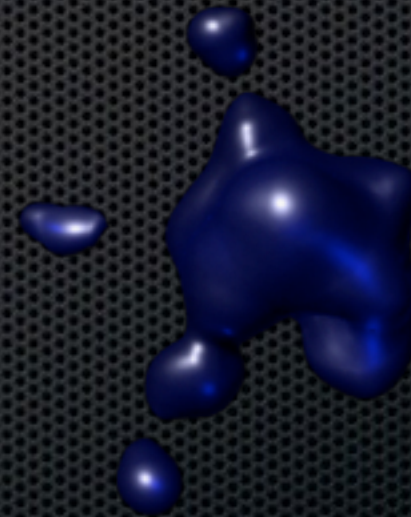


Deployment

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Apple Certified System
Administrator



Methods of Deployment



Before we begin...

- Learn from others historical mistakes
- Reducing complexity and re-using resources increases reliability and overall user satisfaction
- Total effort doesn't change no matter how many endpoints you maintain
- There's no "one fits all" solution
- Don't even think about squeezing Mac into "that" Windows world!

Agenda

- Planning
- Image Deployment
- Deployment Solutions (for any \$budget)
- Packaging
- Tools Most of Us Use
- Resources
- Q & A

Planning

- Gather security and user requirements, get sign-off if possible
- Think years ahead before looking to solution
- Know your budget and resources, set realistic expectations
- Take the time to do it “mostly” right the first time

Image Deployment

- “Manual” Non-Imaging
- Monolithic “Golden Master Mac”
- Thin Imaging
- Modular Imaging

“Manual” Non-Imaging

- Ergonomic nightmare
- No Mac will ever be the same. Guaranteed.
- Inefficient use of resources
- Slow to deploy

I really hate myself.



Monolithic “Golden Master Mac”

- Make one and clone to all!
- How we all used to do it
- A LOT of work ALL the time
- Support limited to build version of core OS
<http://support.apple.com/kb/HT1159>
- Inconsistency across image releases
- Requires additional post-configuration



Thin Imaging

- Out-of-the-Box approach
- Reduced time to deploy
- System-specific image need not apply
- Internet restore compatible
- Potential network bandwidth impact
- Human-factor risk
- BYOD “capable”



Modular Imaging

- “Gotta keep ‘em separated” (OS / Recovery Partition / Applications / Settings)
- Fast to deploy updated image for new Apple hardware
- 3rd Party applications and patches stay current
- Consistent experience across images
- BYOD “capable” as well



Examples of Cloning



No-image deployment

- Benefit: Fastest method of deployment
- Benefit: Doesn't require system-specific images
- Benefit: Ability to use Internet-restore.
- `osxinstall.pkg` (Greg Neagle's tool)

Mac Third Party Solutions:

Who they are, what are their strengths

- JAMF Casper and Composer
- Absolute
- FileWave
- Munki
- Puppet
- Apple Remote Desktop

Additional Options

- Centrify: From a Directory Point of view
- DeployStudio
- LANDesk - Windows focus
- InstaDMG or AutoDMG
- CanHazImage
- AutoPkg
- Thin Imaging

Thin/Layered Imaging

- Use existing, good OS & Recovery HD
- Build packages for everything
- Build scripts for configuration
- Using tools like Casper Suite, Munki, etc.
 - Useful for BYOD environments
 - Supported 10.7/10.8 within a day

DeployStudio



Basic Concepts



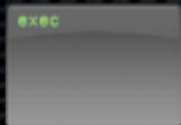
What is DeployStudio?

- ▶ A GUI to Apple's restoration tools
 - asr, diskutil, hdiutil
- ▶ To automatically restore complete disk images
 - Either from a OS X Server
 - or Thunderbolt/Firewire/USB external hard drives
- ▶ To automate certain customisation tasks
 - Name computer, set static IP addresses
- ▶ To make your life easier!!

Components



DeployStudioServer Repository: Local folder or network file share point where DeployStudio stores and retrieves disk images, packages, scripts, logs and all the databases (computers and workflows).



DeployStudioServer Daemon: Shares the repository's databases to client applications like DeployStudio Admin and Runtime. Also manages Runtime's multicast restoration requests by controlling ASR server instances.



DeployStudio Assistant: Simple tool to install, restart & configure a DeployStudioServer daemon. This is also the tool to create a DeployStudio NetBoot set or bootable external drive based on the system where the assistant is running.

