringRef) : failed to create global data
./postinstall: 2017-01-26 15:34:20.952 set_dock_tiles[5947:203716] Adding Dock item (/Applications/Skype for Business.app)
./postinstall: 2017-01-26 15:34:22.103 osascript[5949:203741] CFPasteboardRef CFPasteboardCreate(CFAllocatorRef, CFStringRef) : failed to create global data
./postinstall: 2017-01-26 15:34:22.372 osascript[5949:203741] CFPasteboardRef CFPasteboardCreate(CFAllocatorRef, CFStringRef) : failed to create global data
./postinstall: 2017-01-26 15:34:22.384 osascript[5949:203741] CFPasteboardRef CFPasteboardCreate(CFAllocatorRef, CFStringRef) : failed to create global data
./postinstall: 2017-01-26 15:34:22.388 osascript[5949:203741] CFPasteboardRef CFPasteboardCreate(CFAllocatorRef, CFStringRef) : failed to create global data
```

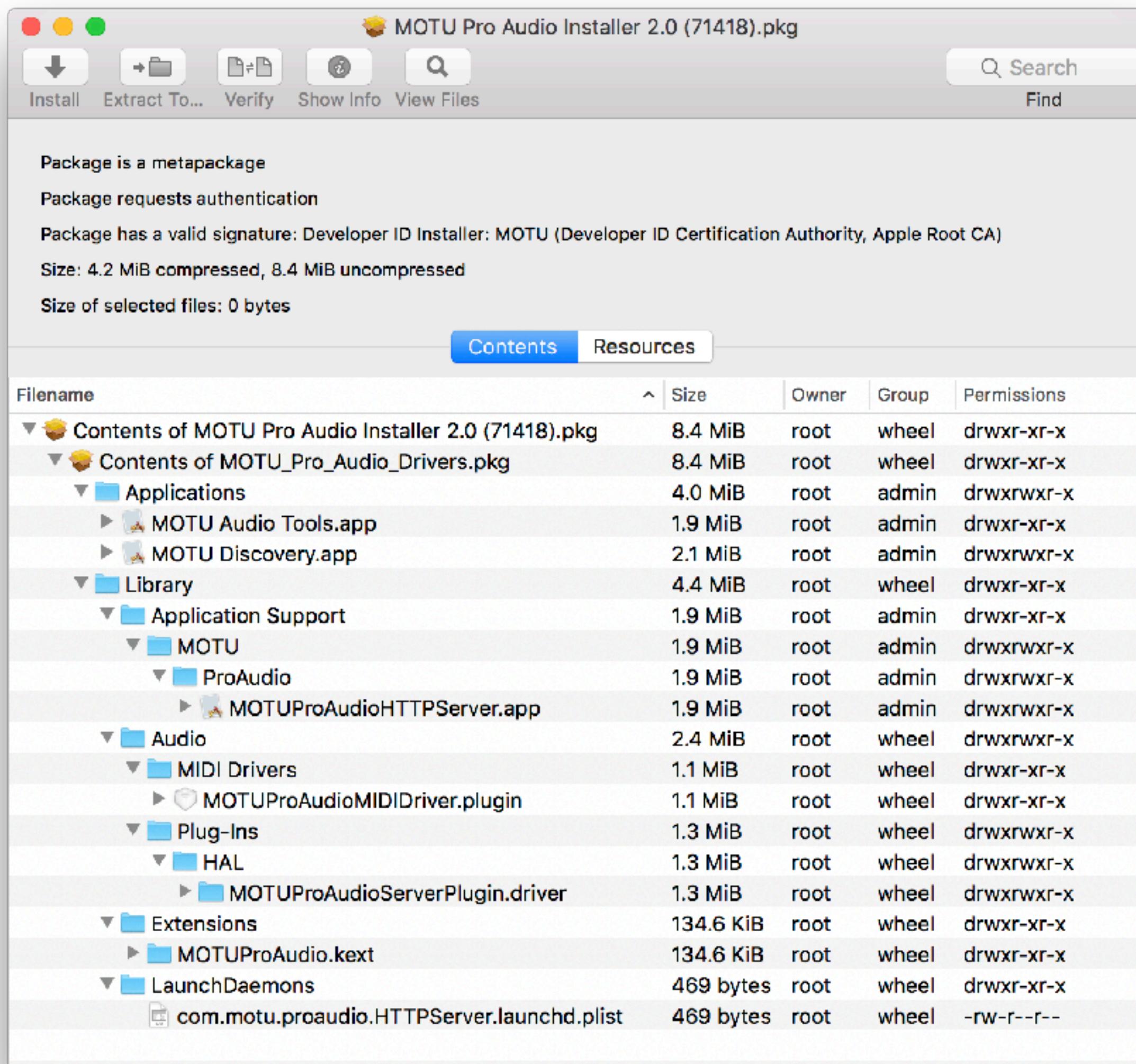
Outlook 2016

```
if ! [[ $COMMAND_LINE_INSTALL && $COMMAND_LINE_INSTALL != 0 ]]
then
    domain="com.microsoft.autoupdate2"
    defaults_cmd="/usr/bin/sudo -u $USER /usr/bin/defaults"
    application="/Applications/Microsoft Outlook.app"
    application_info_plist="$application/Contents/Info.plist"
    lcid="1033"

    if /bin/test -f "$application_info_plist"
    then
        application_bundle_signature=`$defaults_cmd read "$application_info_plist" CFBundleSignature`
        application_bundle_version=`$defaults_cmd read "$application_info_plist" CFBundleVersion`
        application_id=`printf "%s%02s" $application_bundle_signature ${application_bundle_version%.}.*`"
        $defaults_cmd write $domain Applications -dict-add "$application" "{ 'Application ID' = $application_id; LCID = $lcid ; }"
    fi

<snip>
```

MOTU Pro Audio



```
#!/bin/sh
# postinstall

KEXT="MOTUProAudio.kext"
# 10.9+ install kext in /Library/Extensions
cd /Library/Extensions
chown -R root:wheel $KEXT
chmod -R u=rw,go=r,+X $KEXT
touch .

# if we're in 10.8, move the kext to /System
OSVER='sw_vers | grep 'ProductVersion:' | grep -o '[0-9]*\.[0-9]*\.[0-9]*''` 
if [[ $OSVER =~ ^10\.\.8\.. ]]
then
    mv /Library/Extensions/$KEXT /System/Library/Extensions/$KEXT
    touch /System/Library/Extensions/
fi
# load our http server daemon
/bin/launchctl load /Library/LaunchDaemons/com.motu.proaudio.HTTPServer.launchd.plist
# restart coreaudiod
/bin/launchctl unload /System/Library/LaunchDaemons/com.apple.audio.coreaudiod.plist
/bin/launchctl load /System/Library/LaunchDaemons/com.apple.audio.coreaudiod.plist

# open the discovery app
open "/Applications/MOTU Discovery.app"
```

MOTU Pro Audio

```
installd[338]: PackageKit: Executing script "./postinstall" in /tmp/PKInstallSandbox.Zxqser/Scripts/com.motu.pkg.proaudio.lq3hf9  
installd[338]: ./postinstall: LSOpenURLsWithRole() failed with error -10810 for the file /Applications/MOTU Discovery.app.  
installd[338]: PackageKit: Install Failed: Error Domain=PKInstallErrorDomain Code=112 "An error occurred while running scripts from  
the package “MOTU Pro Audio Installer 2.0 (71418).pkg”."
```

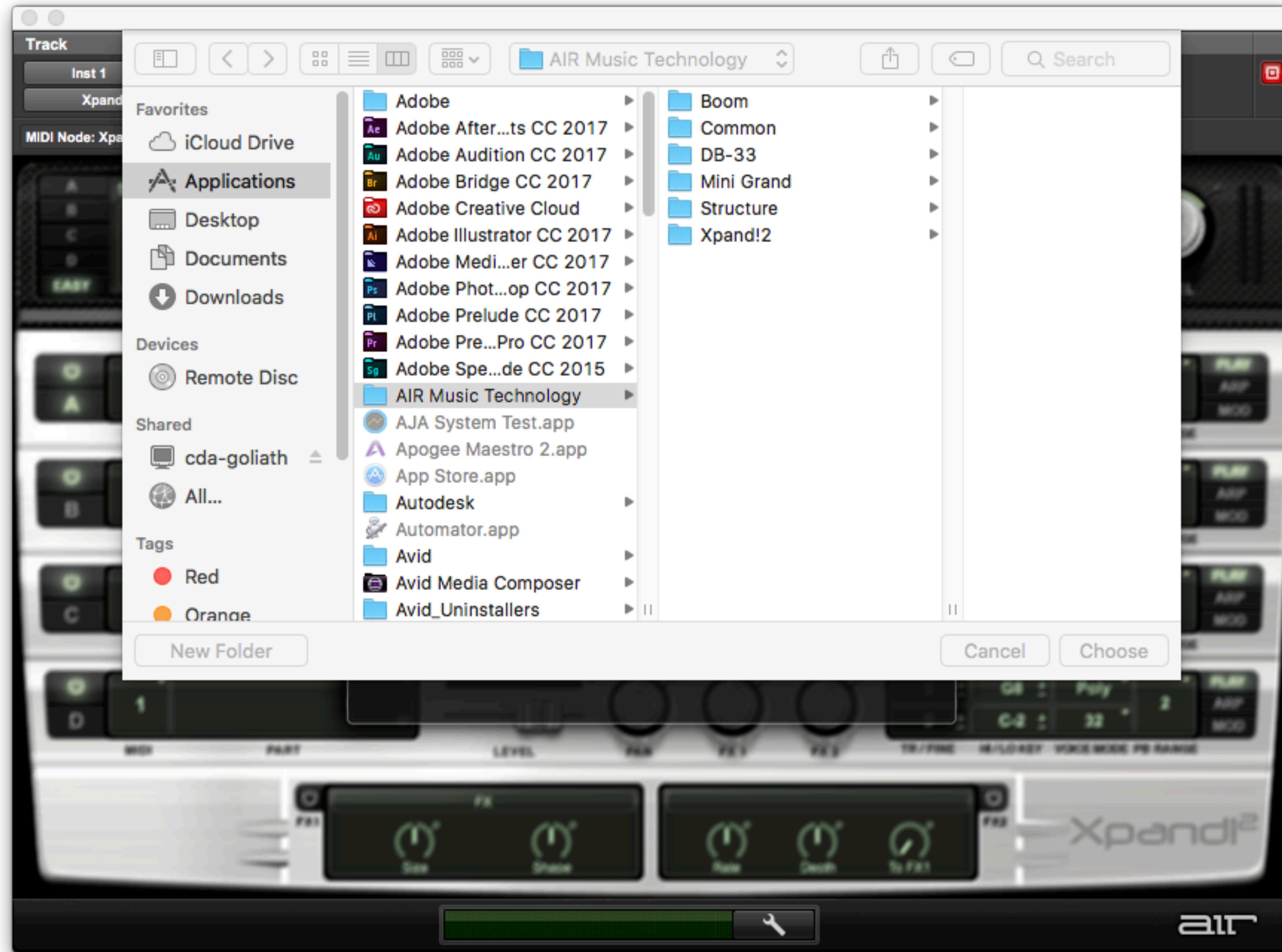
Install method

		Terminal/SSH: sudo installer -pkg <pkg> -tgt /	Munki
Context	User logged in	Successful	Unsuccessful
	At loginwindow	Unsuccessful	Unsuccessful

