Don’t Repeat Yourself!

Greg Neagle, Walt Disney Animation Studios

Imaging

A long time ago...

Image Creation, circa 2006

Image Creation

- Set up your work environment
- Build your perfect box
- Clean up the startup disk
- Create image of startup disk
- Prepare the image for deployment
- Test!

Monolithic imaging

Monolithic imaging

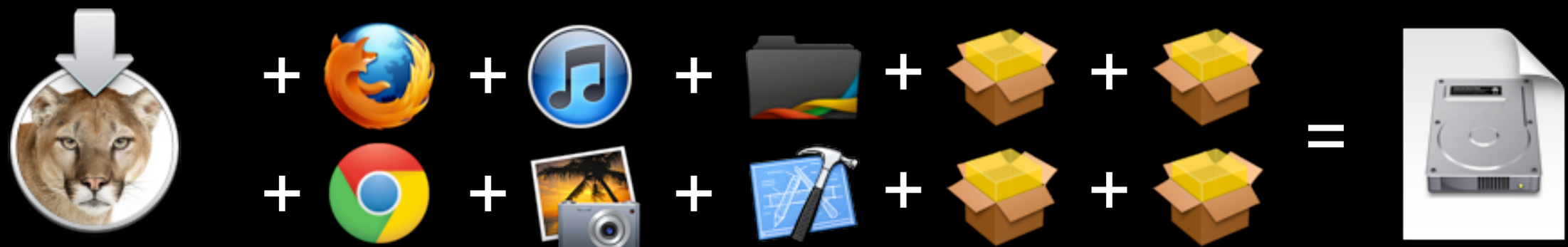
- Easy to leave cruft on the image
- Hardware incompatibilities
- Time-consuming to build
- Hard to replicate exactly the next time
- Hard to manage if you have to support multiple OS builds.

Monolithic imaging

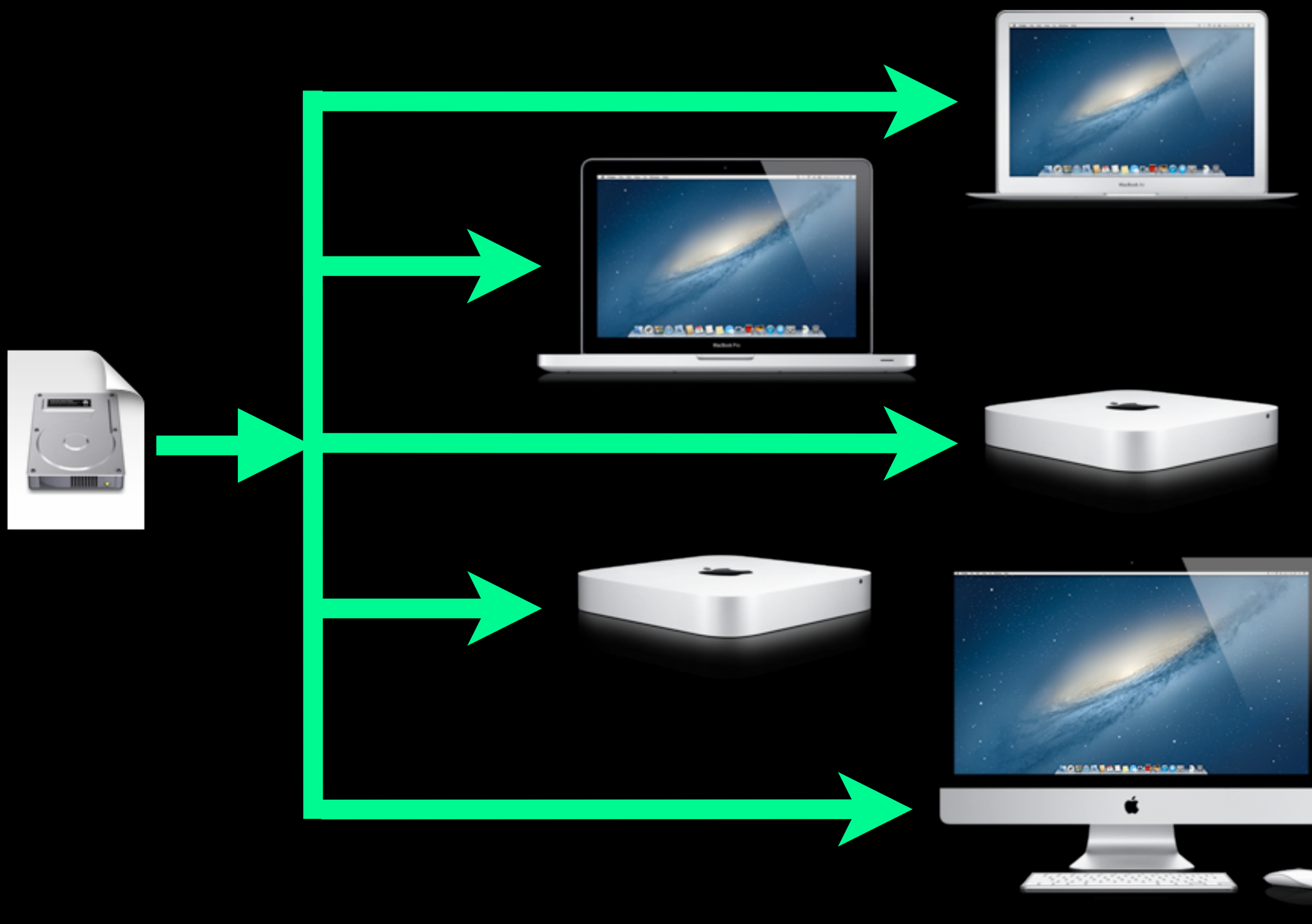
Modular imaging

InstaDMG

Modular imaging



Modular imaging



Modular imaging

- No “cruft”
- No machine-specific bits
- Faster to build
- Easy to replicate exactly the next time
- Easier to manage if you have to support multiple OS builds.

New issue:

imaging is now so easy...

...let's do it all the time!

A new version of Firefox? Build a new image.

Changed the local admin password? Build a new image.

New version of iTunes. Build a new image.

New default Dock! Build a new image.

New Apple hardware... Build a new image.

There's an error in the setup script. Build a new image.

meanwhile...

2005 2006 2007 2008 2009 2010 2011 2012 2013

DP1

DP2

DP3

DP4

GM

New OS?

Build an image and test...

Test it!

Issues?

Yes

No

Internal Hard Disk

Q: How do I keep up?

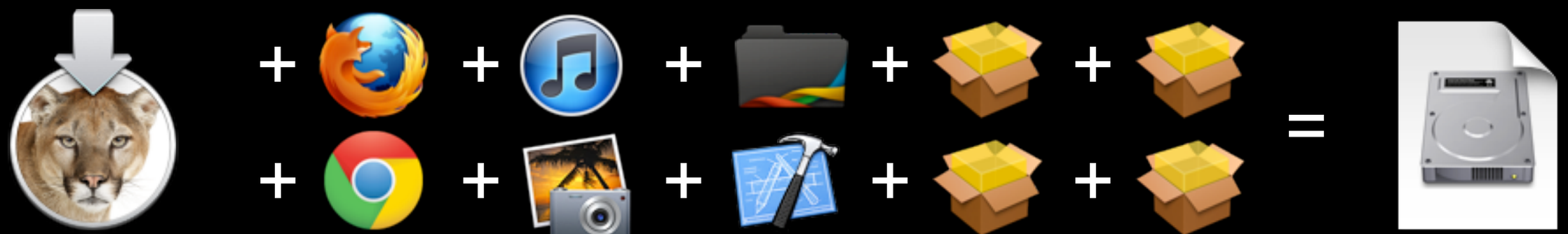
A: Don’t repeat yourself.

