



# OS X PACKAGING

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Hashtag : **#xw15**

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# About Mondada

- How we started
- Now running for 6 years
- The Statistics
  - Current: 273 Vendors, 552 Titles, 1161 Packages
  - 2014: 3307 Packages Built, 10924 Delivered
  - 2015: 1548 Packages Built, 4093 Delivered so far

# Best Practices

- Install on any volume (where possible)
- Avoid changing too much with scripts (where possible)
- Meaningful error messages

# Reference Materials

- Distribution Definition XML Schema Reference

<https://developer.apple.com/library/mac/documentation/DeveloperTools/Reference/DistributionDefinitionRef/Chapters/Introduction.html>

- Installer JavaScript Reference

[https://developer.apple.com/library/mac/documentation/DeveloperTools/Reference/InstallerJavaScriptRef/index.html#//apple\\_ref/doc/uid/TP40005137](https://developer.apple.com/library/mac/documentation/DeveloperTools/Reference/InstallerJavaScriptRef/index.html#//apple_ref/doc/uid/TP40005137)

- Software Delivery Legacy Guide

<https://developer.apple.com/legacy/library/documentation/DeveloperTools/Conceptual/SoftwareDistribution4/SoftwareDistribution4.pdf>

# Package Components

# Distribution

- Installation Checks

- os-version

```
<volume-check>  
  <allowed-os-versions>  
    <os-version min="10.8.4" before="10.10"/>  
  </allowed-os-versions>  
</volume-check>
```

- must-close

```
<pkg-ref id="org.mozilla.firefox">  
  <must-close>  
    <app id="org.mozilla.firefox"/>  
  </must-close>  
</pkg-ref>
```

- required-bundles

```
<volume-check>  
  <required-bundles all="true" description="ERROR_MSG">  
    <bundle id="com.apple.prokit" path="/System/Library/PrivateFrameworks/ProKit.framework" CFBundleShortVersionString="7.0"/>  
  </required-bundles>  
</volume-check>
```

# Distribution

- Selections

- pkg-ref active

- ```
<pkg-ref id="com.apple.pkg.iPhoneSimulatorSDK6_1Patch"
active="system.compareVersions(my.target.systemVersion.ProductVersion, '10.9') > 0"/>
```

- relocate

- very useful for re-locating existing applications

# Plugins

- Only really useful when installing via the UI
- Don't make a plugin a show-stopper
- Reference  
<https://developer.apple.com/legacy/library/samplecode/InstallerPluginSample/Introduction/Intro.html>



# Common Components

- BOM  
Contains a listing of the files delivered
- Archive  
The actual files themselves

# Flat Packages

- PackageInfo  
XML description of the flat package  
Contains the Script calls
- Scripts  
Perform pre/post install tasks

# Bundle Packages

- Info.plist  
Much the same as the PackageInfo
- Resources  
Contains the scripts & extras

# The Tools

- Stephane Sudre
  - Iceberg\*  
<http://s.sudre.free.fr/Software/Iceberg.html>
  - Packages  
<http://s.sudre.free.fr/Software/Packages/about.html>

# The Tools

- JAMF
  - Composer
    - <http://www.jamfsoftware.com/products/composer/>

# The Tools

- Adobe
  - Adobe Application Manager Enterprise Edition (AAMEE)  
<http://www.adobe.com/devnet/creativesuite/enterprisedeployment.html>
  - Creative Cloud Packager (CCP)  
[https://www.adobe.com/go/ccp\\_installer\\_osx](https://www.adobe.com/go/ccp_installer_osx)
  - Adobe CustomiSation Wizard  
<http://www.adobe.com/devnet-docs/acrobatetk/tools/Wizard/index.html>

# The Tools

- Apple (OS X built-in)

- pkgutil

- pkgutil --expand "/path/to/package" "/path/to/destination"
    - pkgutil --flatten "/path/to/folder" "/path/to/package"

- pkgbuild

- pkgbuild --component "/path/to/app" --scripts "/path/to/scripts" --identifier "com.example.pkg" --version "1.0" --install-location "/Applications" --ownership recommended "/path/to/package.pkg"

- productbuild

- productbuild --version "1.0" --component "/path/to/application" "/path/to/install-location" "/path/to/package.pkg"

- productsign

- productsign --sign "Developer ID Installer: Mondada Pty Ltd" "/path/to/unsigned/package" "/path/to/signed/package"

# Packaging Workflows

- Payload-free
  - Scripts only
- Drag and Drop
  - Single Application
  - Application in a Folder



# Packaging Workflows

- Already in pkg Form
  - Modify Distribution
  - Modify Scripts
  - Bundle Conversion
  - Complete re-package

# Packaging Workflows

- 3rd Party Installers
  - Call installer via CLI (Payload-free)
  - Snapshot package
- Adobe
  - AAMEE / CCP
  - ACW

# Gotchas

- Snapshots
- Plugins
- Calling 3rd Party Installers

# What we Do

- No Bundles
- Split up Packages
  - Install
  - Update
  - Settings\*
- Modular Scripts

# What we Do

- Dealing with User-space
- Handling Running Apps
- Signing Packages

# On Our Roadmap

- Notifications for Running Apps
- Provisioning Profiles

# Thank you

[www.mondada.com.au](http://www.mondada.com.au)