```
#!/usr/bin/perl
# Avid AIR Music Instruments for Pro Tools
sub get_user_id
{
    my $homedir = $ENV{'HOME'};
    my $userid = basename($homedir);
    return $userid;
}

my $pluginPlist = "/Users/$userid/Library/Preferences/com.aimusictech.Structure";

if ((-e "$structurePlugIn") && $pluginBundleName eq "Structure Free") {
    # No plist file. Install the content to the default location.
    logIt("Clean install. Installing to $installDestination");
    create_dir($installDestination, "777", "$userid:admin");
    copy_dir($installerPatches, $installDestination, "777", "$userid:admin");
    copy_dir($installerQuickStart, $installDestination, "777", "$userid:admin");
    execute_command("mv \"$installDestination$plugInPatchesWin\" \"$installDestination$plugInPatches\"");
    execute_command("mv \"$installDestination$plugInQuickStartWin\" \"$installDestination$plugInQuickStart\"");
    execute_command("defaults write \"$pluginPlist\" \"content\" \"$installDestination$plugInPatches\"");
    execute_command("defaults write \"$pluginPlist\" \"common content\"=\"/Applications/AIR Music Technology/Common\"");
    execute_command("defaults write \"$pluginPlist\" \"common binary\"=\"/Applications/AIR Music Technology/Common\"");
    execute_command("defaults write \"$pluginPlist\" \"effects\"=\"/Applications/AIR Music Technology/Structure/Set\"");
    execute_command("defaults write \"$pluginPlist\" \"favorites\"=\"/Applications/AIR Music Technology/Structure/Fav\"");
    execute_command("sudo chmod 755 \"$pluginPlist.plist\"");
    execute_command("sudo chown $userid:staff \"$pluginPlist.plist\"");
}
```



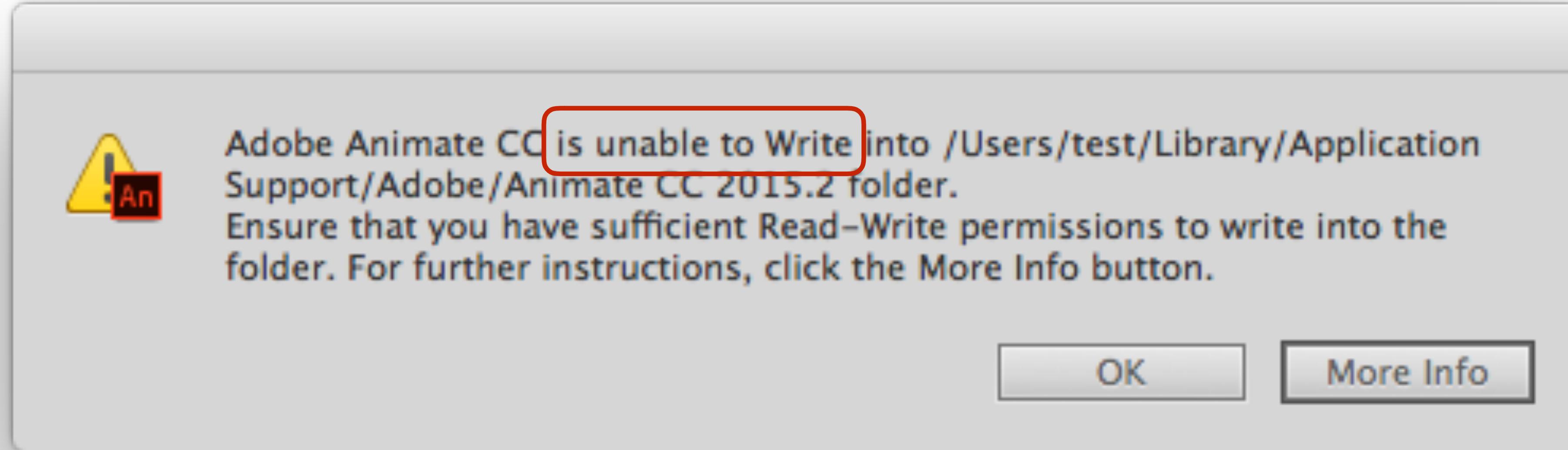
```
#!/bin/sh
# Munki postinstall_script

defaults write /Library/Preferences/com.airmusictech.Boom
defaults write /Library/Preferences/com.airmusictech.Mini\ Grand
defaults write /Library/Preferences/com.airmusictech.Structure
```

	"Content"	"/Applications/AIR Music Technology/Boom"
	"Content"	"/Applications/AIR Music Technology/Mini Grand"
	"common binary"	"/Applications/AIR Music Technology/Common/AIR/bin/"
	"common content"	"/Applications/AIR Music Technology/Common/AIR/Content/"
	"content"	"/Applications/AIR Music Technology/Structure/Content/Patch"
	"effects"	"/Applications/AIR Music Technology/Structure/Settings/"
	"favorites"	"/Applications/AIR Music Technology/Structure/Favorites/"

Permissions

```
$ sudo installer -pkg ~/Desktop/AdobeAnimateCC2015.2.pkg -target /
```



```
$ whoami
```

```
test
```

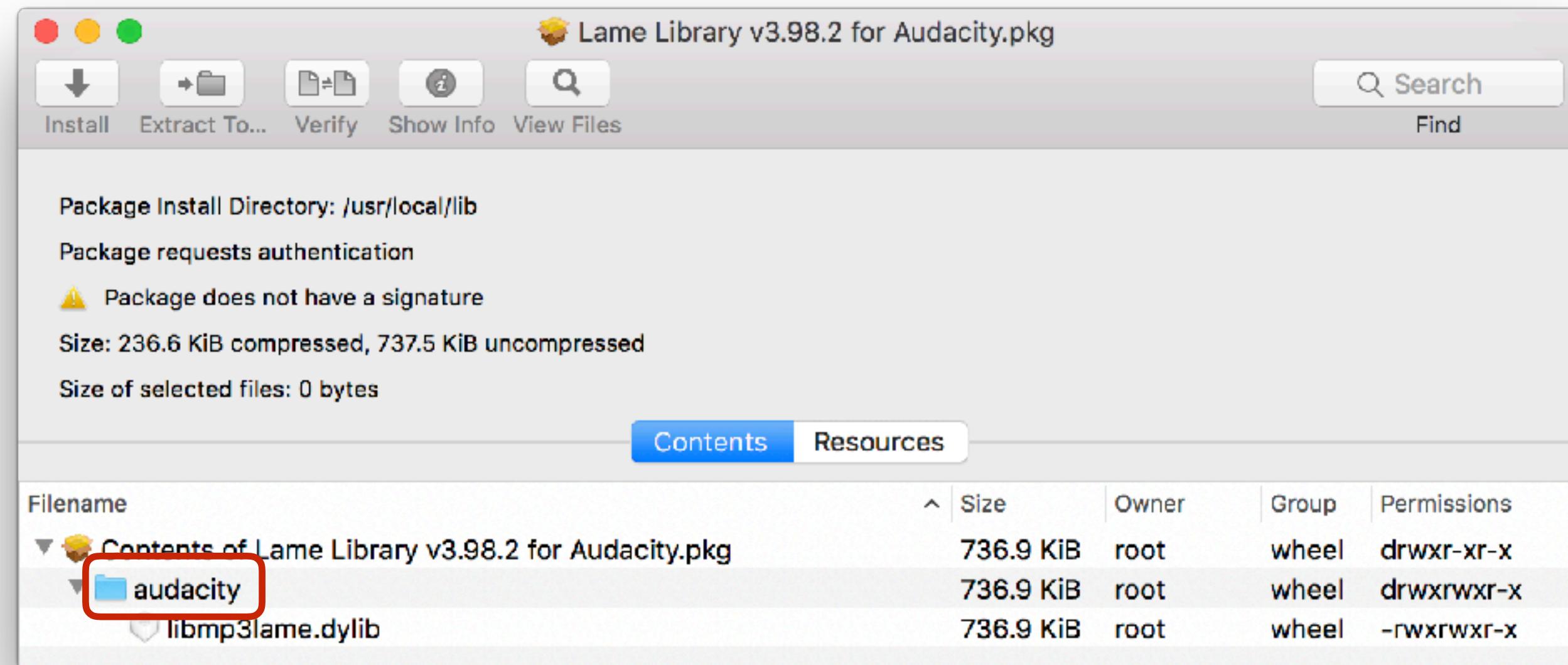
```
$ ls ~/Library/Application Support/Adobe
```

```
total 0
```

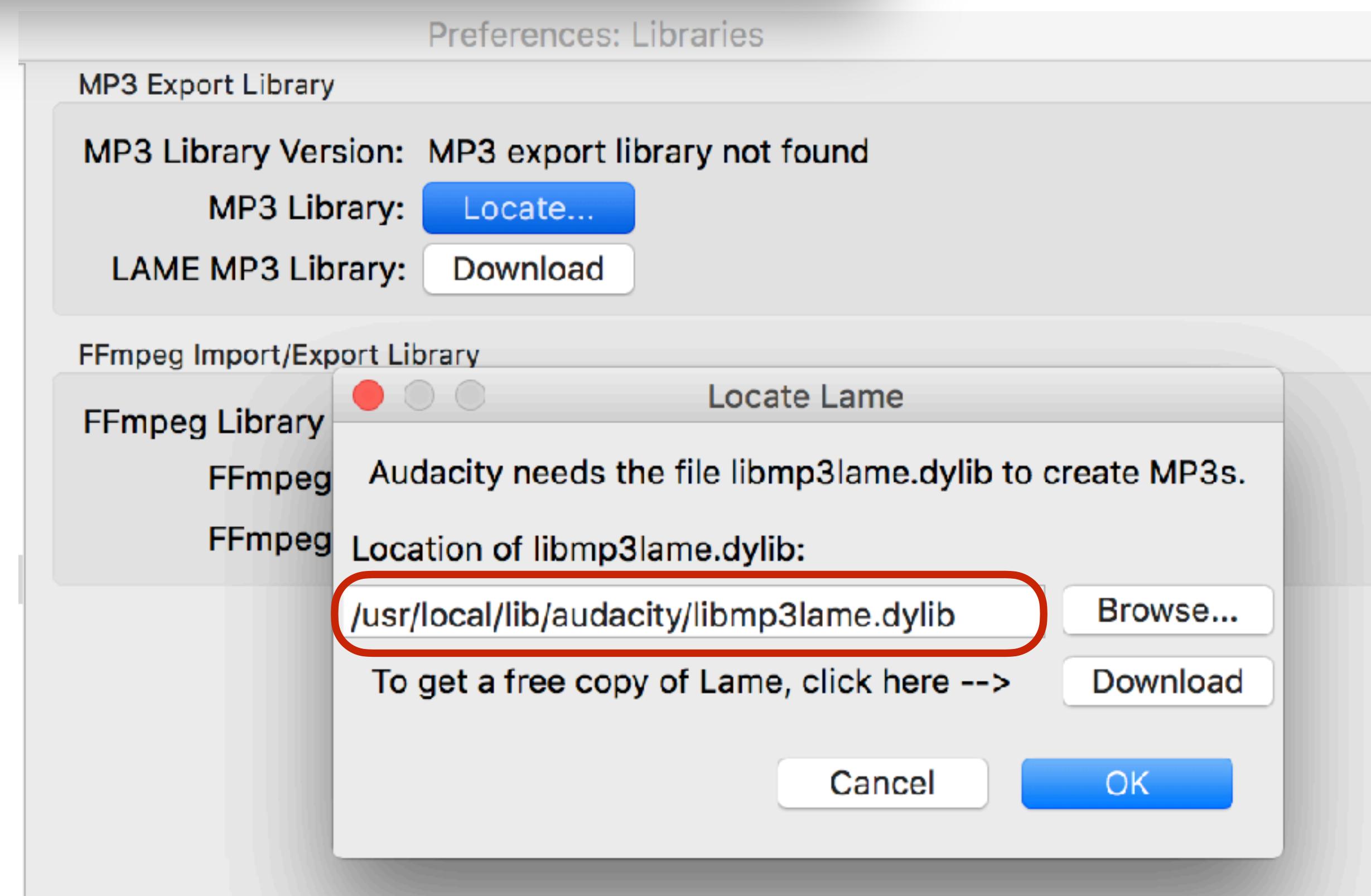
```
drwxrwxrwx 5 root staff 170 Jul 7 15:48 .
```

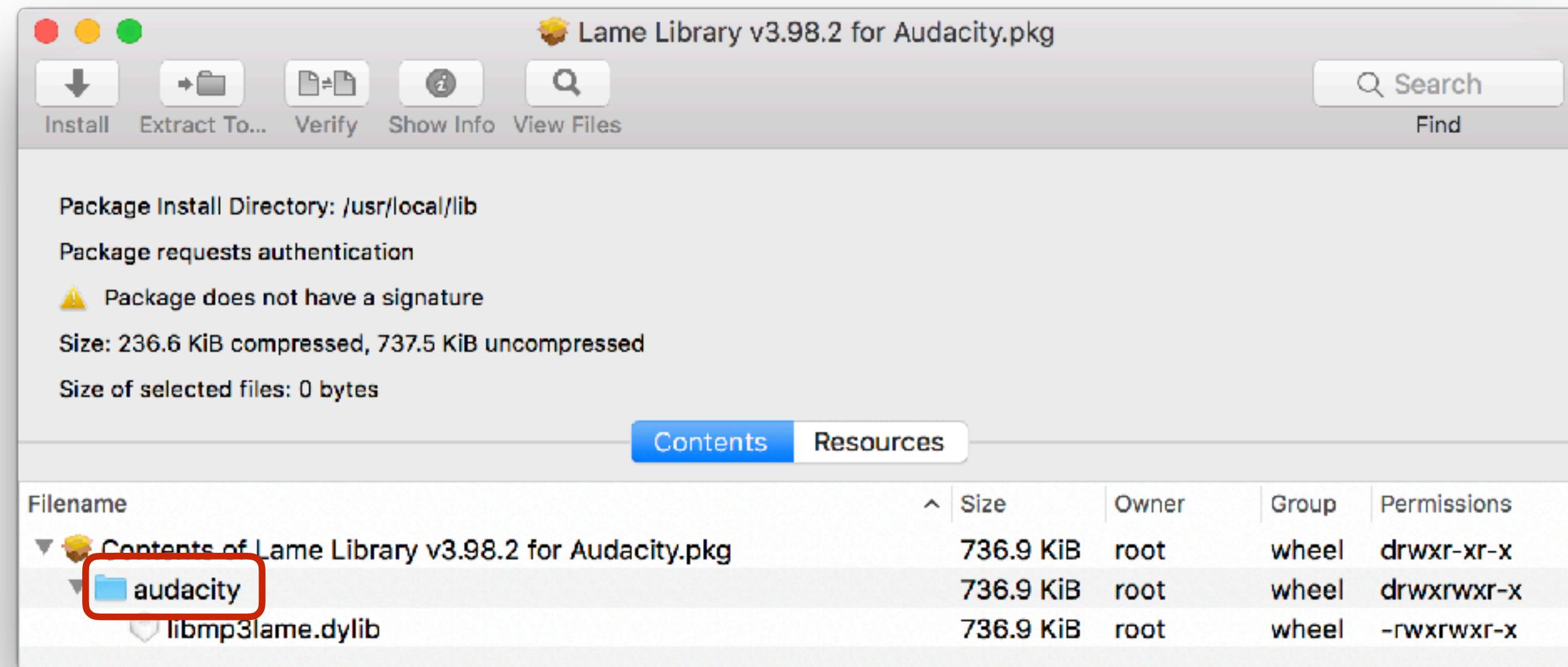
```
drwx-----+ 14 test staff 476 Jul 7 15:44 ..
```