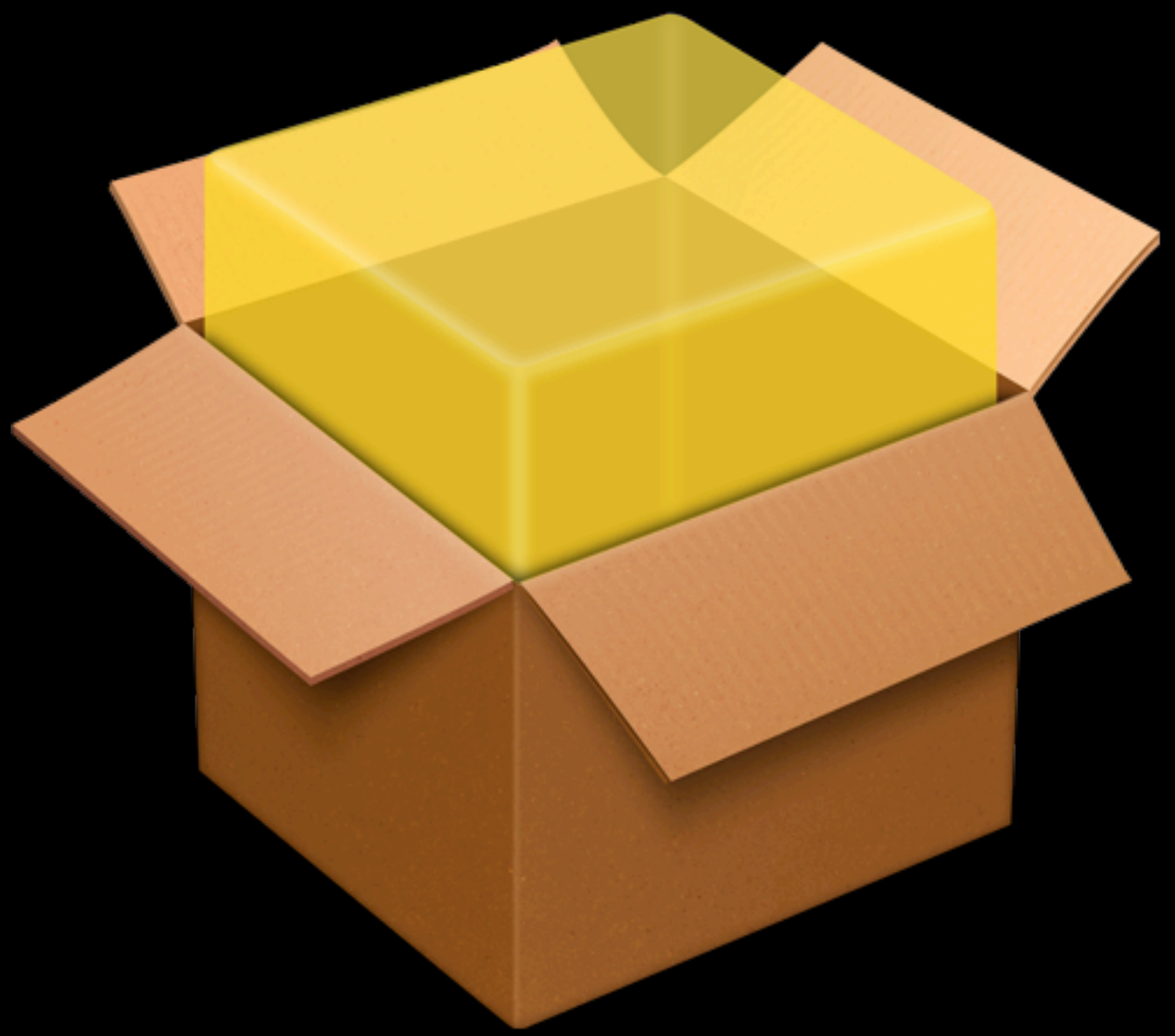
Reasons to build a new image

- Updated/changed software
- Incompatible hardware
- Testing new OS releases

Don’t Repeat Yourself

Modular imaging

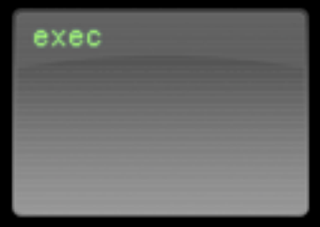




PKG
ASR

puppet
labs

KACE


exec

Imaging is not the end

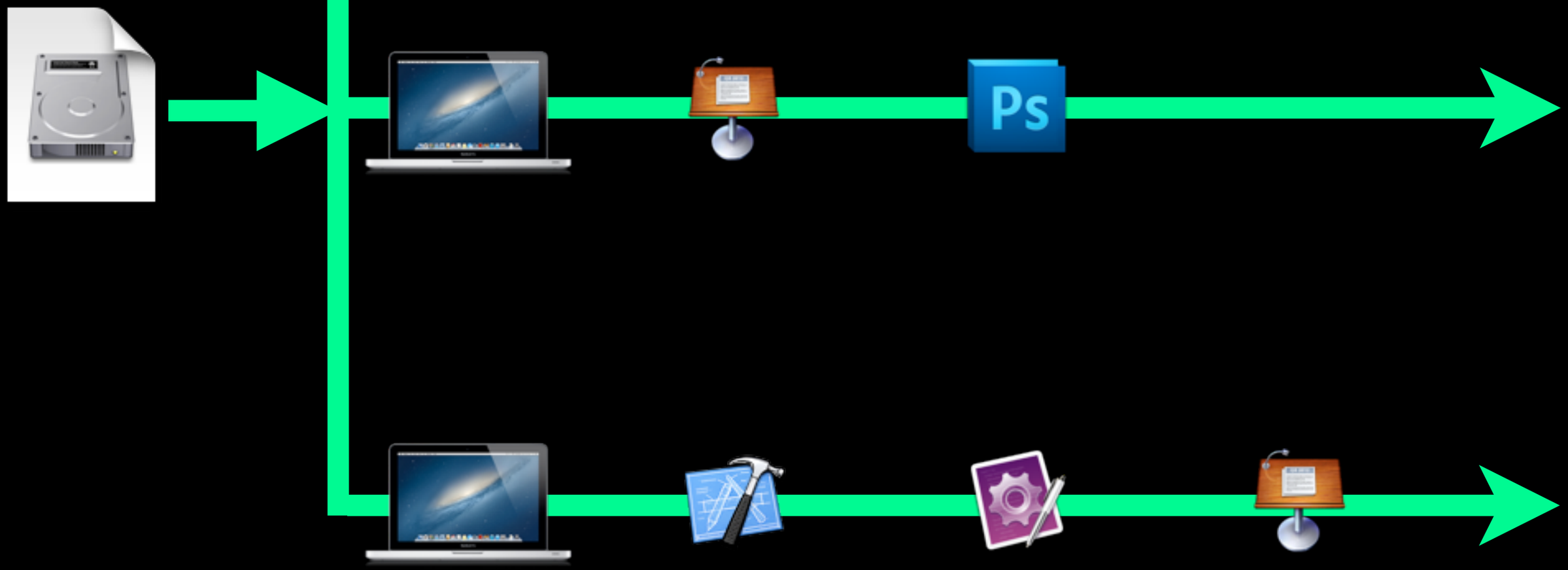
...it's just the beginning

Lifespan of a machine
(at **my** organization)