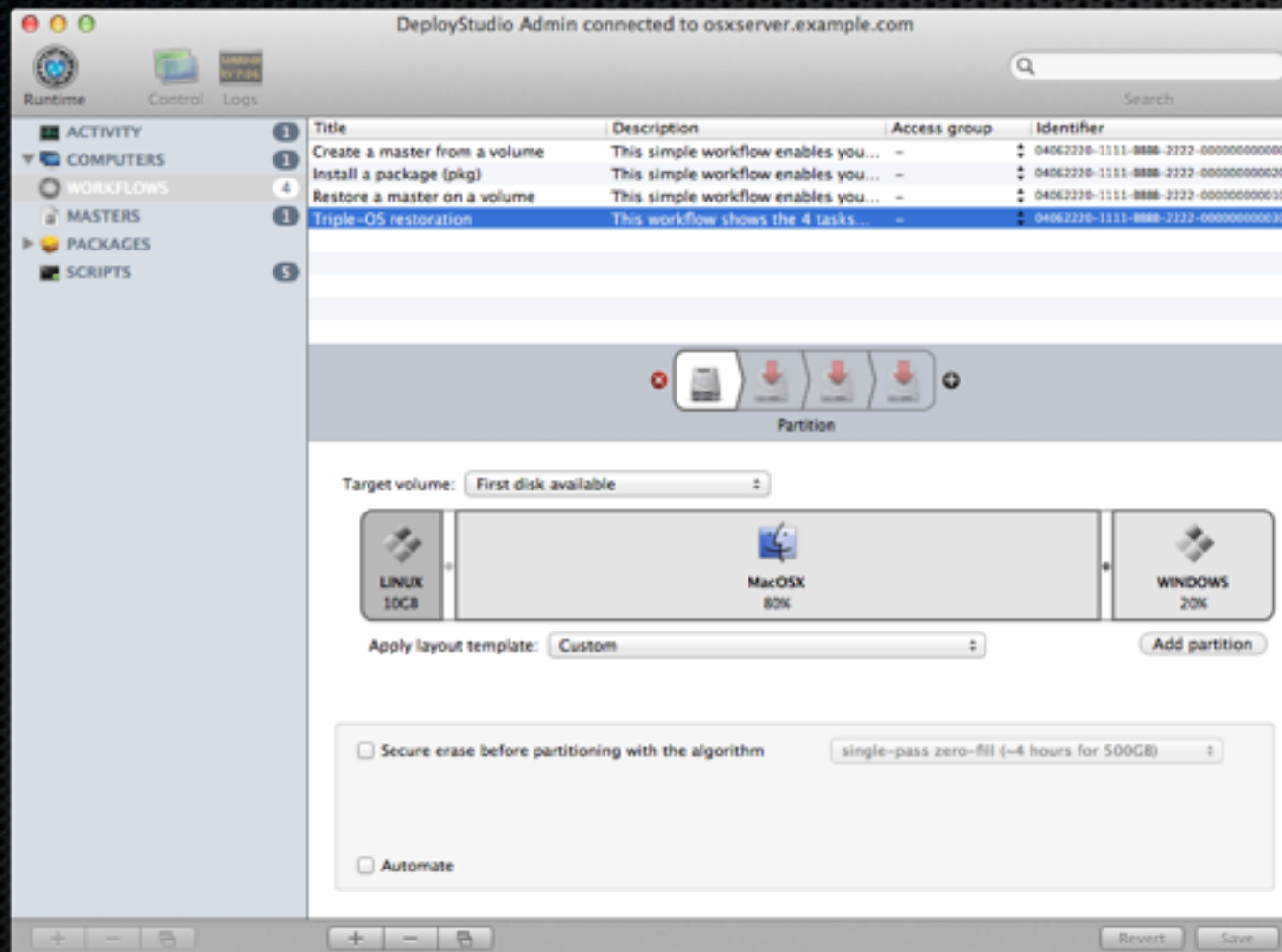


DeployStudio Admin: Workflows, computers, scripts and disk images editing tool. Also Includes an activity viewer to follow the status of the computers running Runtime. It requires a DeployStudioServer daemon running on the network or local system.