```
drwxr-xr-x 2 root staff 68 Jul 7 15:48 Animate CC 2015.2
```



<key>IFPkgFlagDefaultLocation</key>
<string>/usr/local/lib</string>

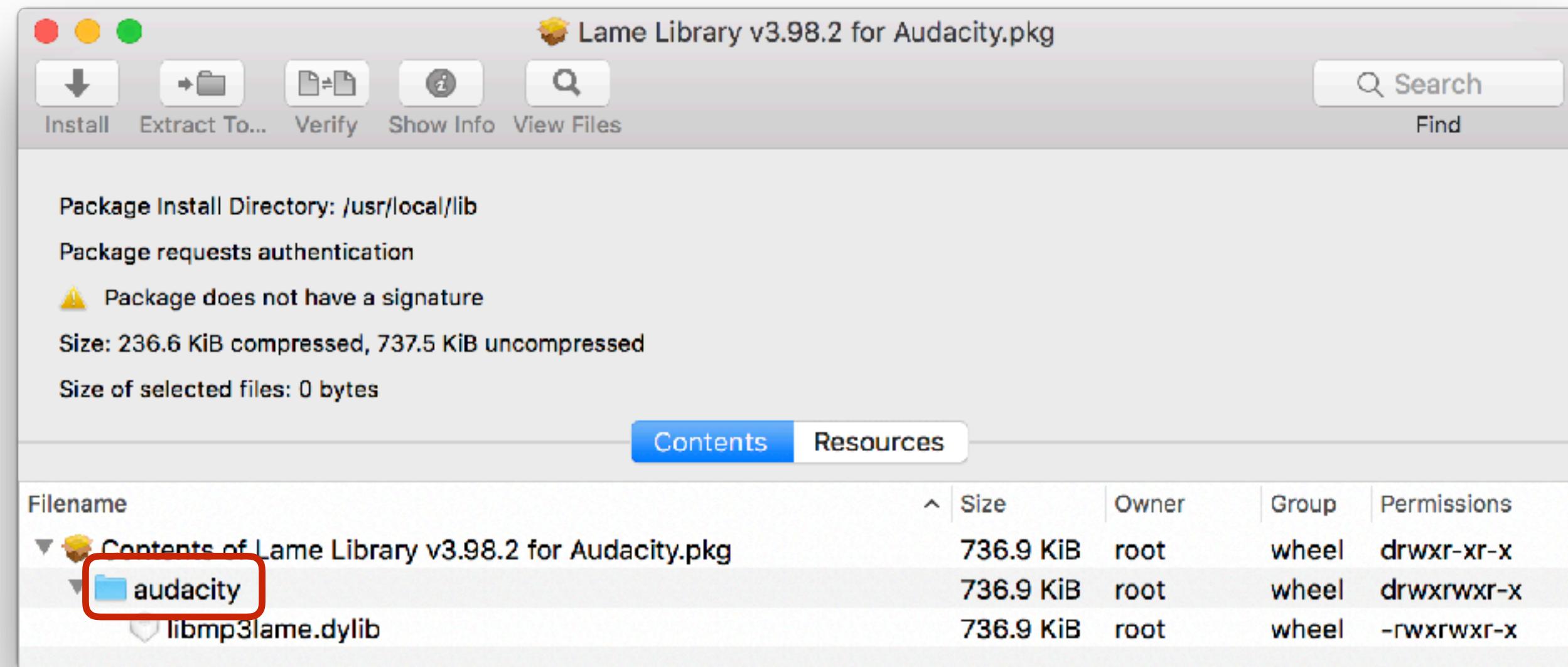




<key>IFPkgFlagDefaultLocation</key>
<string>/usr/local/lib</string>

→ ls -lan /usr/local/

drwxr-xr-x	8	0	0	272	26	Jan	14:21	.
drwxr-xr-x@	13	0	0	442	6	Oct	2015	..
drwxr-xr-x	69	0	0	2346	26	Jan	09:20	bin
drwx-----	3	501	0	102	26	Jan	14:21	lib
drwxr-xr-x	22	0	0	748	23	Jan	14:34	munki
drwxr-xr-x	7	0	0	238	6	Oct	2015	share



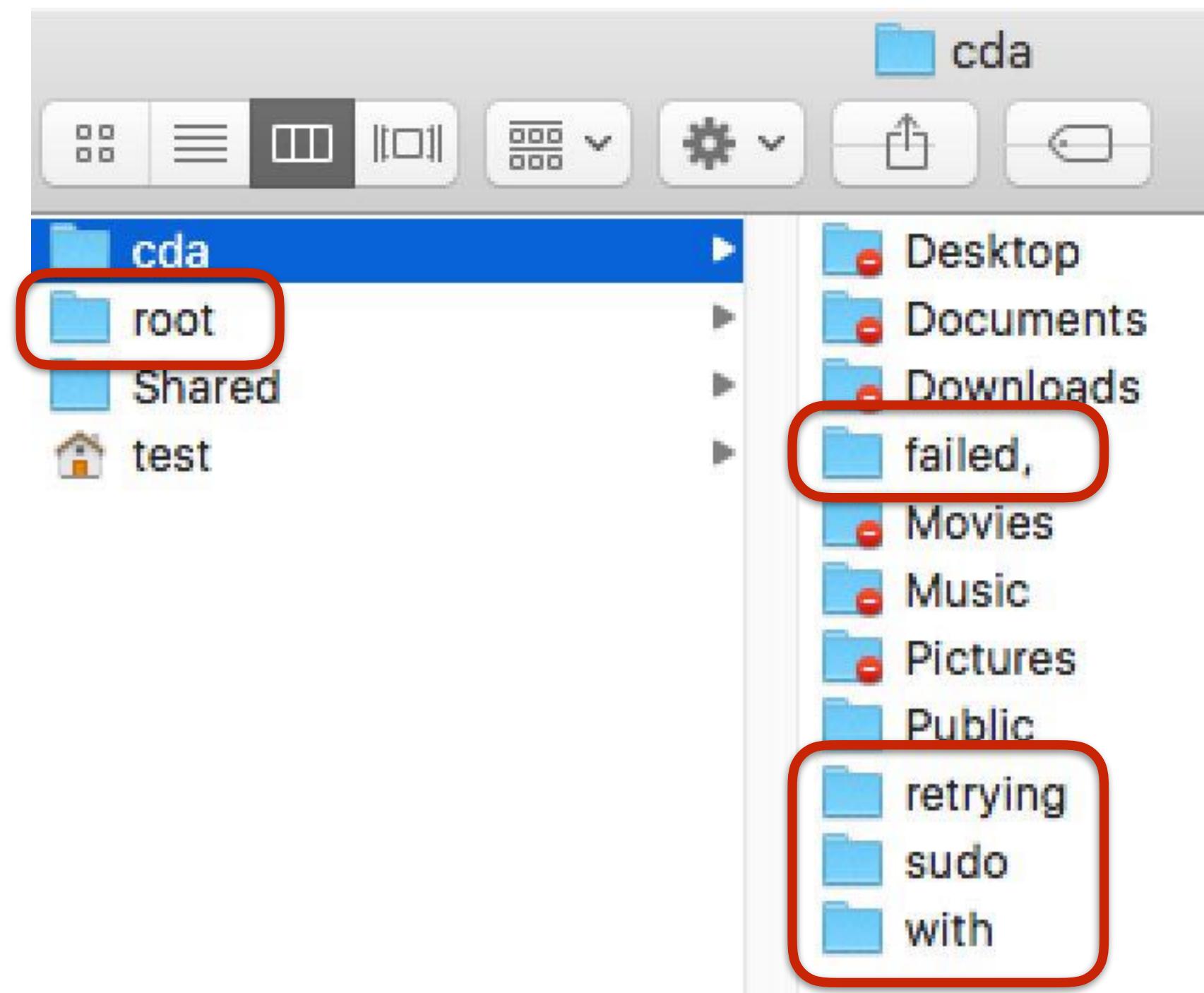
<key>IFPkgFlagDefaultLocation</key>
<string>/usr/local/lib</string>

→ ~ lsbom "Lame v3.98.2 for Audacity.pkg/Contents/Archive.bom"
40700 501/0
. ./audacity 40775 0/0
. ./audacity/libmp3lame.dylib 100775 0/0 754564 2289255777

Test with your
management tools