Aug 2012

Aug 2011

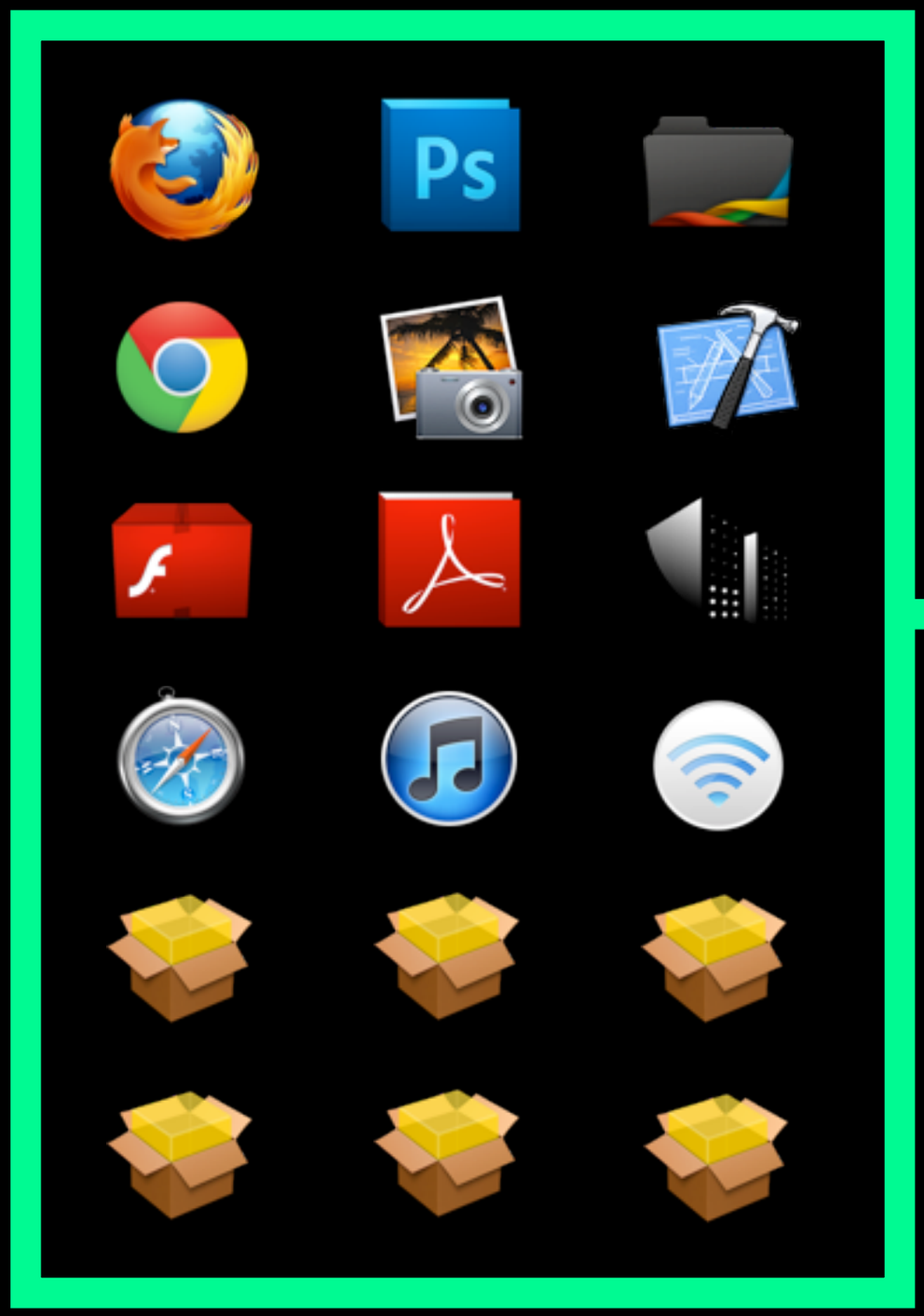
May 2010 - imaged with Mac OS X 10.6.3


Ps
Ai
Ps

you must have a mechanism...

....to install and update software.

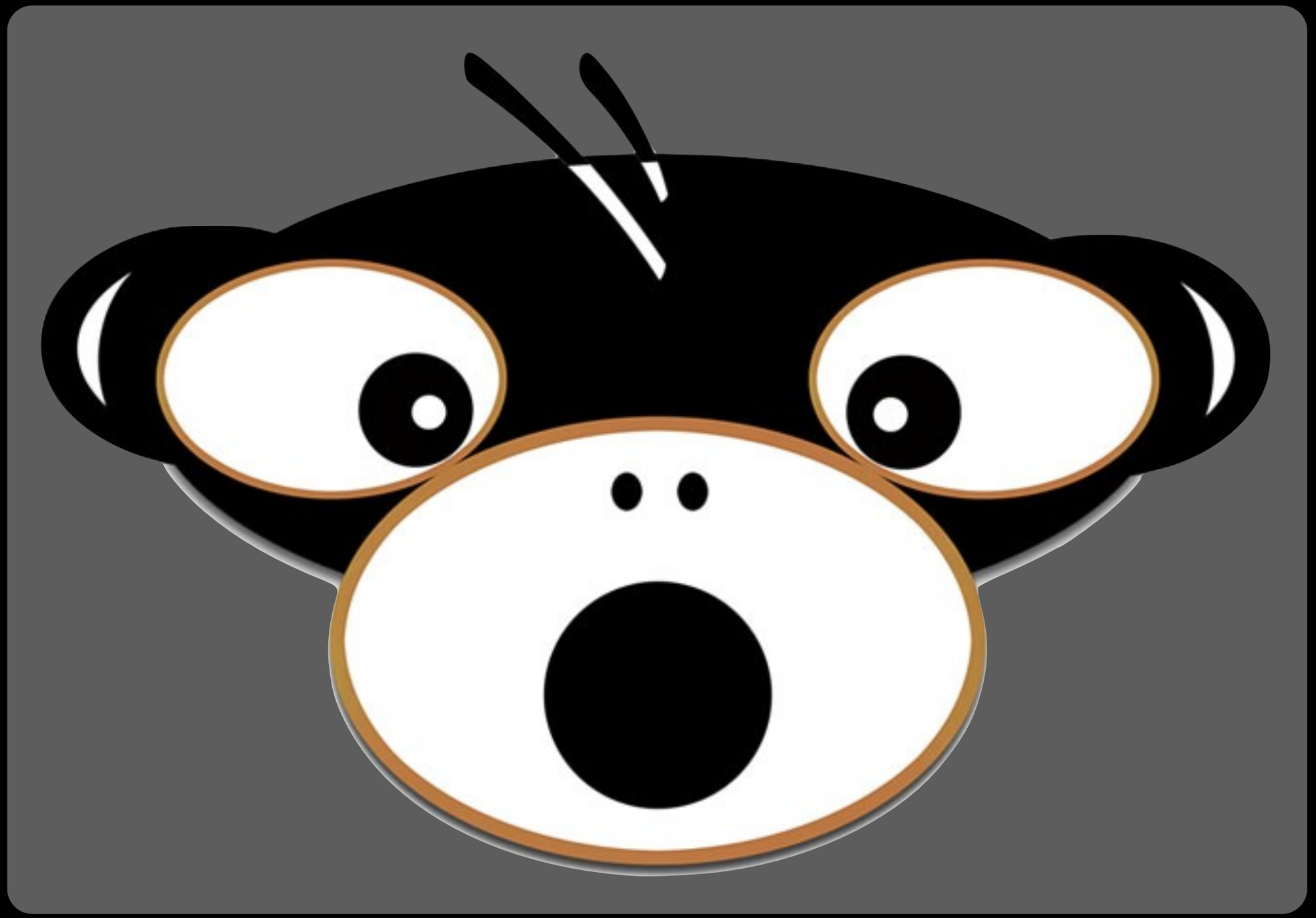
Installing/updating software



Don’t have a software deployment system?