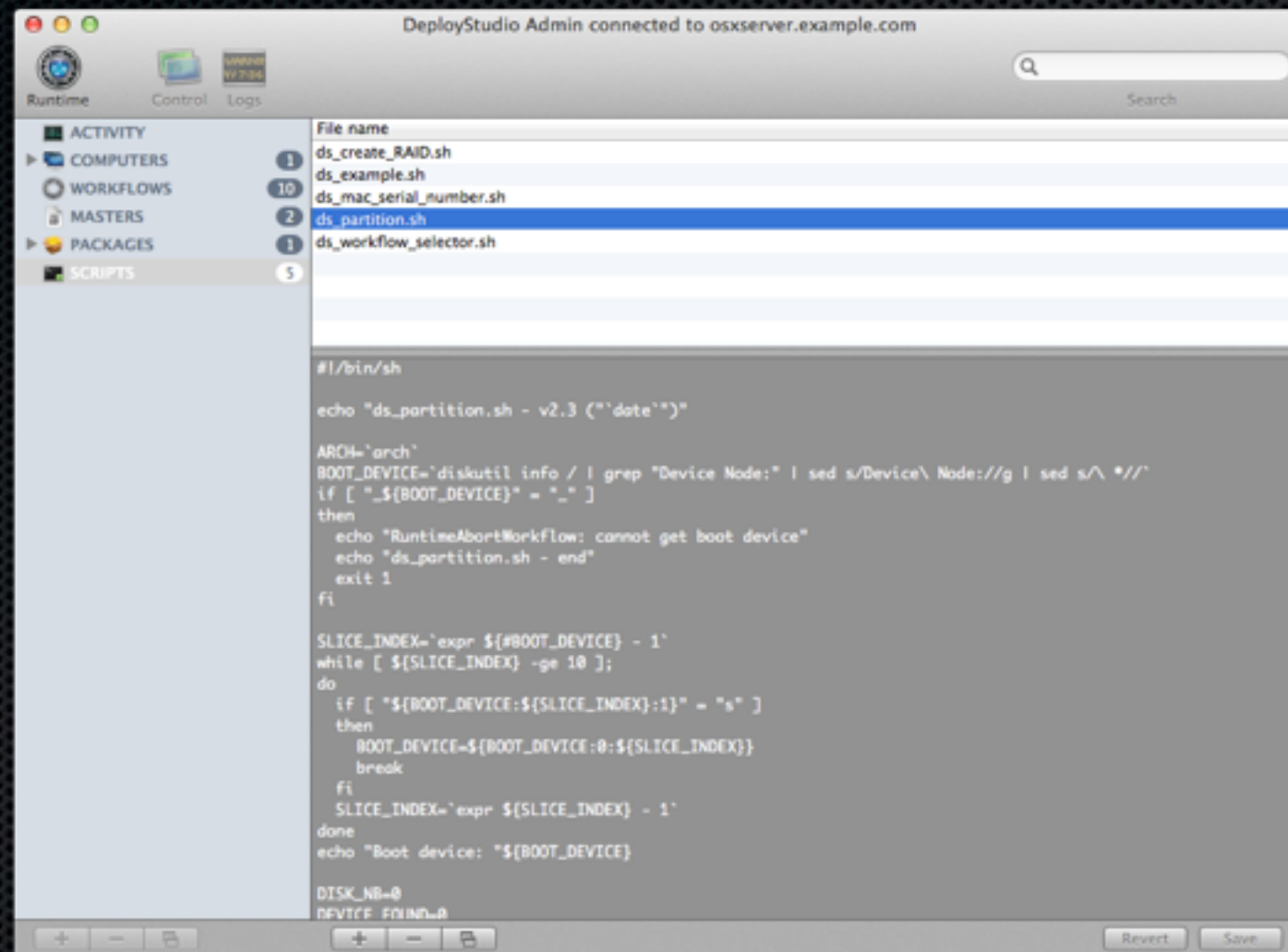


DeployStudio Runtime: Deployment workflows' execution tool. It requires a DeployStudioServer daemon running on the network or local system.