```
$ tail -f /var/log/install.log
```

```
$ ls -la /var/root/Library/{Preferences,Application\ Support}
```



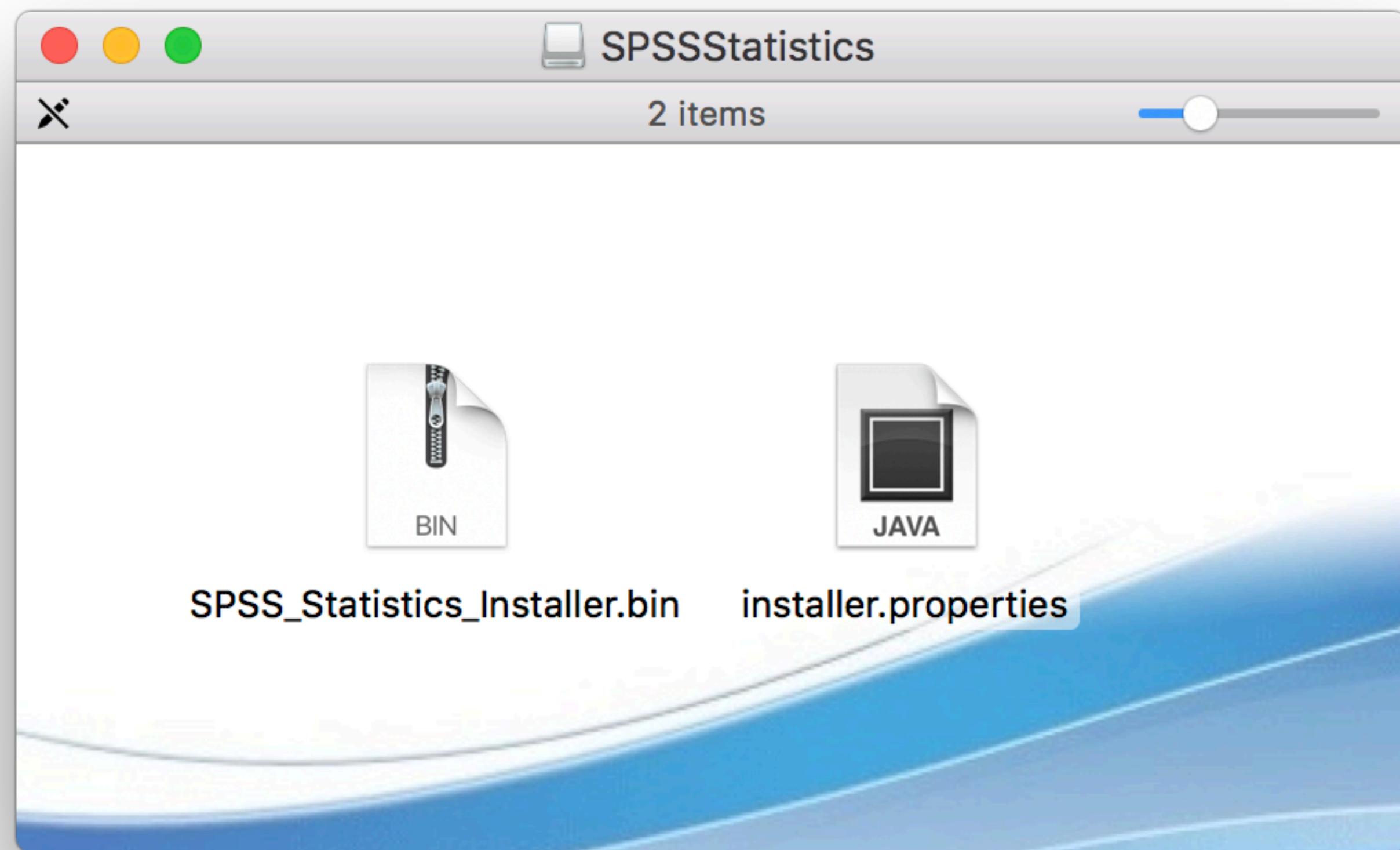
Installer as an app



Sophos Installer.app

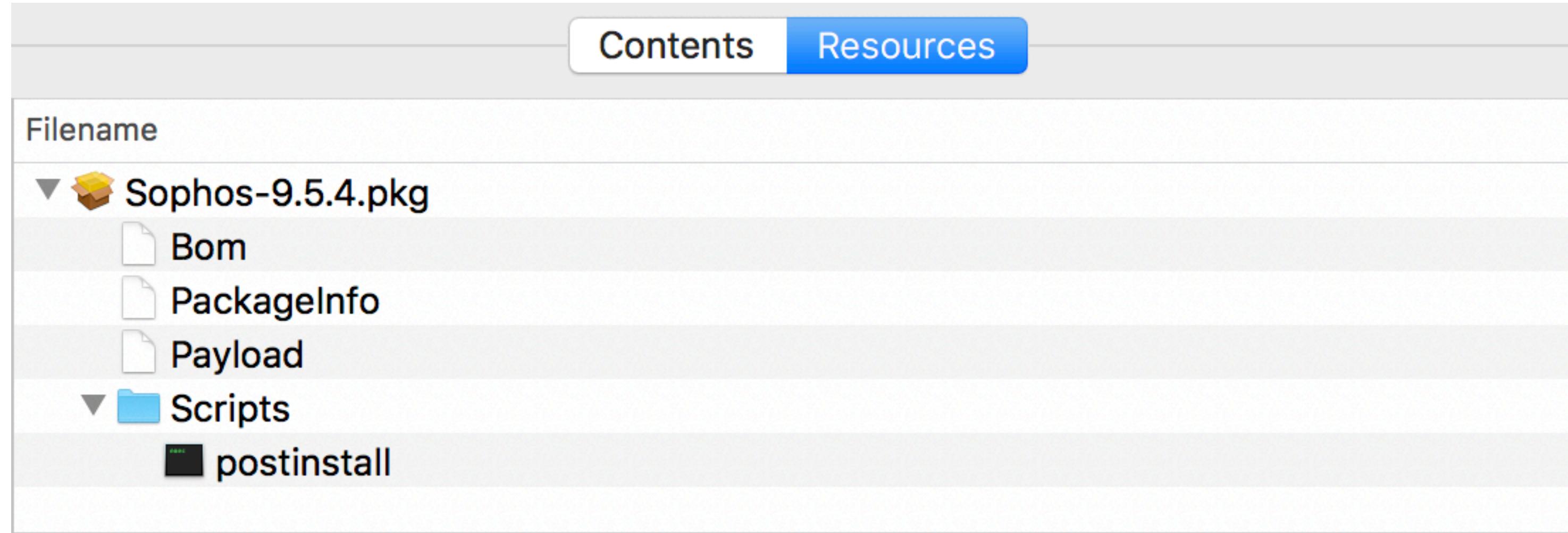


Maple2016.1MacInstaller.app



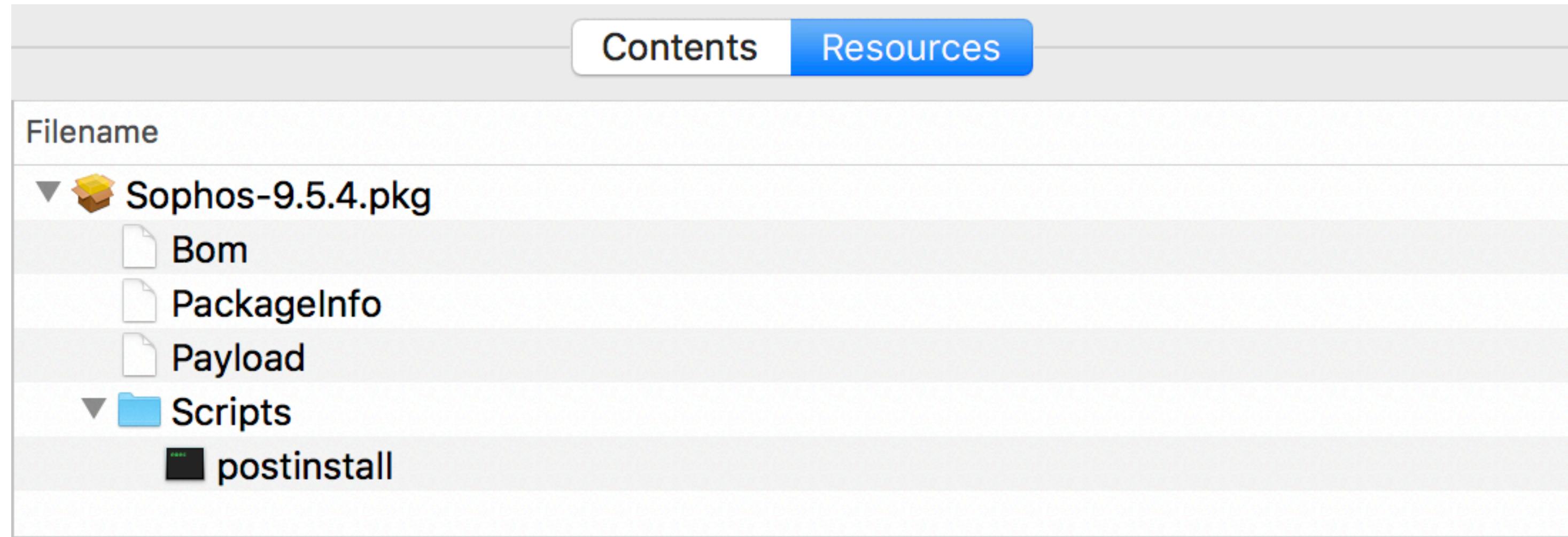
Contents Resources

Filename	Size	Owner	Group	Permissions
▼ 📦 Contents of Sophos-9.5.4.pkg	185.1 MiB	root	wheel	drwxr-xr-x
▼ 📂 private	185.1 MiB	root	wheel	drwxr-xr-x
▼ 📂 tmp	185.1 MiB	root	wheel	drwxr-xr-x
▼ 📂 Sophos Installer Components	410 bytes	root	wheel	drwxr-xr-x
📄 updateconfig.plist	410 bytes	root	wheel	-rw-r--r--
▶ 📲 Sophos Installer.app	185.1 MiB	root	wheel	drwxr-xr-x



```
#!/bin/bash -e

'/tmp/Sophos Installer.app/Contents/MacOS/tools/InstallationDeployer' -
install
rm -rf '/tmp/Sophos Installer.app'
```