Get one.

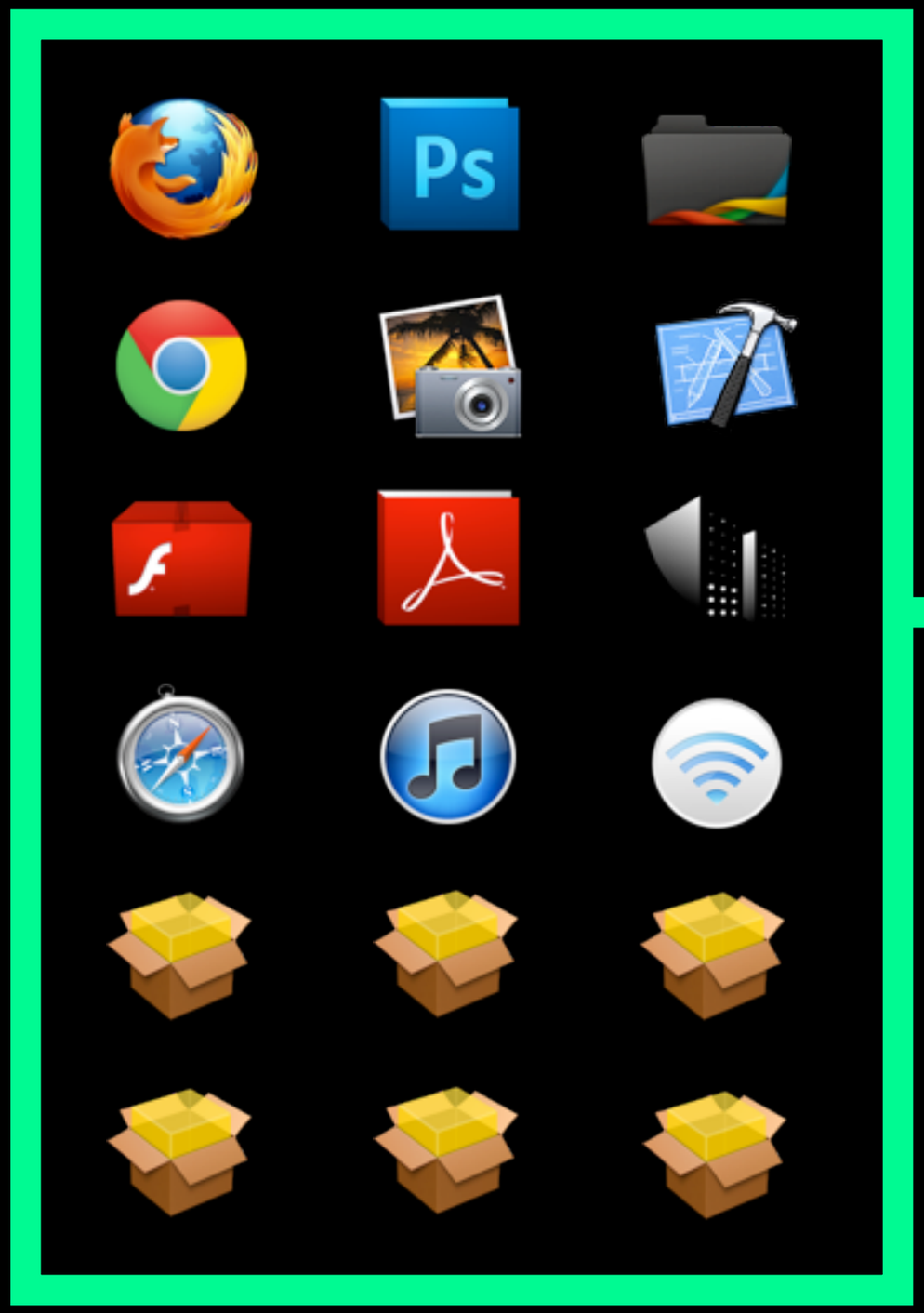
They are free.