Workflows

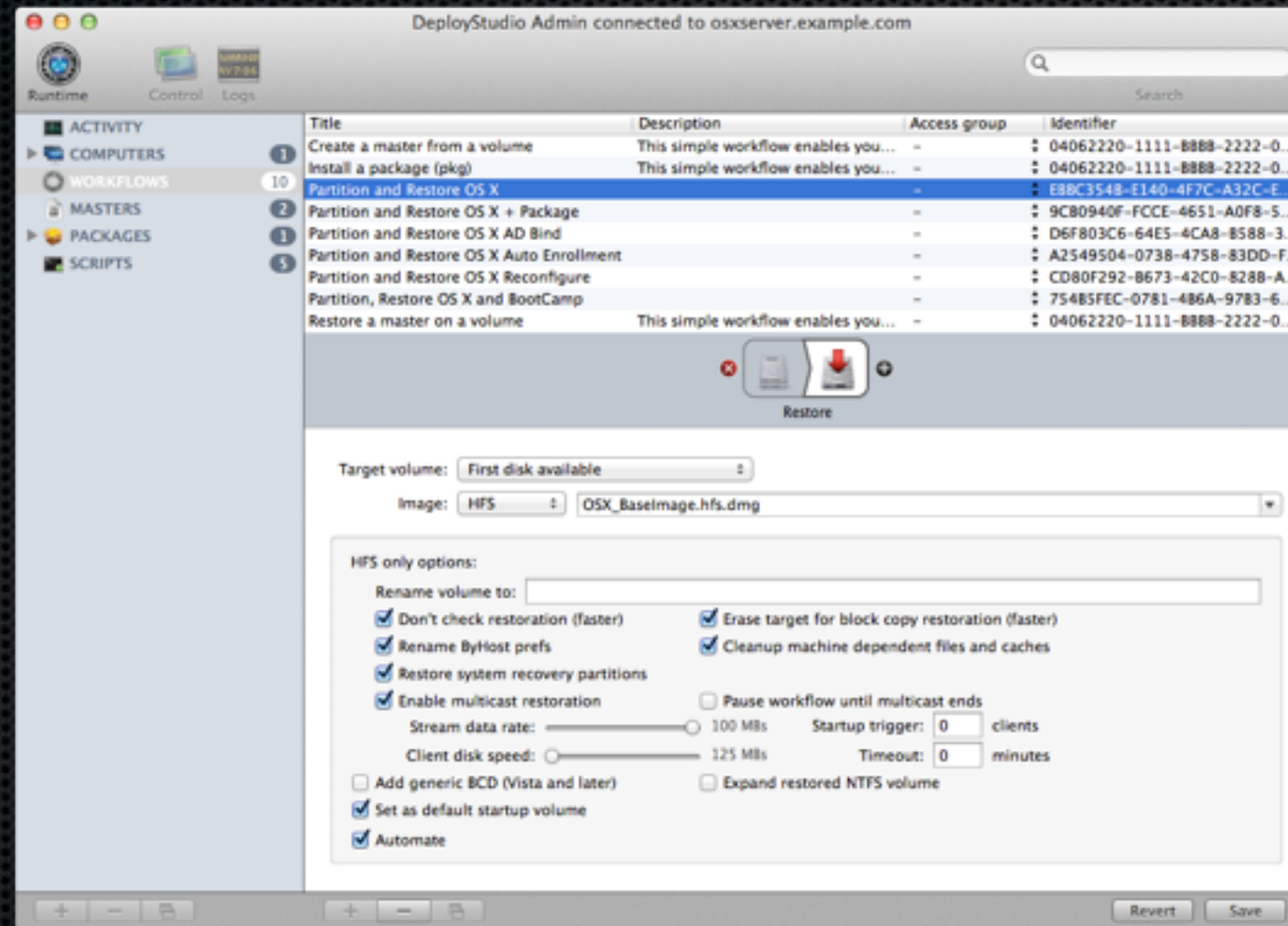


Scripts



Scripts stored in /Repository/Scripts

Restore via Multicast ASR



Prepare The Image

- Install all updates
- Create users (admin account for remote management)
- Install desired applications (with serial #'s)
- Run Disk Utility



- Unbind from test environment
- DeployStudio includes Workflow Tasks for rebinding the systems to both Active Directory and/or Open Directory
- Select name of Deployment Image

Benefits of Installation Packages

- Distribute single files or groups of items
- Consistent install behavior
- Automation options
- Trackable and easily audited
- Combine with ARD for a powerful distribution option



Other Package Formats

- Microsoft - no custom package format (needs post install attention)
- Adobe - own package format - AAMEE



Packaging

- Potentially use package from vendor
- Many third-party packaging tools
 - PackageMaker, pkgutil, Iceberg, Packages, The Luggage, JAMF Composer, InstallEase

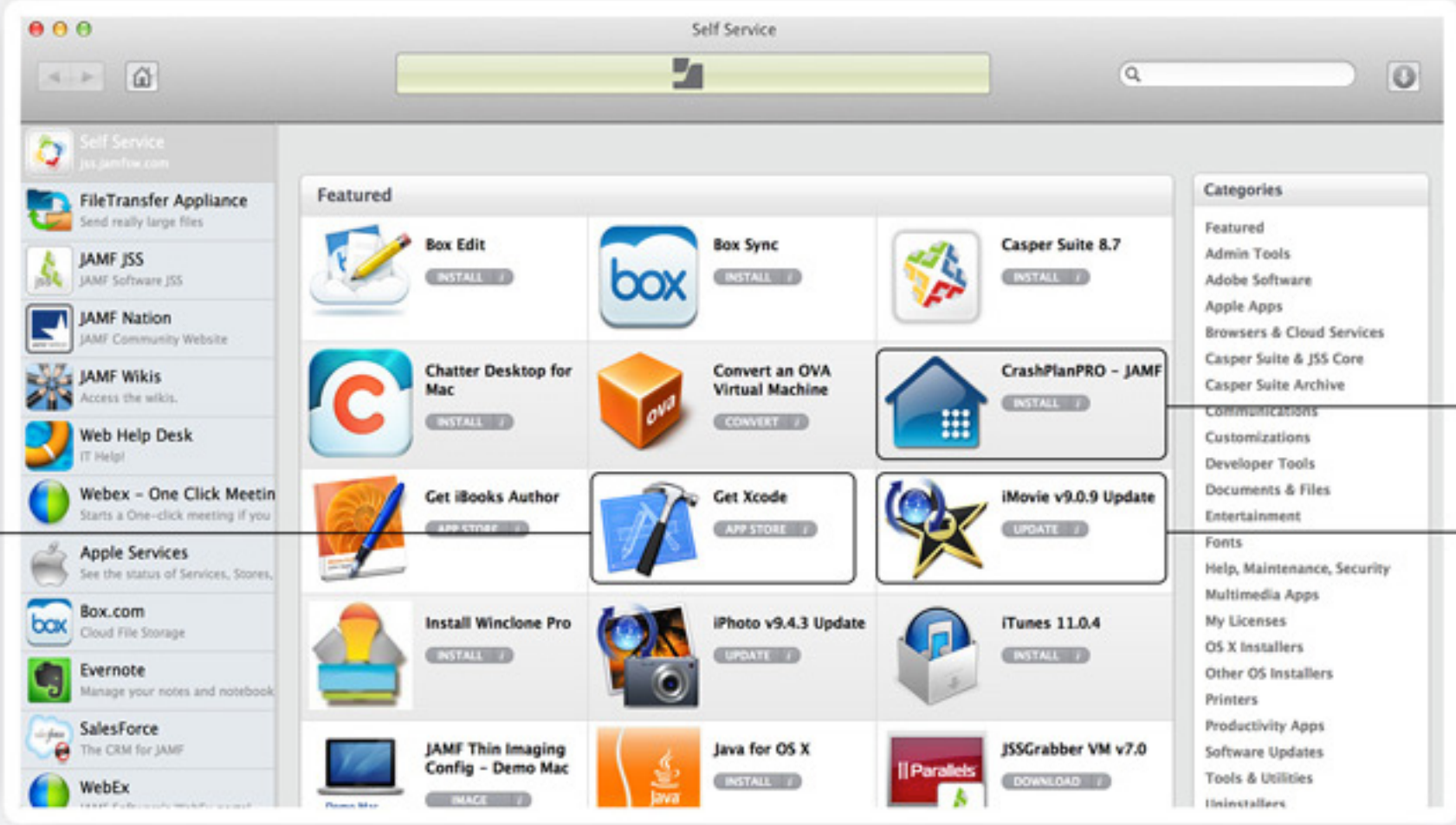
What is Casper?