```
#!/bin/bash -e

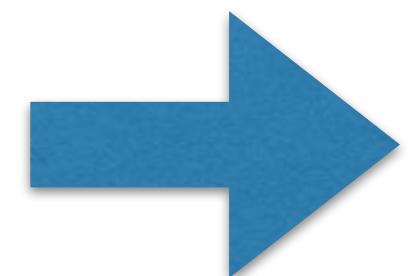
'/Library/Application Support/Sophos/opm-sa/Installer.app/Contents/MacOS/
tools/InstallationDeployer' --remove
/usr/sbin/pkgutil --forget com.myorg.Sophos
```

Use AutoPkg

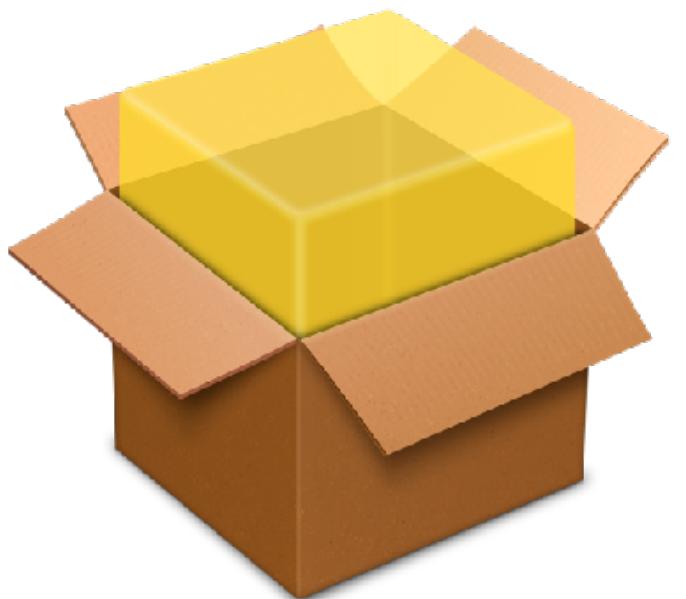
Improve user
experience



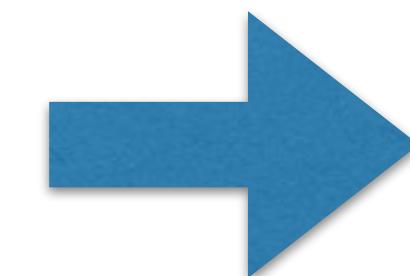
Photoshop CC 2017
(18.0.0)



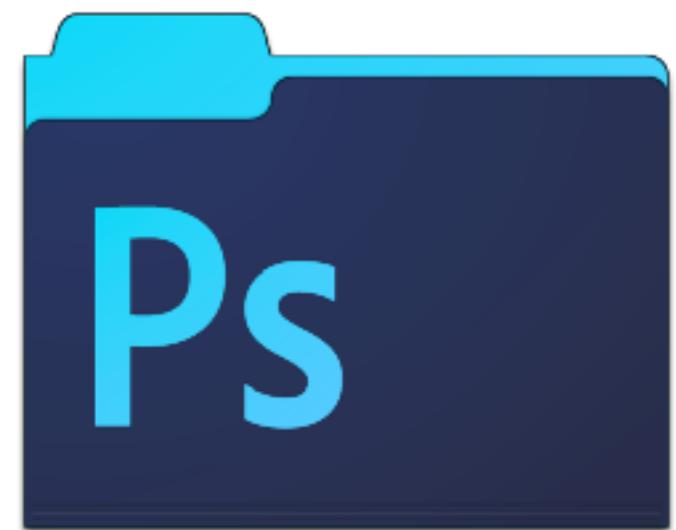
Premiere Pro CC 2017
(11.0.2)



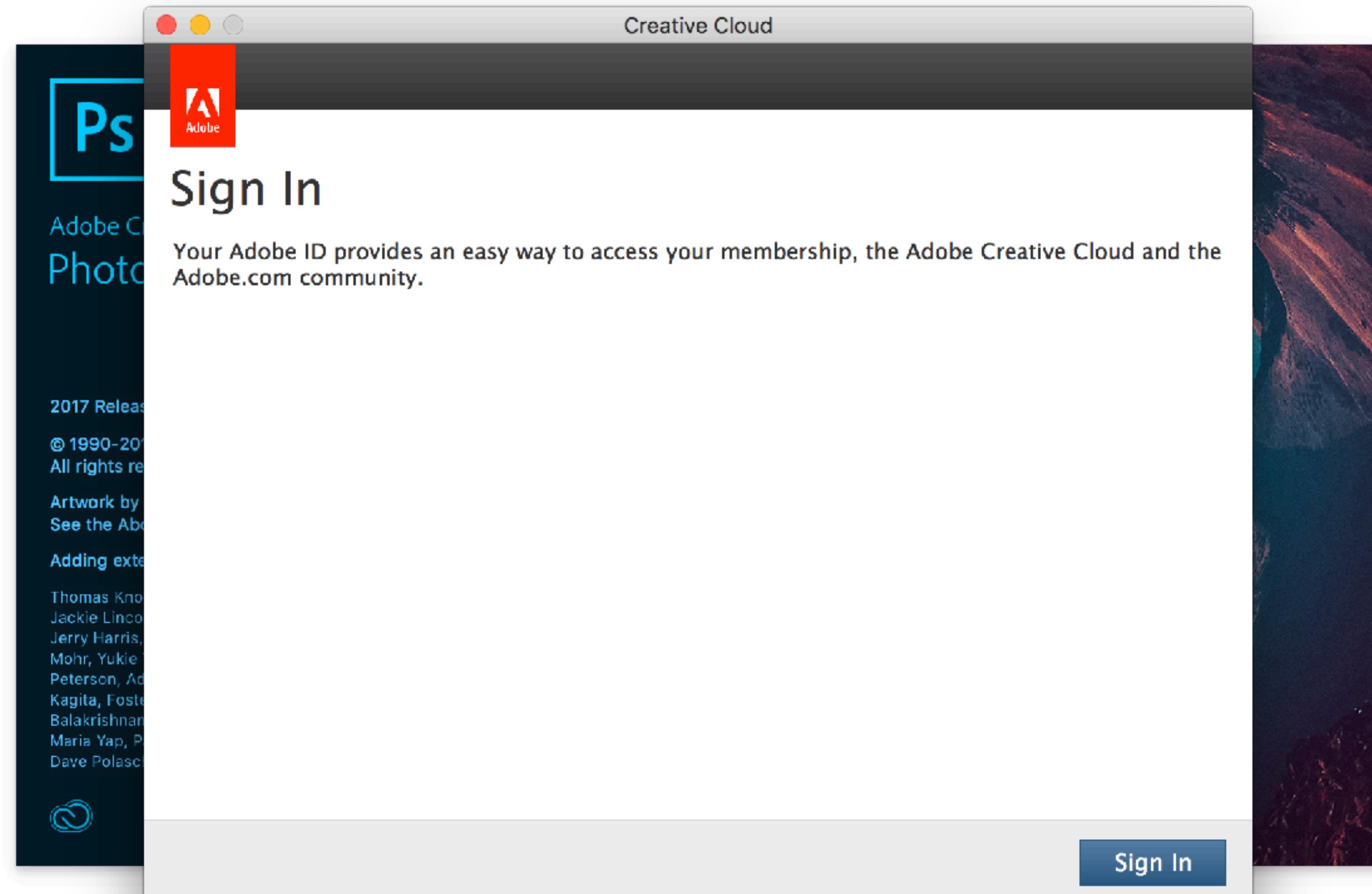
AdobeCC_Enterprise_License.pkg
[github.com/timsutton/make-adobe-cc-
license-pkg](https://github.com/timsutton/make-adobe-cc-license-pkg)

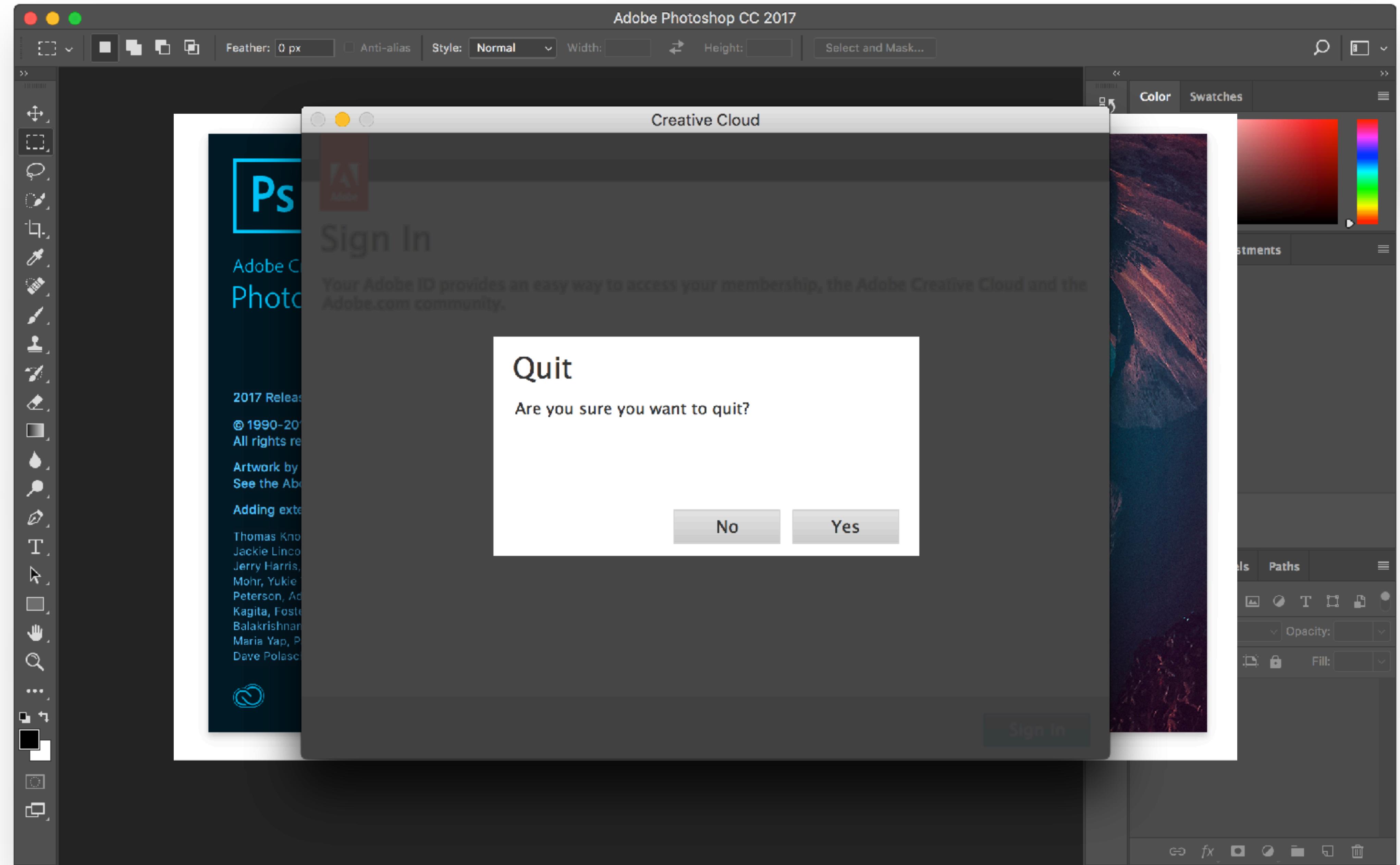


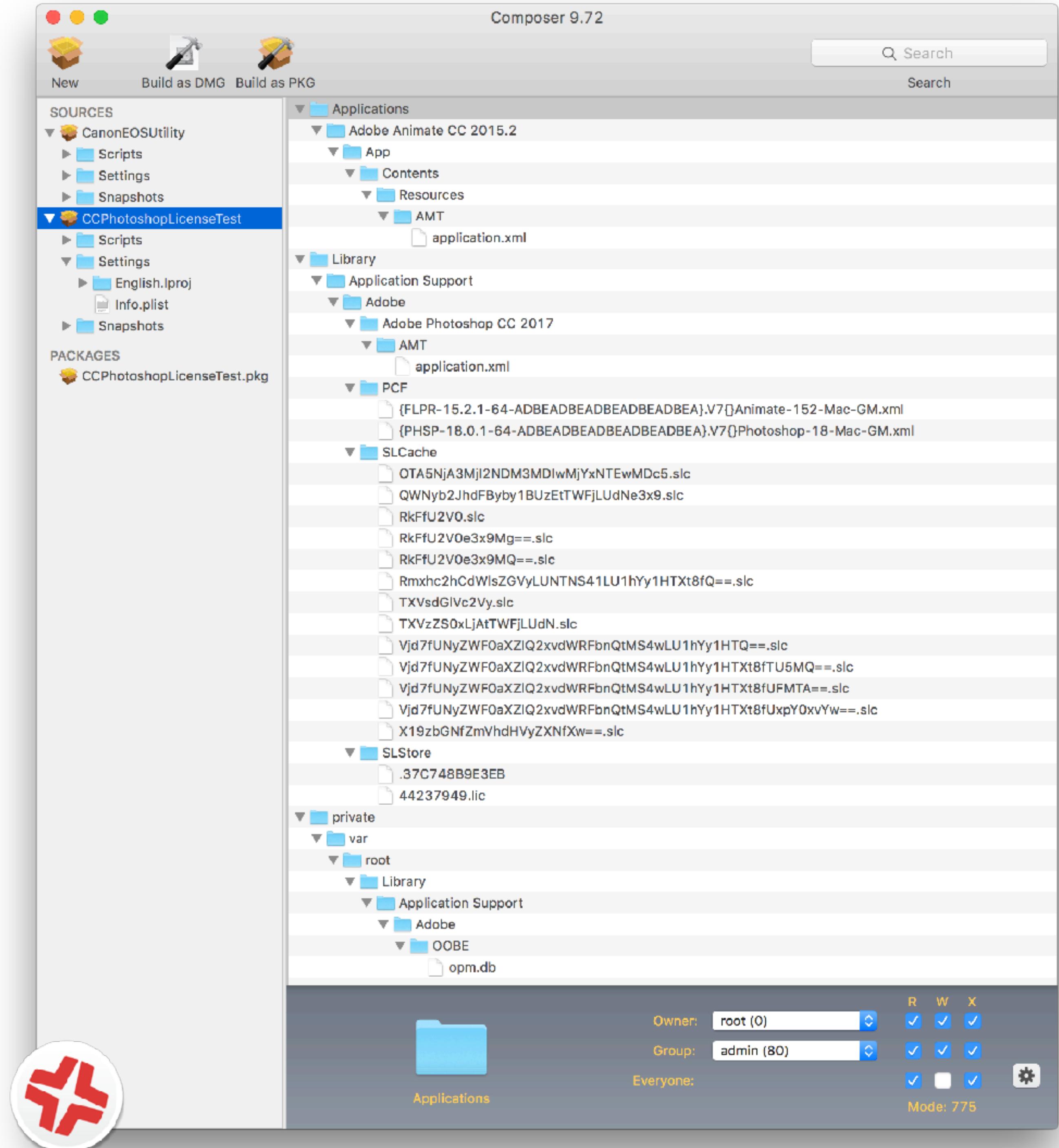
Illustrator CC 2017
(21.0.2)

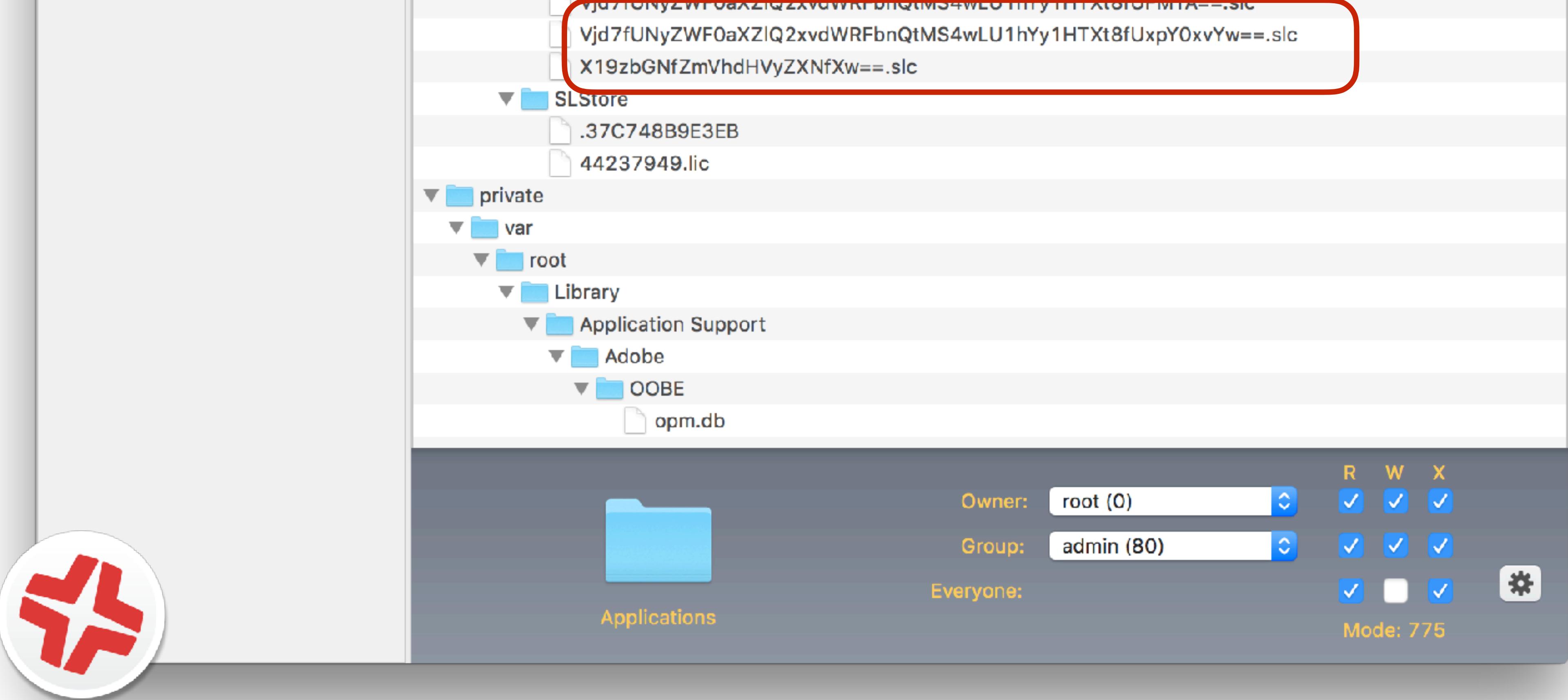


Photoshop CC 2017
(18.0.1)

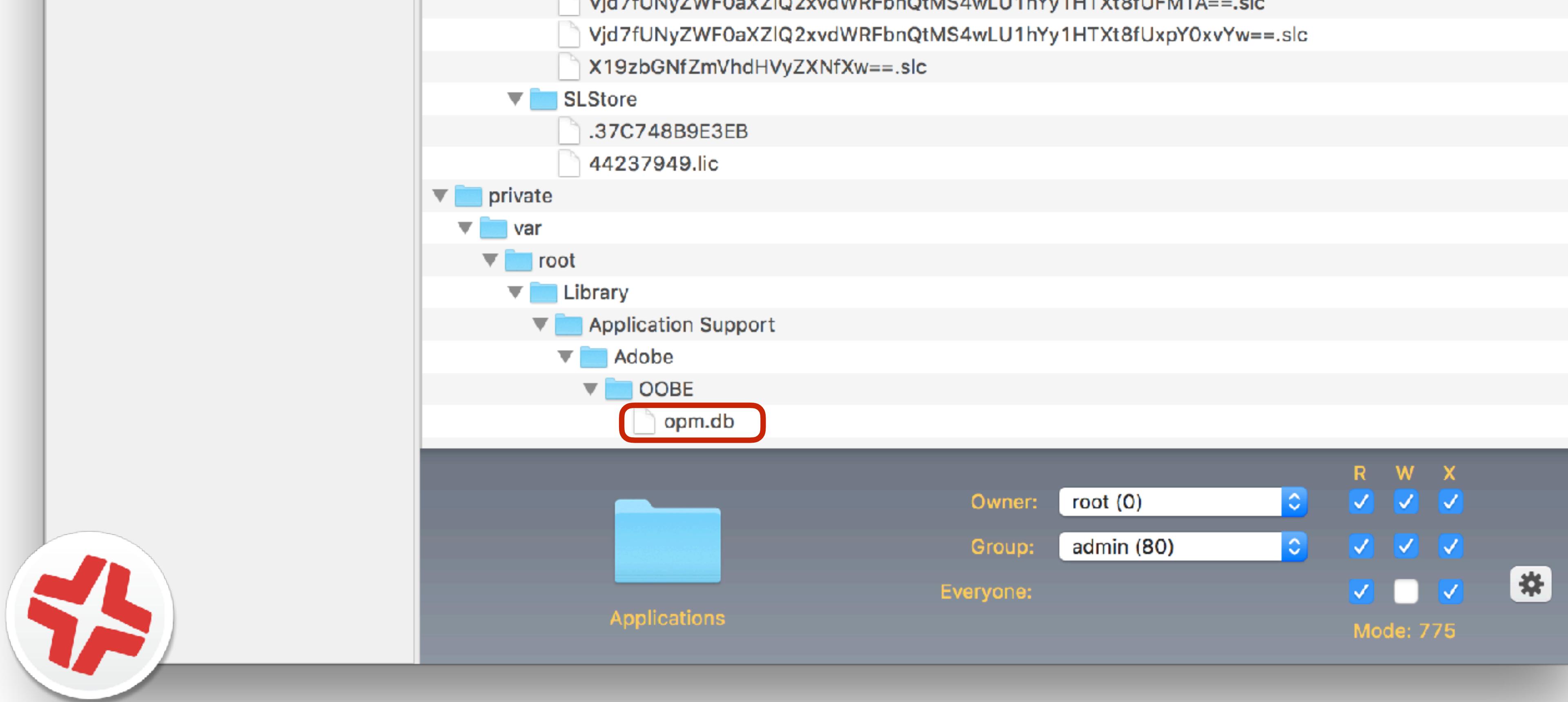




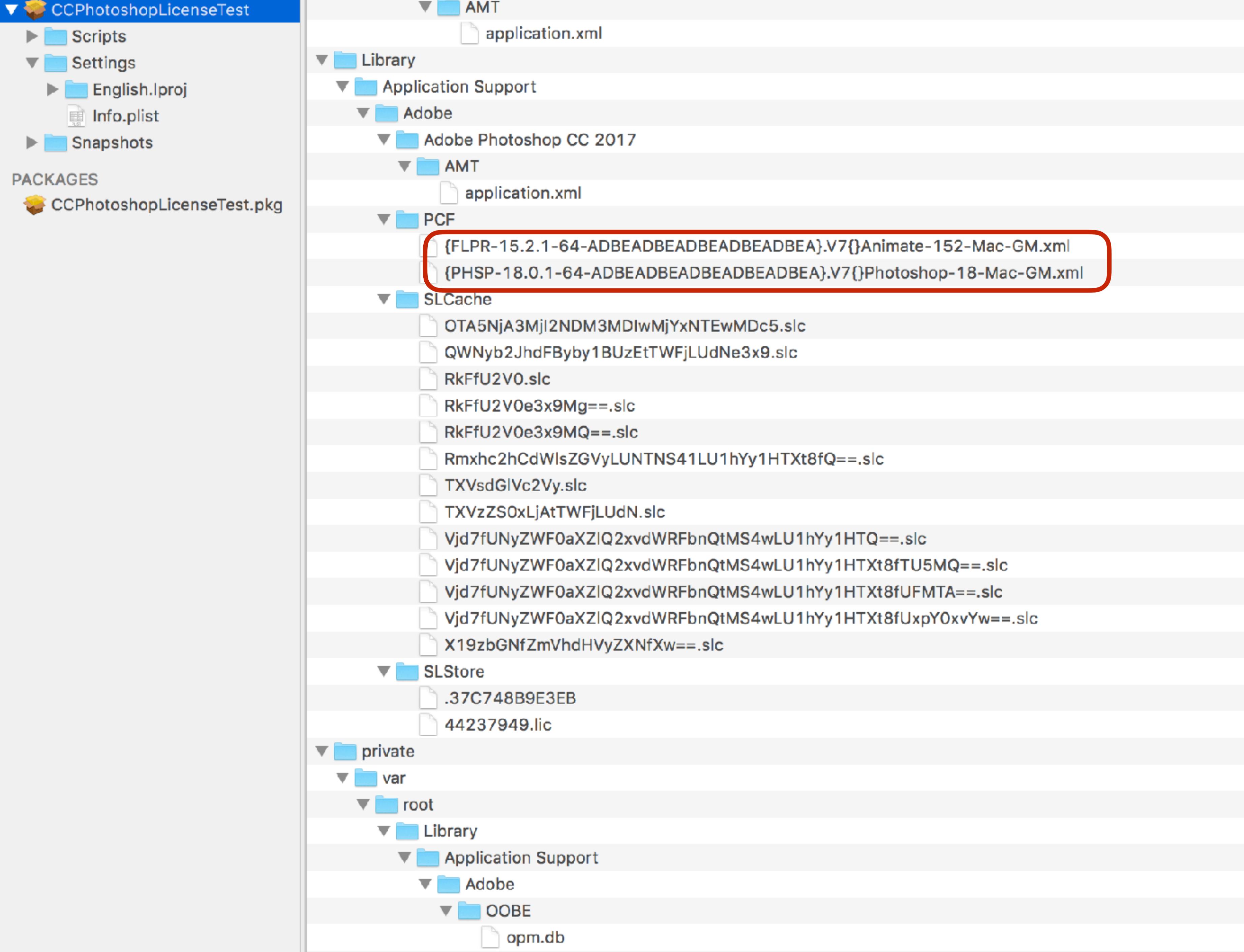