Reasons to build a new image

- ~~Updated/changed software~~
- Incompatible hardware
- Testing new OS releases

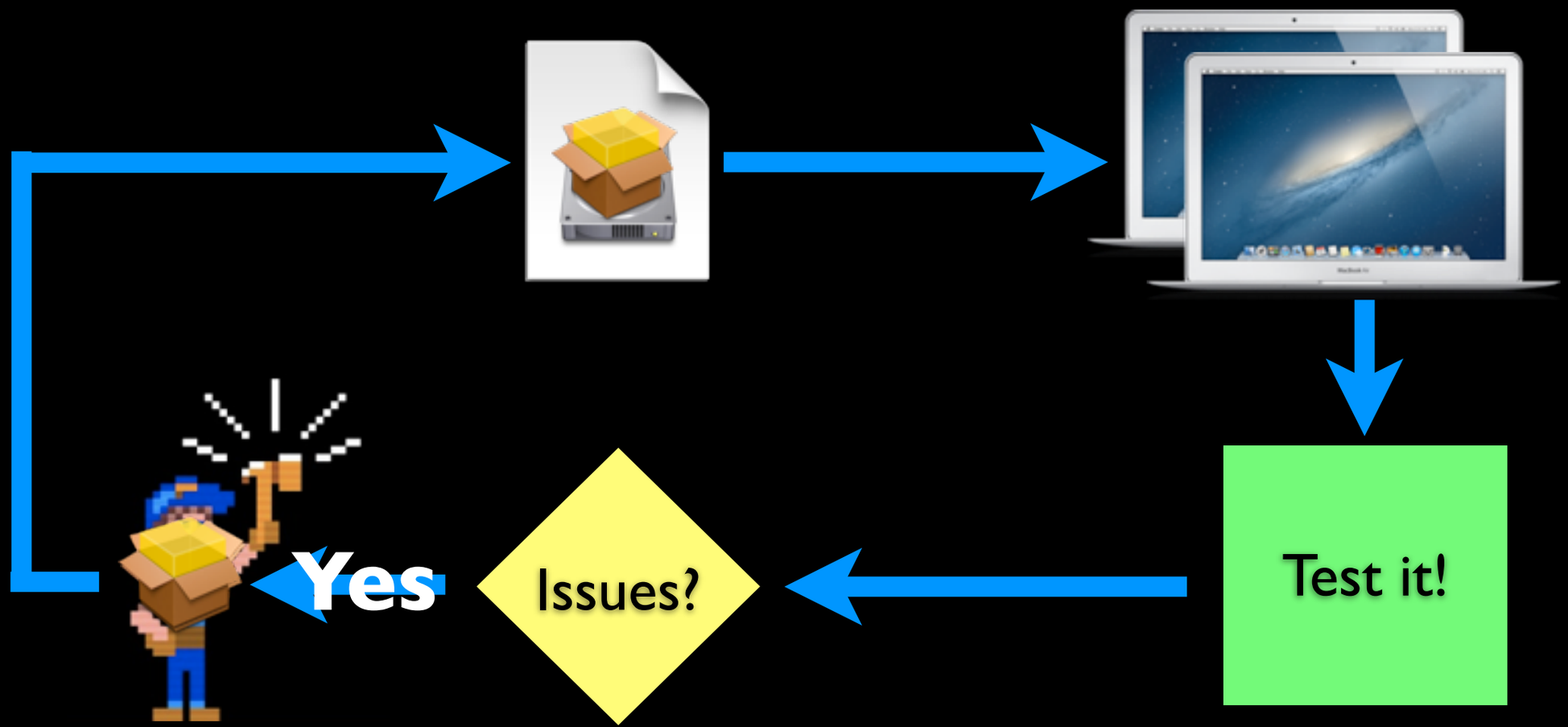
Installing/updating software



Modular imaging

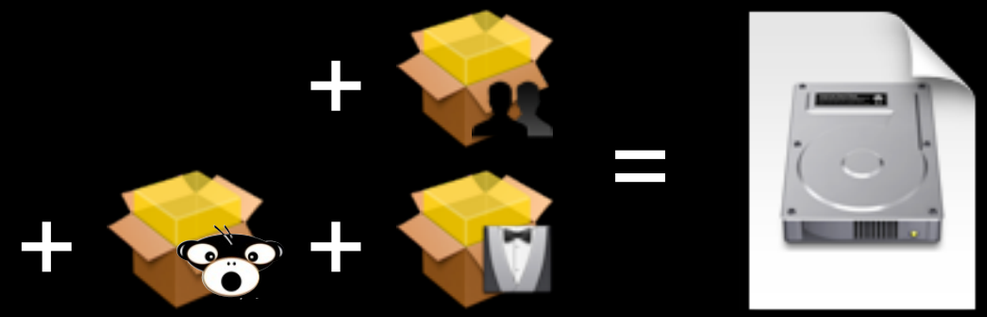
Installing/updating software

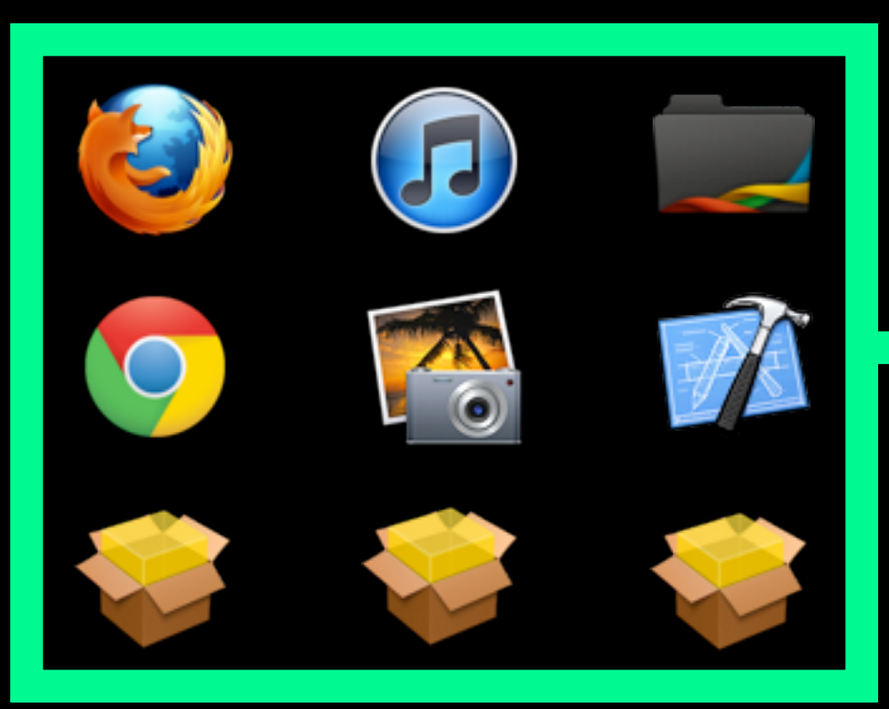
Thin imaging


Test it!
Issues?
Yes

Thin imaging
‘No imaging’

‘No imaging’



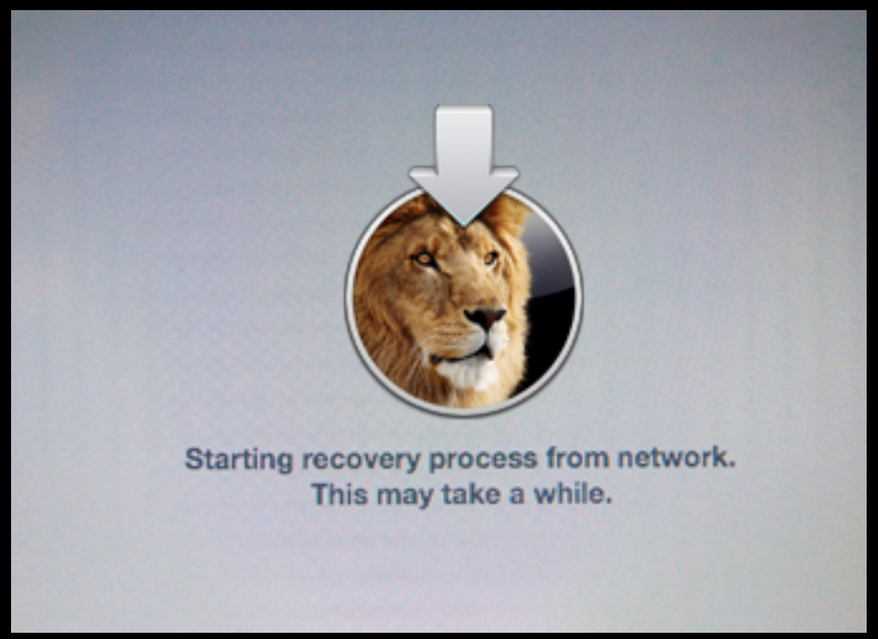


Why ‘no imaging’?

Inspector
Library
Info
Adjustments
ISO 100 f/11 1/100 24mm
Add Adjustment
Effects
Enhance
Contrast: 0.05
Definition: 0.0
Saturation: 1.15
Vibrancy: -0.25
Tint
Curves
Auto
Auto
Highlights & Shadows
Highlights: 21.0
Shadows: 5.74
Advanced
Levels
Auto
Auto
Color
Hue: -13.4
Saturation: 33.5
Luminance: 12.5
Range: 1.00
Dodge
Amount: 1.0
Revert to Original
Dodge
Brush Range: All
Brush Size: 166
Softness: 0.5
Strength: 0.75
Detect Edges