The Casper Suite is a collection of Commercial tools. Allows the admin to oversee the eight tenets of Mac OS X client management: Inventory, Imaging, Patch Management, Software Distribution, Remote Control, Settings and Security Management, License Management, and Usage Management.



Casper Suite

- Management console = web browser



The screenshot shows the 'Self Service' web interface. On the left is a sidebar with links to various services like FileTransfer Appliance, JAMF JSS, JAMF Nation, JAMF Wikis, Web Help Desk, Webex, Apple Services, Box.com, Evernote, Salesforce, and WebEx. The main area is titled 'Featured' and displays a grid of application tiles. Each tile includes an icon, the application name, and an action button (e.g., 'INSTALL', 'UPDATE', 'APP STORE', 'CONVERT', 'IMAGE', 'DOWNLOAD'). Applications shown include Box Edit, Box Sync, Casper Suite 8.7, Chatter Desktop for Mac, Convert an OVA Virtual Machine, CrashPlanPRO - JAMF, Get iBooks Author, Get Xcode, iMovie v9.0.9 Update, Install Winclone Pro, iPhoto v9.4.3 Update, iTunes 11.0.4, JAMF Thin Imaging Config - Demo Mac, Java for OS X, and JSSGrabber VM v7.0. On the right is a 'Categories' sidebar listing various software categories. Two callout boxes with arrows point to specific tiles: one points to 'Casper Suite 8.7' with the text 'Install any application, from any vendor, via Self Service.', and another points to 'iMovie v9.0.9 Update' with the text 'Update Apple App Store apps.'

Distribute Apple App Store apps.

Install any application, from any vendor, via Self Service.

Update Apple App Store apps.

