

Tom Houghton

Tom has worked with Apple products for 15 years. He has been fortunate enough to consult in Southern California, Omaha Nebraska, Washington DC, and London.

Tom owns Round Peg Solutions, LLC based in Omaha, Nebraska where he supports SMB and residential clients.

When he's not doing IT work Tom enjoys biking, kayaking, being outdoors, and spending time with his wife and 3 kids.



Deploying Devices: State of the Union and How to Select a MDM

Deploying Devices: State of the Union and How to Select a MDM ...and not be a cat herder.



What are we going to cover?

- **Apple Deployment Programs**
 - Device Enrollment Program (DEP)
 - Volume Purchase Program (VPP)
 - Apple School Manager - New!
- **Profile Manager**
- **Configurator 2**
- **3rd Party Options**

How Did We Get Here?

Active Installed Base

1 Billion

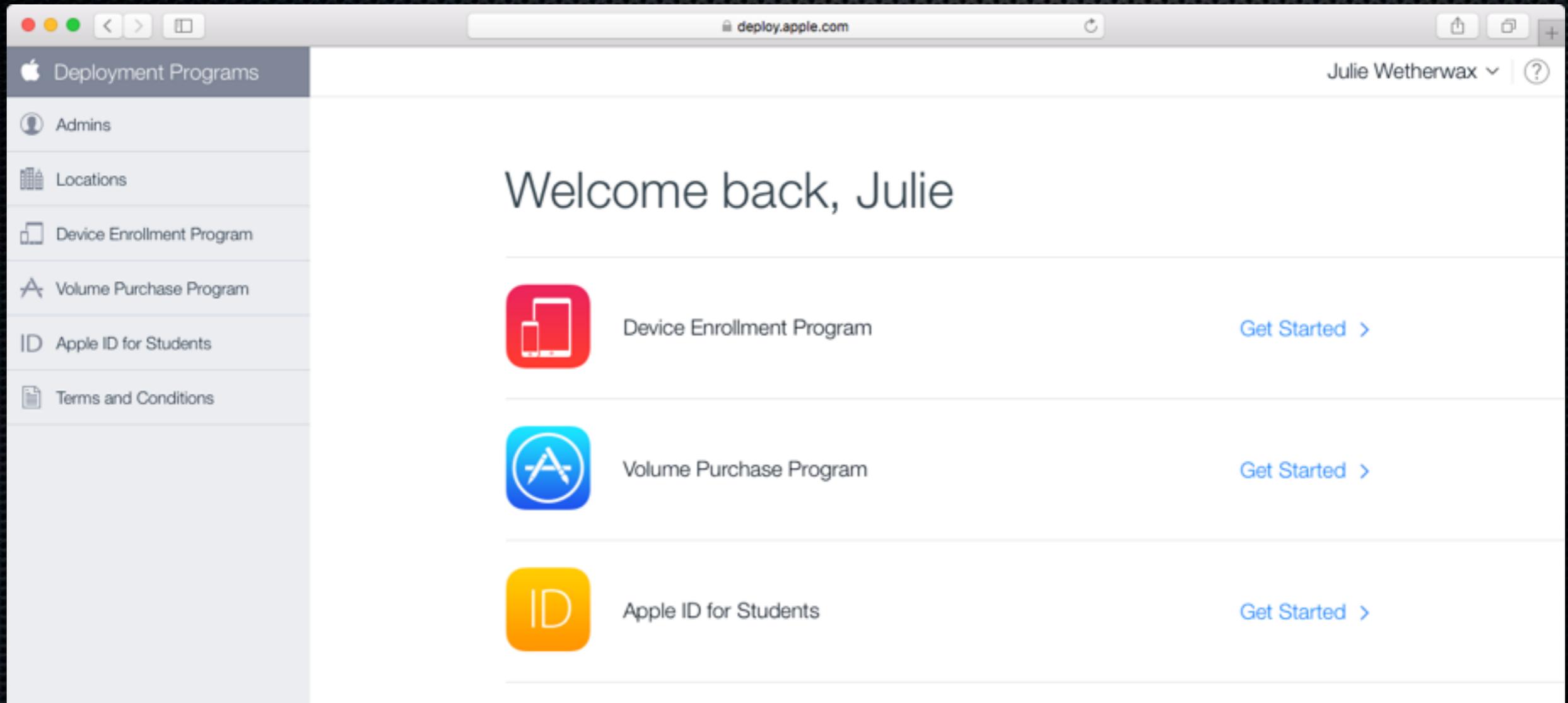
iPhone, iPad, Mac, iPod touch, Apple TV, and Apple Watch devices that have been engaged with our services within the past 90 days.