Options

- ~~Monolithic image~~
- ~~Modular image~~
- No image



MacBook Pro

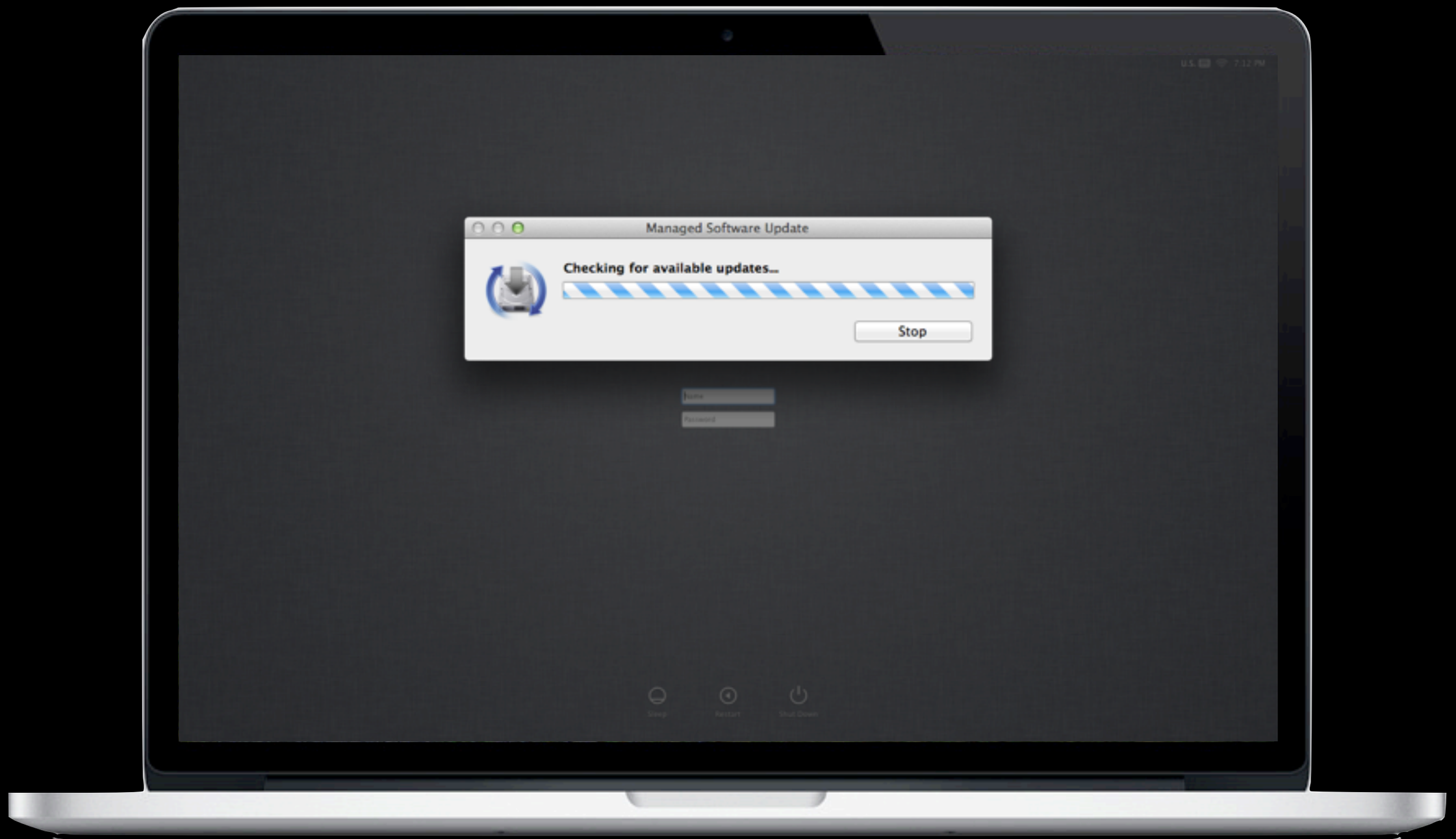
CreateAdminUser.pkg

DisableSetupAsst.pkg

munkitools.mpkg

Retina MacBook Pro

MacBook Air


Managed Software Update
Checking for available updates...
Stop

Inspector
Library
Info
Adjustments
ISO 100 f/11 1/100 24mm
Add Adjustment
Effects
Enhance
Contrast: 0.05
Definition: 0.0
Saturation: 1.15
Vibrancy: -0.25
Tint
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Highlights: 21.0
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Detect Edges

Reasons to build a new image

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OS Upgrades

Mac OS X Snow Leopard

Install Mac OS X Lion

Install OS X Mountain Lion

Install OS X

OS X Mountain Lion

To set up the installation of OS X 10.8 Mountain Lion, click Continue.

Continue

Install OS X

OS X Mountain Lion

OS X will be installed on the disk “Macintosh HD”.