```
# SLCache/*.slc
$ cat Rmxhc2hCdWlsZGVy.slc | xmllint -format -
<?xml version="1.0"?>
<SLCInfo>
<node id="__SLCMeta__">
  <key id="VERSION">2</key>
  <key id="IsValid">1</key>
  <key id="TimeStamp">1486072931</key>
</node>
<node id="FlashBuilder-CS5.5-Mac-GM{ | }">
  <key id="AXFBLicensedBy">V7{}CreativeCloudEnt-1.0-Mac-GM{ | }ALL{ | }9098502183747020261510079</key>
  <key id="FLMap">V7{}CreativeCloudEnt-1.0-Mac-GM</key>
  <key id="TestKey">TestValue</key>
</node>
<node id="__slcps__">
  <key id="sig">7DxJr8jUpTEGTC4y2K-f=o=w</key>
  <key id="sig2">7DxJr8jUpTEGTC4y2K-f=o=w</key>
</node>
```



```
# OOBE/opm.db
$ sqlite3 opm.db -cmd '.dump'
PRAGMA foreign_keys=OFF;
BEGIN TRANSACTION;
CREATE TABLE opm_data ( domain varchar(25), subDomain varchar(25), key varchar(100), value TEXT, PRIMARY KEY (domain, subDomain, key) );
CREATE TABLE opm_meta ( key varchar(25), value TEXT, constraint pk PRIMARY KEY (key) );
INSERT INTO "opm_meta" VALUES('schema_version','1');
INSERT INTO "opm_meta" VALUES('schema_compatibility_version','1');
COMMIT;
```



/Library/Application Support/Adobe/PCF/{ILST-21.0.2-64-ADBEADBEADBEADBEA}.V7{}Illustrator-21-Mac-GM.xml