How Did We Get Here?

1. Easier to manage.
2. More secure.

*JAMF 2015 Apple Trends Survey Results

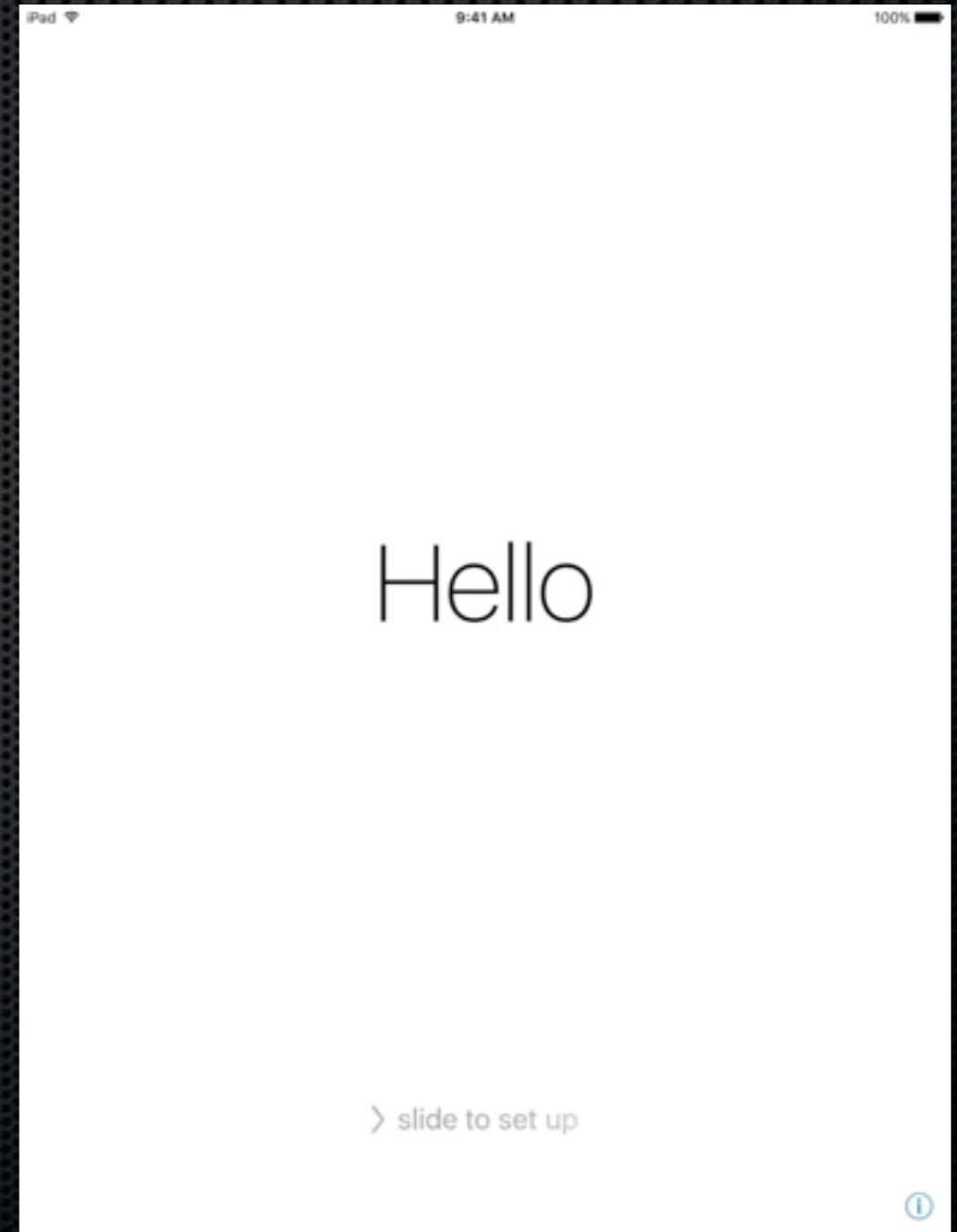
Apple Deployment Programs (ADP)



deploy.apple.com

Device Enrollment Program (DEP)

Automates and enforces
MDM enrollment and
supervision during setup.