Macintosh HD

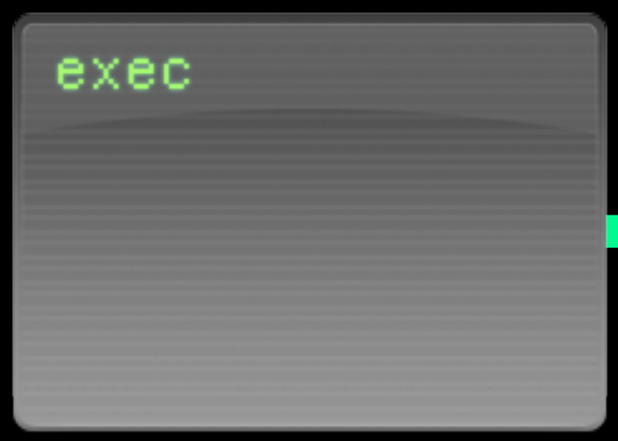
Back

Install

createOSXinstallPkg

createOSXinstallPkg

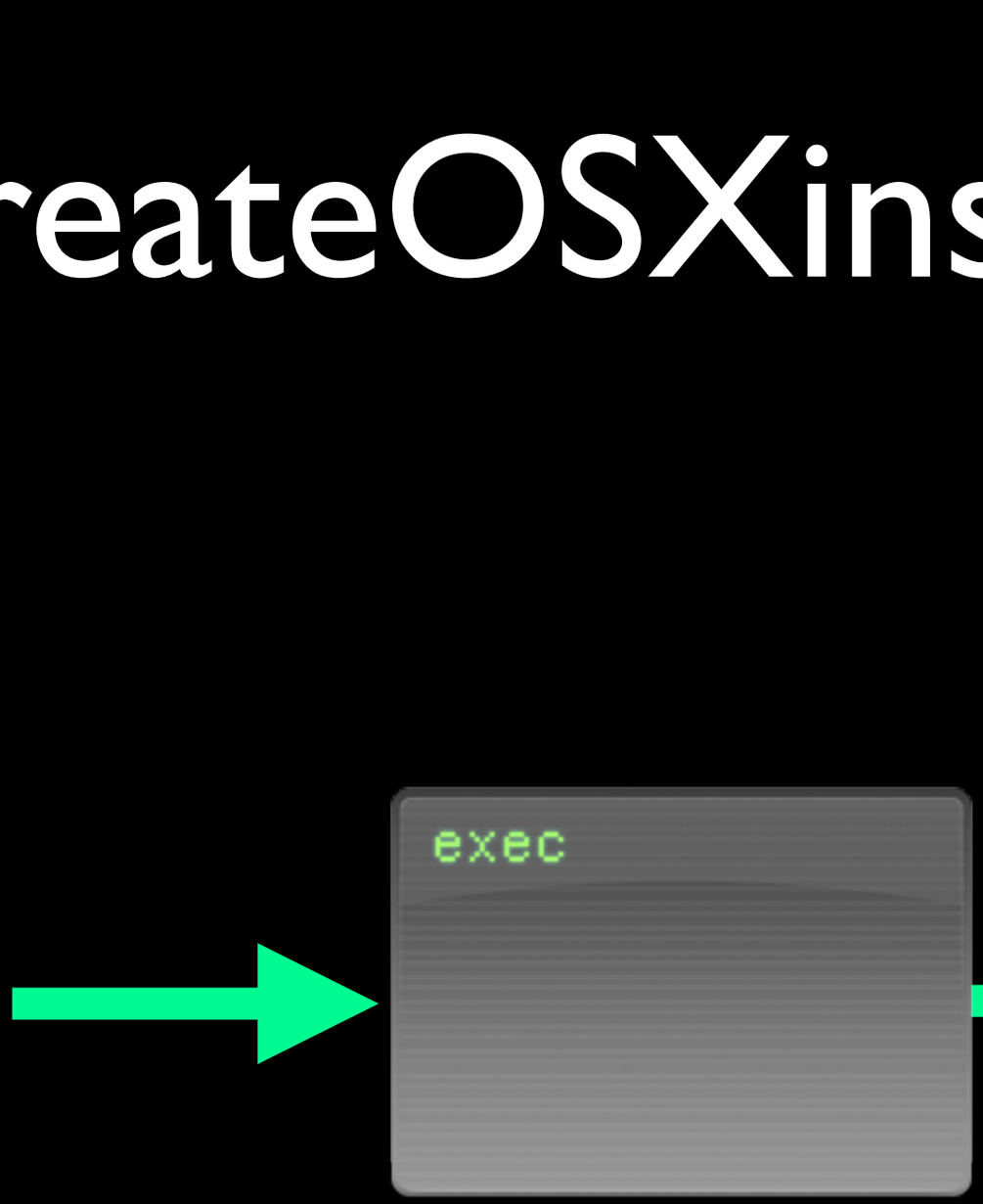
Install OS X Mountain Lion.app



createOSXinstallPkg

InstallOSX_10.8.2_12C54.pkg

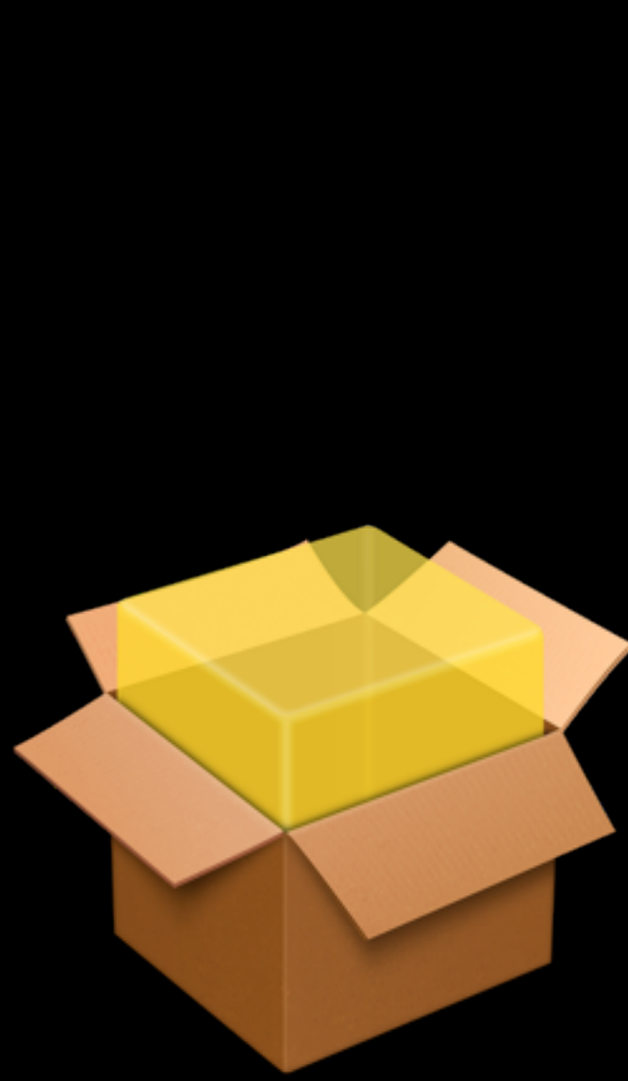
createOSXinstallPkg



createOSXinstallPkg

InstallOSX_10.8.2_12C54_custom.pkg

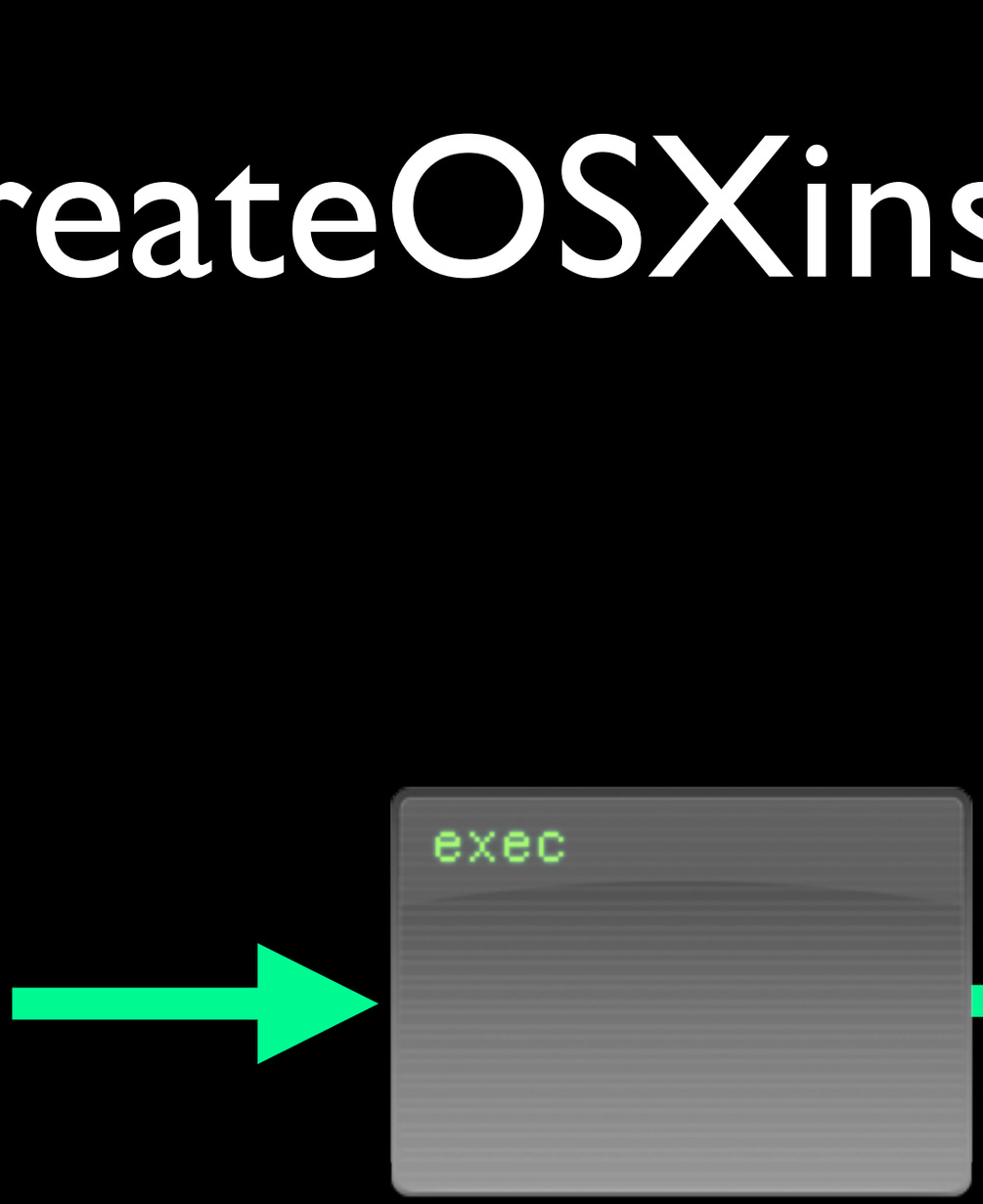
Installing/updating software



InstallOSX_10.8.2_12C54_custom.pkg

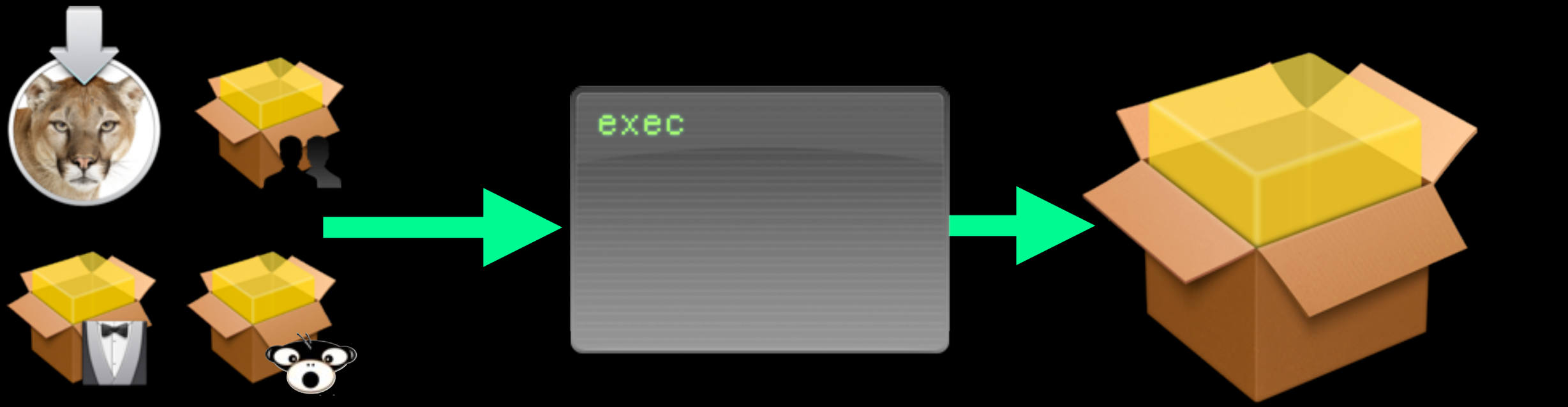
InstallOSX_10.8.2_12C54_custom.pkg

createOSXinstallPkg



createOSXinstallPkg

InstallOSX_10.8.2_12C54_custom.pkg



createOSXinstallPkg

InstallOSX_10.8.2_12C54_custom.pkg

InstaDMG

OSX_10.8.2_12C54_custom.dmg

InstallOSX_10.8.2_12C54_custom.pkg

Erase disk

InstallOSX_10.8.2_12C54_custom.pkg

InstallOSX_10.8.2_12C54_custom.dmg

Upgrades