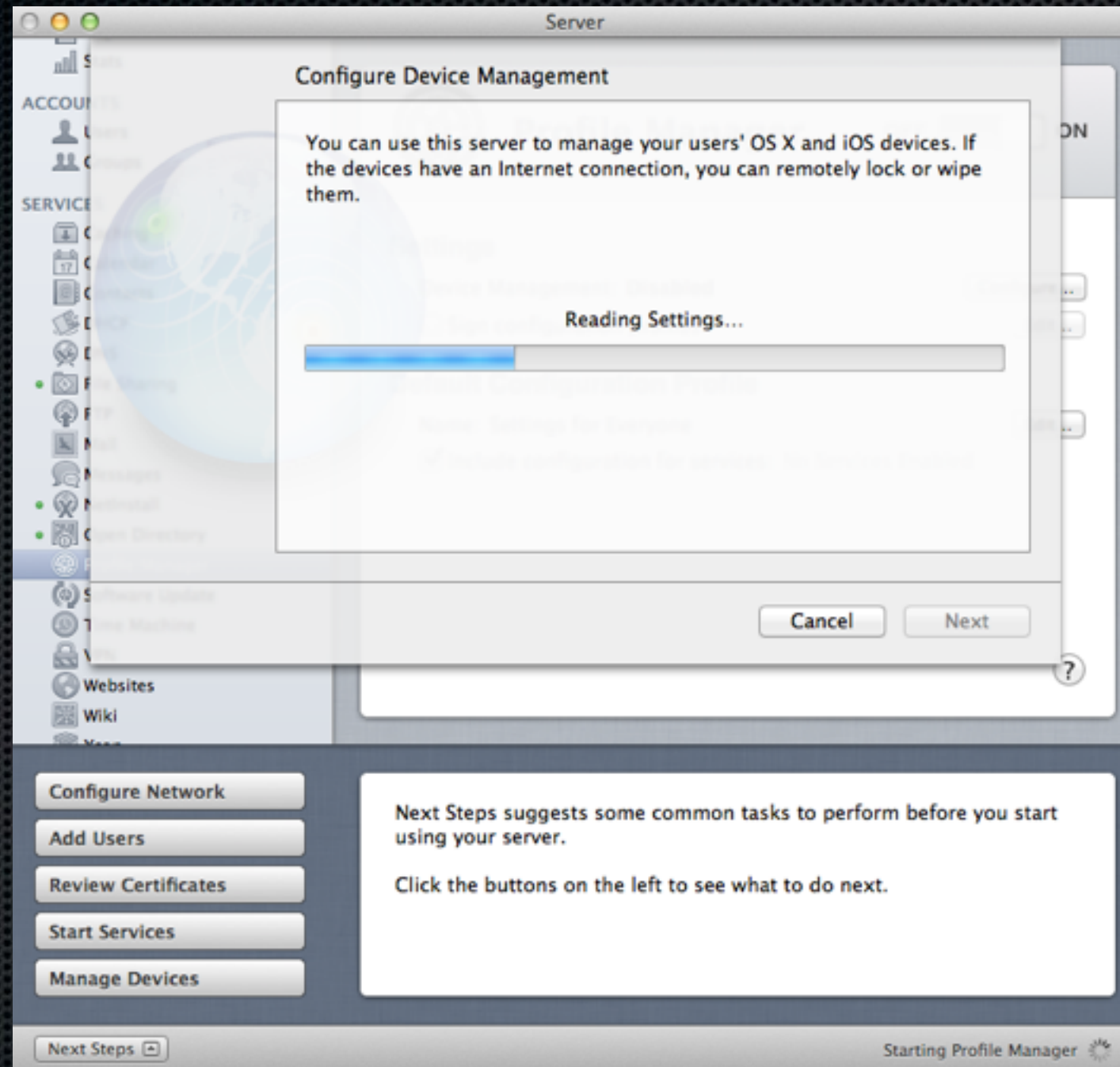


- Modular Approach
- Packages are Everything
- Casper Tools
- Casper Admin, Casper Imaging, Composer

OS X Server

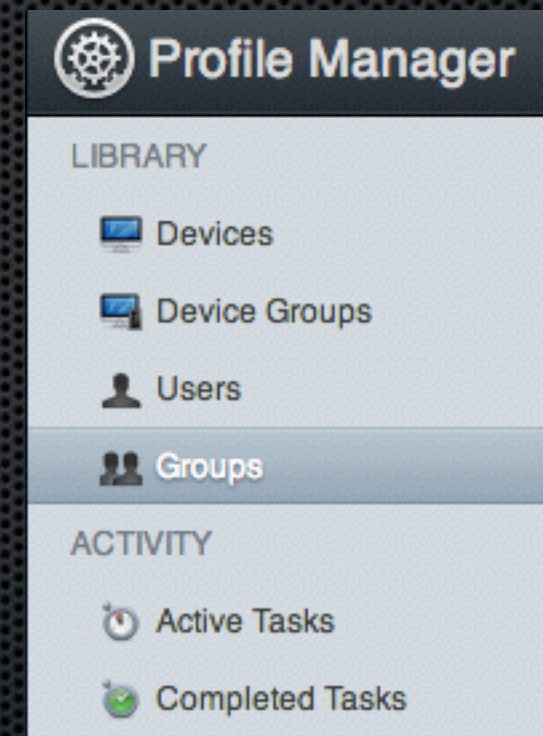


Configuration Profiles



Profile Manager

- Introduced OS X Lion
- Preference/Configuration Management
- Supported by many third-party MDMs



Caching Server/SUS

- Included in Server.app 2.2
- No control over which updates
- Useful if all clients access Internet from single IP