```
158 158    <Payload adobeCode="{ILST-21.0.2-64-ADBEADBEADBEADBEA}">
159 159        <Data key="AMTConfigPath">/Applications/Adobe Illustrator CC 2017/Support Files/AMT/AI/AMT/applicat
160 160        <Data key="APPLICATION_CUSTOMIZATION_DATA">SuppressSerialWF</Data>
161 161        <Data key="BridgeTalkCode">/adobe/bridgetalk/illustrator-21.064</Data>
162 162        <Data key="DefaultDriverPayload">{ILST-21.0.2-64-ADBEADBEADBEADBEA}</Data>
163 163        <Data key="EULADelay">-1</Data>
B 164        <Data key="Growl">Suppress</Data>
164 165        <Data key="InstallDate">1486046189</Data>
165 166        <Data key="LicensingCode">V7{}Illustrator-21-Mac-GM</Data>
166 167        <Data key="ProductVersion">21.0.2</Data>
B 168        <Data key="REG_SERIAL_OVERRIDE">Suppress</Data>
167 169        <Data key="SAPCode">ILST</Data>
168 170        <Data key="defaultAdobeCode">{ILST-21.0.2-64-ADBEADBEADBEADBEA}</Data>
169 171        <Data key="driverAMTConfigPath">/Applications/Adobe Illustrator CC 2017/Support Files/AMT/AI/AMT/AMT
170 172        <Data key="driverLEID">V7{}Illustrator-21-Mac-GM</Data>
171 173        <Data key="installedLanguages">en_AE</Data>
172 174    </Payload>
173 175 </Configuration>
```

```
#!/usr/bin/python
from __future__ import print_function
import os
import re
import sys

from glob import glob
from xml.etree import ElementTree

def main():
    pcf_root = '/Library/Application Support/Adobe/PCF'
    if sys.platform == 'win32':
        pcf_root = 'C:\\Program Files (x86)\\Common Files\\Adobe\\PCF'
    xmls = glob(os.path.join(pcf_root, '*.xml'))
    for xml_file in xmls:
        # Sanity-check the filename and basic XML structure
        # (ADBE.. string is only present for HyperDrive-installed products)
        match = re.match(r'^{.*?ADBE.*?}.*$', os.path.basename(xml_file))
        if not match:
            sys.stderr.write("Skipping file '%s', does not match a PCF file pattern\n" % xml_file)
            continue
        adbe_code = match.groups()[0]
        root = ElementTree.parse(xml_file)
        payload = root.find("./Payload[@adobeCode='%s']" % adbe_code)
        if payload is None:
            sys.stderr.write("Didn't find expected Adobe code %s in any 'Payload' element"
                            " in file %s\n" % (adbe_code, xml_file))
            continue

        # Check and skip if the serial override key already exists
        if payload.find("Data[@key='REG_SERIAL_OVERRIDE']") is not None:
            continue

        # Finally, make a new element and append it to the Payload element
        new_element = ElementTree.Element('Data', attrib={'key': 'REG_SERIAL_OVERRIDE'})
        new_element.text = 'Suppress'
        payload.append(new_element)

    try:
        root.write(xml_file, encoding='utf-8', xml_declaration=True)
        print("Wrote modified PCF XML file: '%s'" % xml_file)
    except IOError:
        sys.stderr.write("ERROR: Can't write to file '%s'. Make sure you have "
                        "sufficient privileges to write to this location. "
                        "%s" % xml_file)
```

```
root = ElementTree.parse(xml_file)
payload = root.find("./Payload[@adobeCode='%s']" % adbe_code)
if payload is None:
    sys.stderr.write("Didn't find expected Adobe code %s in any 'Payload' element"
                    " in file %s\n" % (adbe_code, xml_file))
    continue
```

```
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```

```
try:
    root.write(xml_file, encoding='utf-8', xml_declaration=True)
    print("Wrote modified PCF XML file: '%s'" % xml_file)
except IOError:
    sys.stderr.write("ERROR: Can't write to file '%s'. Make sure you have "
                    "sufficient privileges to write to this location. "
                    "%s" % xml_file)
```

Application preferences

Disable automatic
updates



Sparkle

 Software Update

A new version of Transmit is available.

Transmit 4.4.10 is now available—you have 4.4.8. Would you like to download it now?

Release Notes:

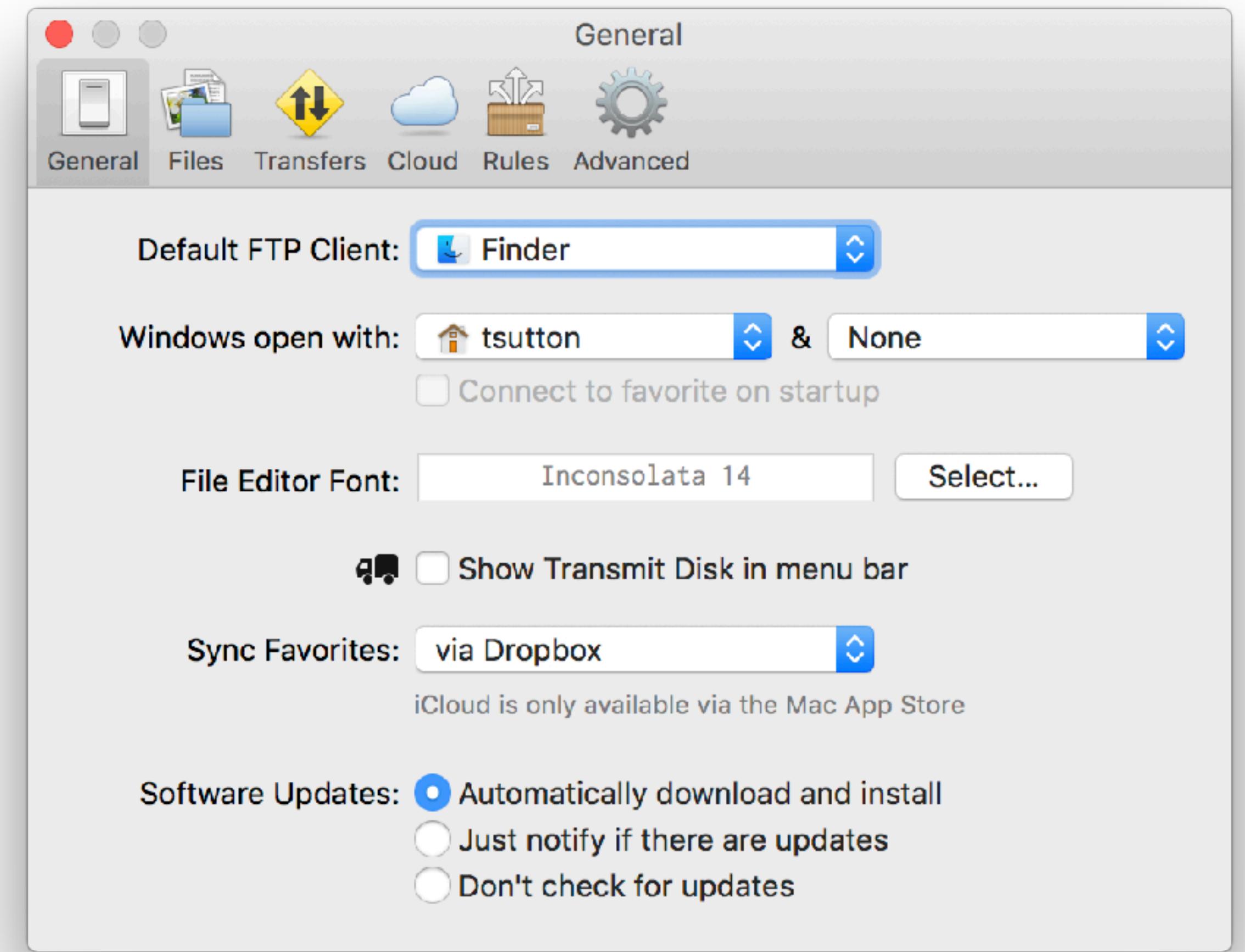
Transmit 4.4.10 Adds Transmit Disk compatibility for OS X 10.11.

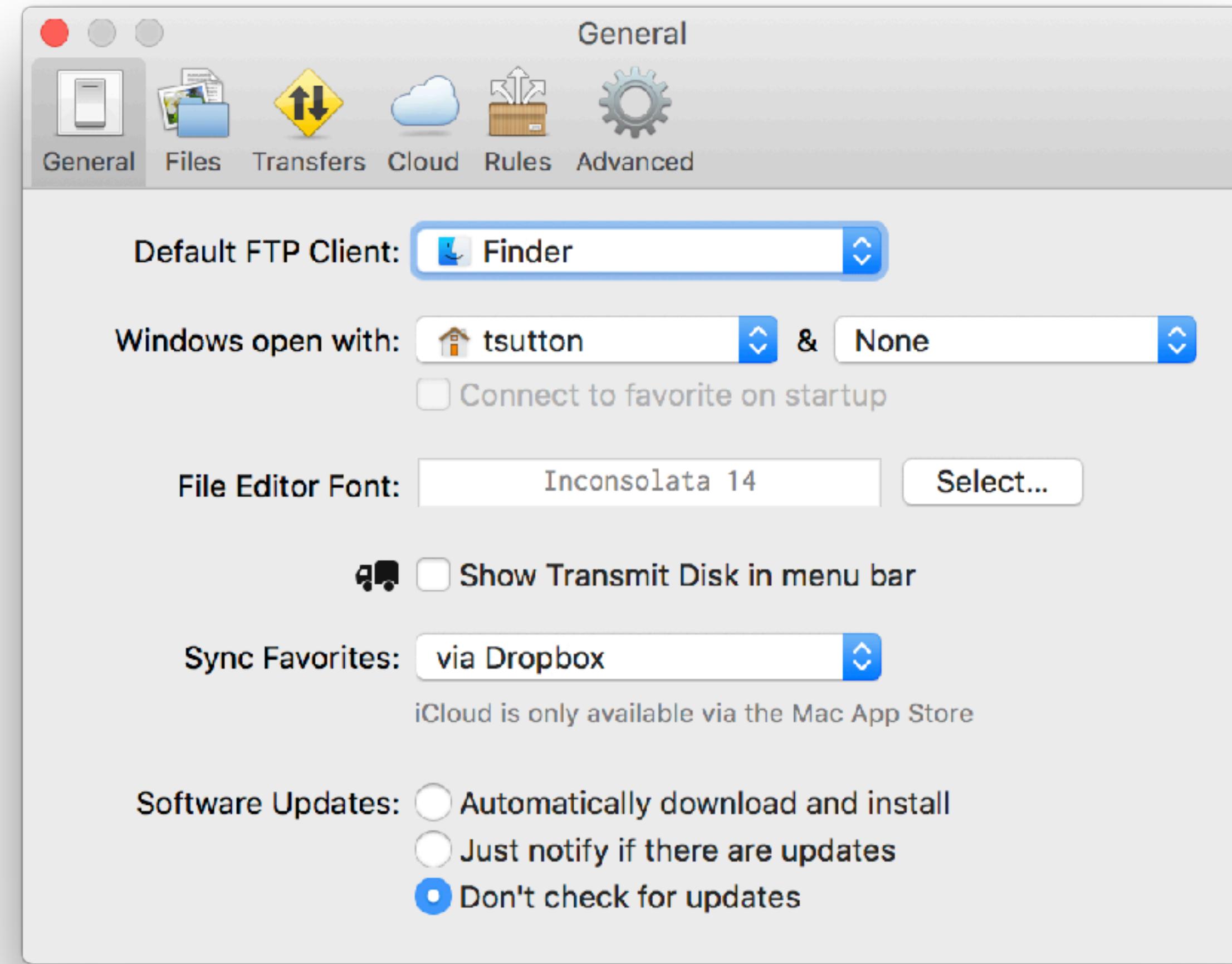
This update is free for all Transmit 4 owners. [Full release notes are here.](#)

Automatically download and install updates in the future

[Skip This Version](#) [Remind Me Later](#) [Install Update](#)