InstallOSX_10.8.2_12C54_custom.pkg

Clean installs

OSX_10.8.2_12C54_custom.dmg

DON'T REPEAT YOURSELF!

Upgrades and Clean Installs

InstallOSX_10.8.2_12C54_custom.pkg

Upgrades and Clean Installs
...of Developer Previews, too.

InstallOSX_**10.9**_**DP2**_custom.pkg

Reasons to build a new image

- ~~Updated/changed software~~
- ~~Incompatible hardware~~
- ~~Testing new OS releases~~

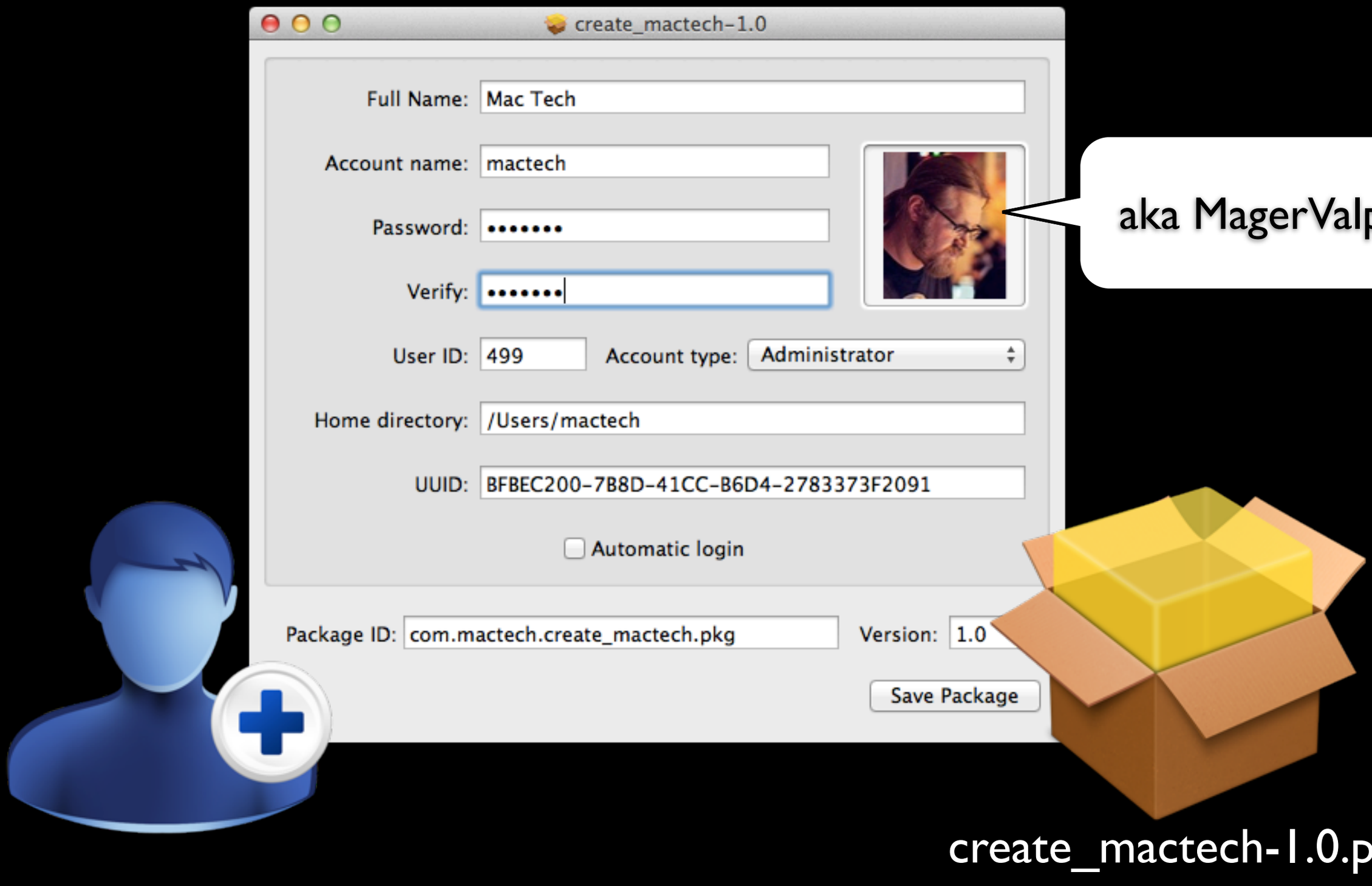
Reasons to build a new image

- When deployment speed is important

more tools

CreateAdminUser.pkg

CreateUserPkg.app



CreateUserPkg.app

https://github.com/MagerValp/CreateUserPkg

Virtual Machines

Version Control

or: What changed? Can I change it back?

Intro to Git

"What did you change?!?!"
Gary Larizza

MacSysAdmin 2012

http://macsysadmin.se

Don’t Repeat Yourself

The future?

Mobile.

Links and more info:

managingosx.wordpress.com