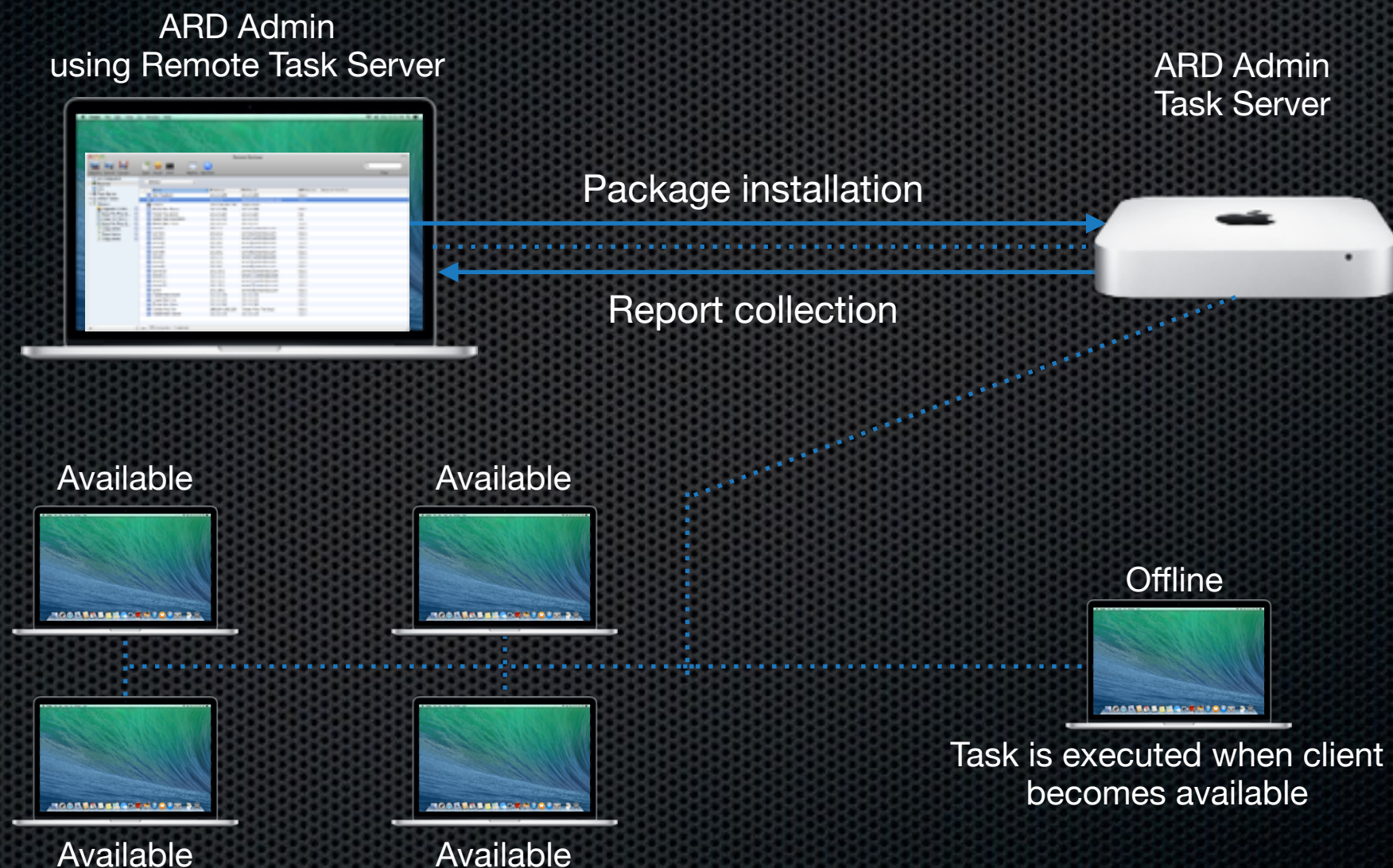


Apple Remote Desktop

- Remote Support/Screen Control
- Deployment
- Asset Management



ARD Task Server



Directory Service Integration

Enable ARD directory-based administration:

- ▶ Change Client Settings dialog.
- ▶ Create Client Installer dialog.
- ▶ `sudo /System/Library/CoreServices/RemoteManagement/ARDAgent.app/Contents/Resources/kickstart --configure --clientopts --setdirlogins --dirlogins yes`

Manage ARD access privileges:

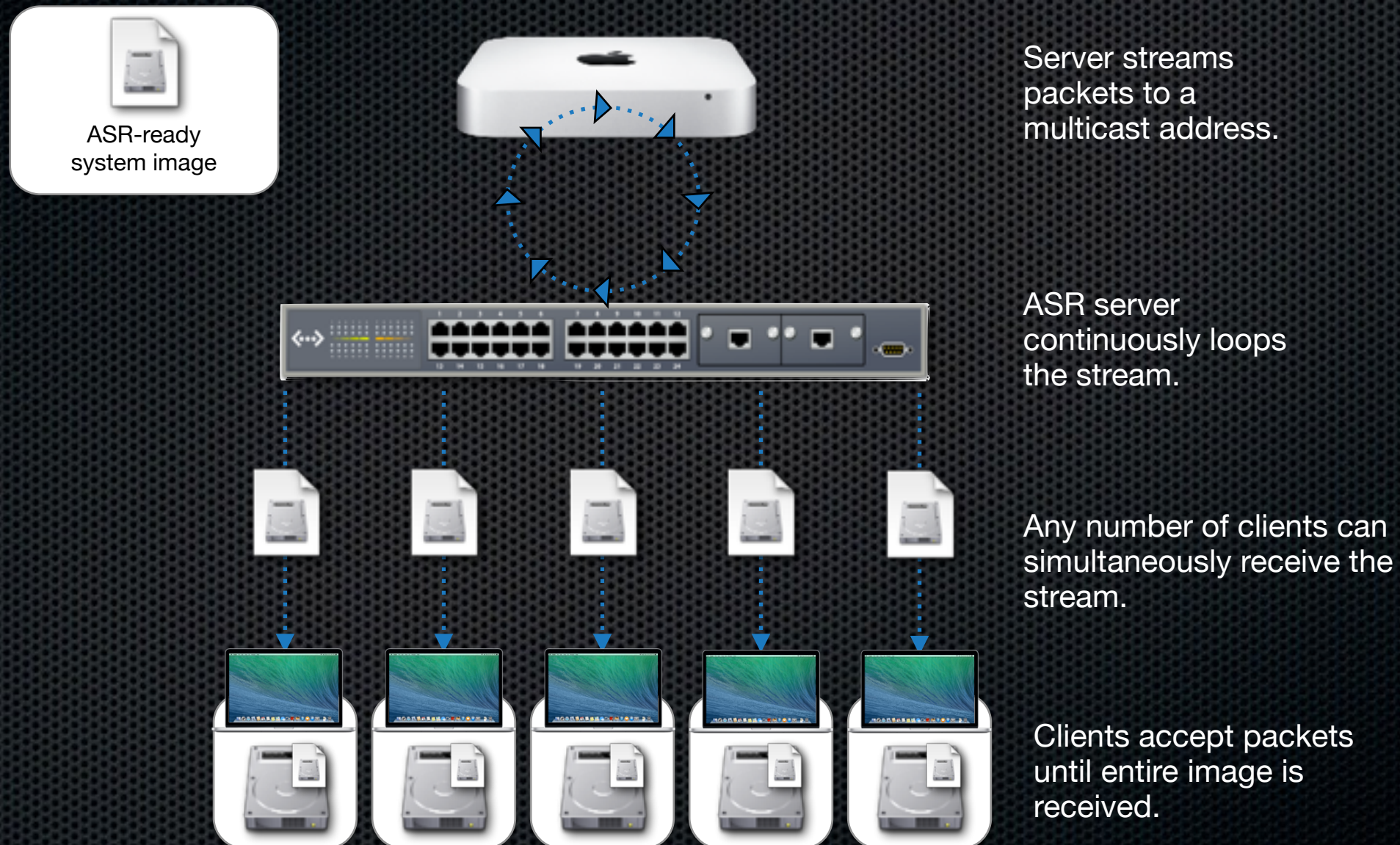
- ▶ Use local group names with predefined ARD privilege keys.



ASR at the command line

- Doesn't work if network isn't set up for multicasting
- Proton Pack
- diskutil
- hdiutil
- asr

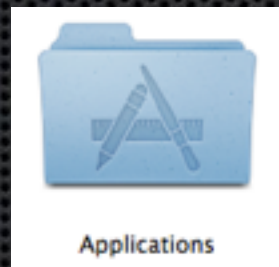
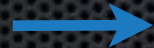
Multicast ASR



Postimaging Server Configuration

To deploy a 10.9 unconfigured server =

- Copy Server.app to /Applications on an unconfigured client
- Run the Server.app to install and configure the server software



Third Party Review



DeployStudio

- Setup, create NetBoot images
- Manage configs/workflows
- Installed on your NetBoot image, runs workflows

Casper Suite

- Composer - build scripts and base OS
- Recon - scan/get machines enrolled
- Casper Admin - upload packages and build imaging workflows
- Casper Imaging - installed on your NetBoot image, runs workflows
- Casper Remote - remote assistance and instant installs

Munki

- Automates software installation
- Managed Software Update app (Self Service), doesn't require admin
- Doesn't require OS X Server (http)
- Google variant - Simian (App Engine)
- <http://code.google.com/p/munki> - free

Puppet

- You specify how you want things configured
- Puppet compares to your specifications
- Makes changes if necessary
- Incredibly useful for server configurations
- <http://www.puppetlabs.com>

Absolute Manage

- Based on old netOctopus, LANrev
- Completely cross-platform: OS X, Windows, iOS, Android
- <http://www.absolutemanage.com> - commercial

FileWave

- Cross-platform (OS X, Windows, iOS)
- Can run on an OS X, Windows, or Linux server
- Lightning Thunderbolt Imaging
- <http://www.filewave.com> - commercial

Which Tool?

- Use the one that works for you, at a price that you can afford
- Don't discount "free" software, but...
- Don't discount the ability to call someone if you're stuck

Apple's documentation

- <http://www.apple.com/support/osxserver/setupadministration/>
- http://images.apple.com/education/docs/1521219b_osx_deployment_guide_030513.pdf
- <http://www.apple.com/mac/volume-licensing/>

More documentation

- <http://www.afp548.com>
- <http://krypted.com>
- <http://www.mactech.com>
- <http://managingosx.wordpress.com/category/deployment/>

Questions?



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