Name	Size	Kind
Contents	50.6 MB	Folder
Resources	26.1 MB	Folder
Frameworks	16 MB	Folder
FTPKit.framework	7.4 MB	Folder
PanicCore.framework	4.1 MB	Folder
Growl.framework	1.1 MB	Folder
HockeySDK.framework	1.1 MB	Folder
Sparkle.framework	886 KB	Folder
UniversalDetector.framework	661 KB	Folder
Synergy.framework	572 KB	Folder
HDCrashReporter.framework	269 KB	Folder
MacOS	7 MB	Folder
Library	1.1 MB	Folder
_CodeSignature	391 KB	Folder
Info.plist	7 KB	Property List
PkgInfo	8 bytes	TextEdit.a...Document





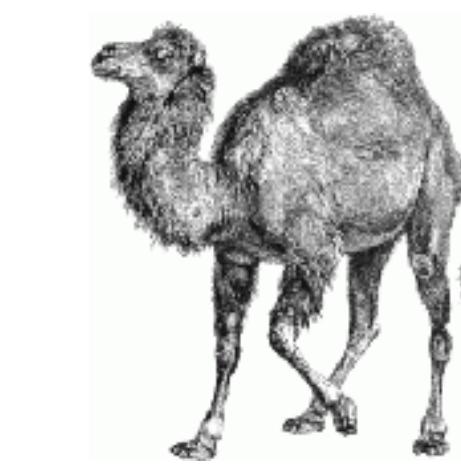
```
$ defaults write /Library/Preferences/com.panic.Transmit SUEnableAutomaticChecks -bool false
```



defaults



Configuration
Profiles



NSUserDefaults
CFPreferences

Managing “non-native” preferences

- Depends on the application, sometimes there are options supported for mass deployment:
 - e.g. `/Library/Application Support/Macromedia/mms.cfg`
- For everything else, run scripts at login time to create or modify user preferences:
 - github.com/chilcote/outset (Joseph Chilcote)
 - github.com/MagerValp/LoginScriptPlugin (Per Olofsson)

Managing “non-native” preferences

```
# ~/Library/Application Support/Google/Chrome/Default/Preferences
{
  "browser": {
    "check_default_browser": false,
    "show_update_promotion_info_bar": false
  },
  "distribution": {
    "make_chrome_default": false,
    "show_welcome_page": false,
    "skip_first_run_ui": true
  },
  "first_run_tabs": ["http://www.mcvities.co.uk/"],
  "homepage": "http://www.mcvities.co.uk/",
  "sync_promo": {
    "user_skipped": true
  }
}
```

Managing “non-native” preferences

```
#!/bin/sh

prefs_src='/Library/MyOrg/Files/google_chrome_preferences'
prefs_tgt_dir="$HOME/Library/Application Support/Google/Chrome/Default"
prefs_tgt_file="$prefs_tgt_dir/Preferences"

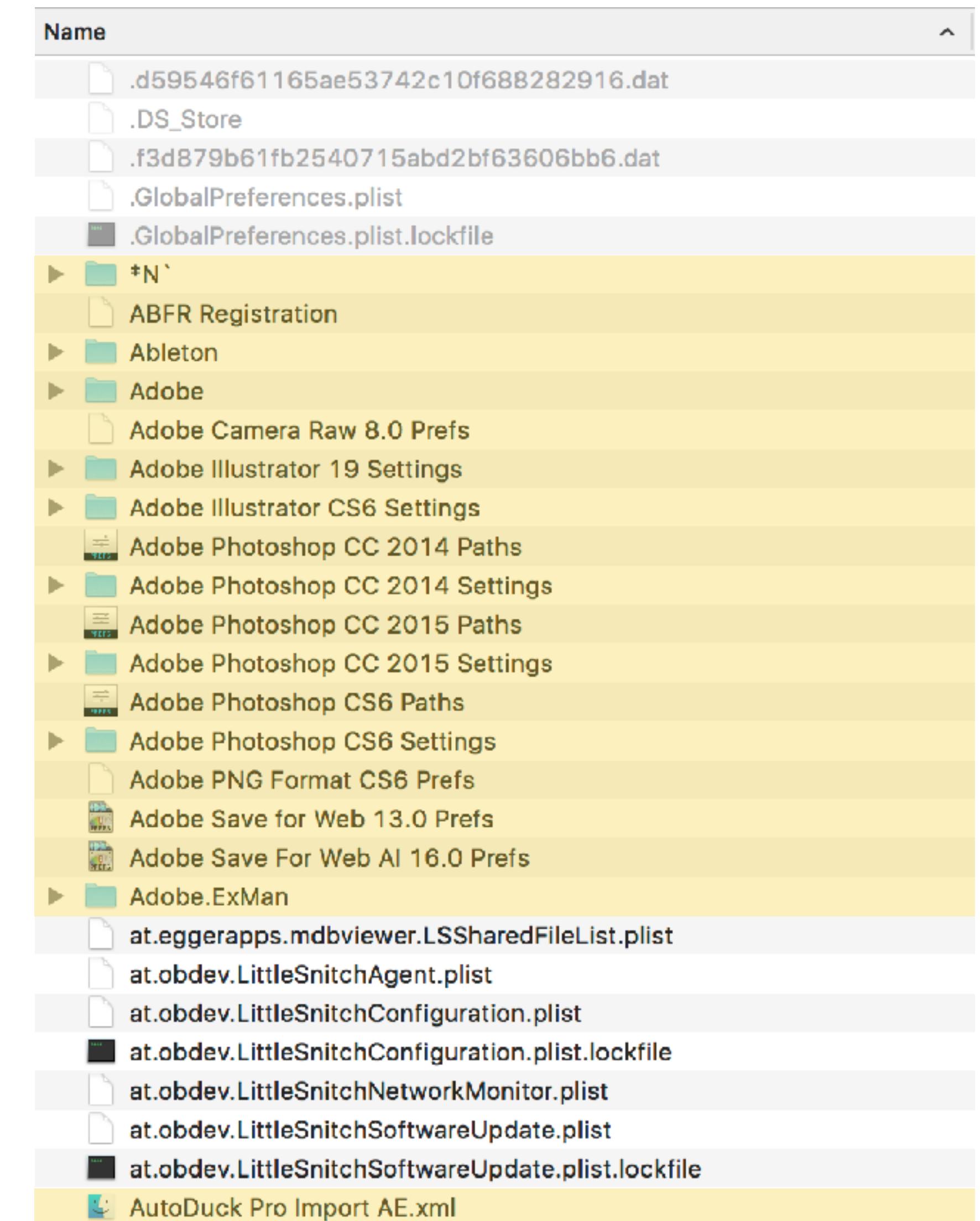
# make our user's chrome profile dir if one doesn't already exist
[ -d "$prefs_tgt_dir" ] || mkdir -p "$prefs_tgt_dir"

# if prefs file doesn't already exist, copy it
[ -e "$prefs_tgt_file" ] || cp "$PREFS_SRC" "$prefs_tgt_file"

# create the special 'first run' file
touch "$prefs_tgt_dir/../First Run"
```

Managing “non-native” preferences

- Common locations:
 - `~/Library/Application Support`
 - `~/Library/Preferences`
 - `~/Library/Preferences/App`
 - `~/.app`, `~/Documents/App`
- Experimentation and testing necessary!



Name	Date Modified	Size	Kind
RunOnce	Nov 9, 2016, 2:42 PM	--	Folder
bookwright_defaults.sh	Nov 9, 2016, 2:31 PM	324 bytes	Shell Script
copy_cdaftp_bookmark.sh	Apr 28, 2014, 3:14 PM	388 bytes	Shell Script
sketchup_set_no_trial.sh	Feb 17, 2016, 9:47 AM	235 bytes	Shell Script
RunOnEveryLogin	Jan 12, 2017, 12:35 PM	--	Folder
adobe_air_suppress_crap.sh	Dec 6, 2012, 4:43 PM	193 bytes	Shell Script
atom_settings.sh	Sep 9, 2016, 4:06 PM	213 bytes	Shell Script
bellenuit_subtitler_prefs.sh	Dec 14, 2012, 1:44 PM	189 bytes	Shell Script
copy_chrome_preferences.sh	Jul 3, 2013, 10:37 AM	465 bytes	Shell Script
copy_vw2014_settings.sh	Jan 29, 2014, 4:29 PM	537 bytes	Shell Script
dock_init_and_add_dockmanager_items.py	Jul 2, 2013, 9:27 AM	1 KB	Python Source
firefox_setup_default_profile.sh	Nov 17, 2015, 4:23 PM	2 KB	Shell Script
istopmotion_configure.sh	Jan 29, 2014, 3:23 PM	727 bytes	Shell Script
istopmotion_license.py	Jan 29, 2014, 3:25 PM	1 KB	Python Source
lab_desktop_dprint_url.sh	Mar 27, 2013, 9:42 AM	367 bytes	Shell Script
office2016_groupdefaults.sh	Sep 8, 2016, 4:30 PM	427 bytes	Shell Script
set_desktop_background.sh	Jan 12, 2017, 11:54 AM	329 bytes	Shell Script
set_max7_preferences.sh	May 27, 2015, 10:27 AM	325 bytes	Shell Script
Startup	Aug 29, 2016, 11:26 AM	--	Folder
remove_ccda_launchagent	May 21, 2015, 2:43 PM	79 bytes	Unix executable

Hopper Disassembler

```
int _main() {
    var_140 = objc_autoreleasePoolPush();
    rax = [NSArray arrayWithObjects:intrinsic_movdqa(var_50, intrinsic_punpcklqdq(zero_extend_64(@"conf")), zero_extend_64(@"x-mspresence")) count:0x3];
    rax = [rax retain];
    var_138 = rax;
    xmm0 = intrinsic_pxor(zero_extend_64(@"x-mspresence"), zero_extend_64(@"x-mspresence"));
    intrinsic_movdqa(var_F0, xmm0);
    intrinsic_movdqa(var_100, xmm0);
    var_110 = intrinsic_movdqa(var_110, xmm0);
    var_120 = intrinsic_movdqa(var_120, xmm0);
    rbx = [rax countByEnumeratingWithState:var_120 objects:var_D0 count:0x10];
    if (rbx != 0x0) {
        r12 = *var_110;
        do {
            r13 = 0x0;
            do {
                if (*var_110 != r12) {
                    objc_enumerationMutation(var_138);
                }
                r14 = *(var_118 + r13 * 0x8);
                r15 = [LSCopyDefaultHandlerForURLScheme(r14) retain];
                if ([r15 isEqualToString:@"com.microsoft.SkypeForBusiness"] == 0x0) {
                    rcx = LSSetDefaultHandlerForURLScheme(r14, @"com.microsoft.SkypeForBusiness");
                    if (rcx != 0x0) {
                        NSLog(@"LSSetDefaultHandlerForURLScheme failed with error code: %d", rcx);
                    }
                }
                [r15 release];
                r13 = r13 + 0x1;
            } while (r13 < rbx);
            rbx = [var_138 countByEnumeratingWithState:var_120 objects:var_D0 count:0x10];
        }
    }
}
```

```
[r15 release];
    r13 = r13 + 0x1;
} while (r13 < rbx);
rbx = [var_138 countByEnumeratingWithState:var_120 objects:var_D0 count:0x10];
} while (rbx != 0x0);
}
r15 = CFPreferencesCopyAppValue(@"Applications", @"com.microsoft.autoupdate2");
rbx = [[r15 objectForKey:@"/Applications/Skype for Business.app"] retain];
[rbx release];
if (rbx == 0x0) {
    r13 = [[NSMutableDictionary alloc] initWithDictionary:r15];
    var_130 = intrinsic_movidqa(var_130, intrinsic_punpcklqdq(zero_extend_64(@"Application ID"),
zero_extend_64(@"LCID")));
    rbx = [@(0x409) retain];
    r14 = [[NSDictionary dictionaryWithObjects:@"MSFB16" forKeys:var_130 count:0x2] retain];
    [r13 setObject:r14 forKeyedSubscript:@"/Applications/Skype for Business.app"];
    [r14 release];
    [rbx release];
    CFPreferencesSetAppValue(@"Applications", r13, @"com.microsoft.autoupdate2");
    CFPreferencesAppSynchronize(@"com.microsoft.autoupdate2");
    [r13 release];
}
[r15 release];
[var_138 release];
objc_autoreleasePoolPop(var_140);
if (*__stack_chk_guard == *__stack_chk_guard) {
    rax = 0x0;
}
else {
    rax = __stack_chk_fail();
}
return rax;
```

Thank you!



@timsutton



@tvsutton

<https://macops.ca/macaduk2017>