Device Enrollment Program (DEP)

Account Creation

- ADP Apple IDs must be new and linked to your organization's domain.
- ADP Apple IDs can't be used to log into other services like iTunes.
- Consider using generic accounts
 - DEP Accounts: `domain-dep@domain.com`
 - VPP Account(s): `domain-vpp@domain.com`
or: `domain-vpp-mdm@domain.com`
`domain-vpp-configurator@domain.com`

Device Enrollment Program (DEP)

Enrollment Process

1. Setup an Agent Account
2. Enable two step verification
3. Provide additional institutional information
 - Verification Contact
 - Physical Address Information
 - DUNS #
 - Apple Customer # or DEP Reseller ID

When enrollment is complete you will
receive a **DEP Customer ID #**.

Device Enrollment Program (DEP)

Next Steps

I. Create Admin Accounts

Add Admin Account

First Name

Last Name

Work E-mail [?](#)

Allow access to:

- Device Enrollment Program
- Volume Purchase Program
- Apple ID for Students

Location

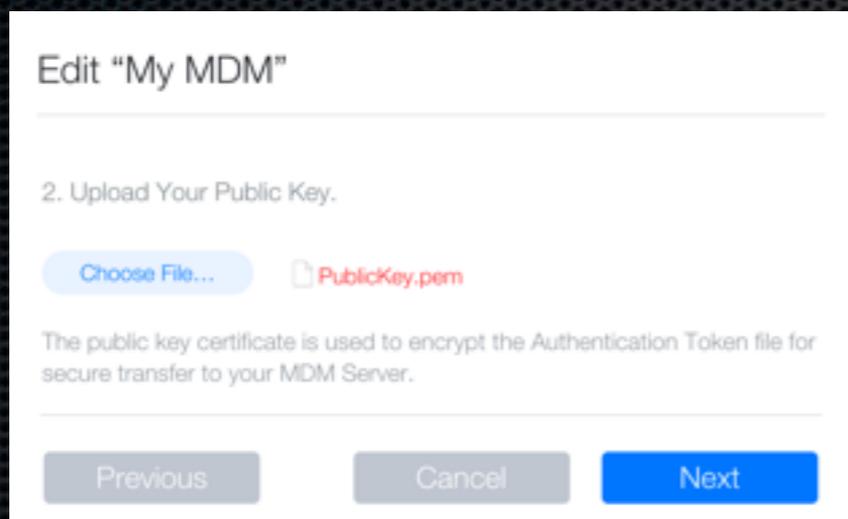
Allow Admin to:

- Create and Edit Admins

Device Enrollment Program (DEP)

Next Steps

2. Link MDM to DEP with **token**.



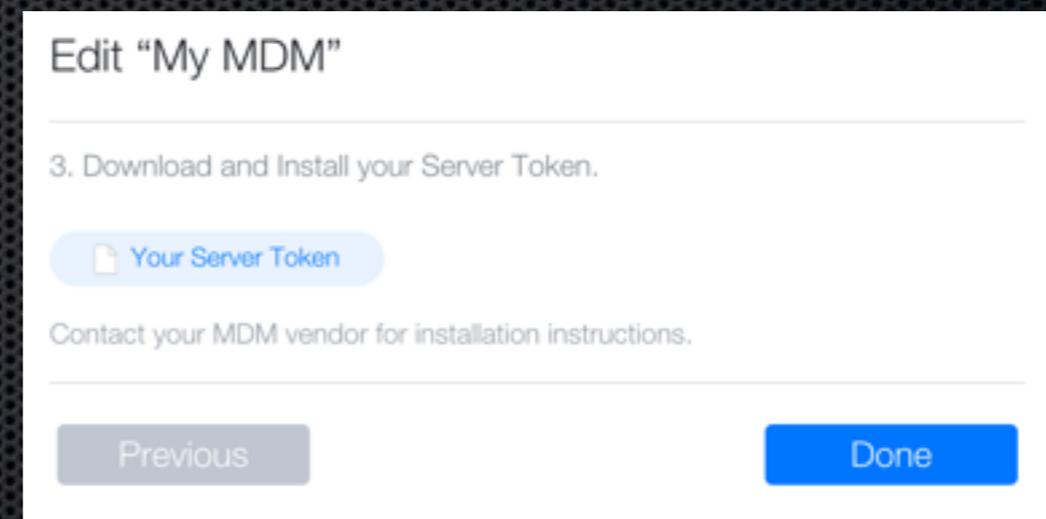
Edit "My MDM"

2. Upload Your Public Key.

Choose File... PublicKey.pem

The public key certificate is used to encrypt the Authentication Token file for secure transfer to your MDM Server.

Previous Cancel Next



Edit "My MDM"

3. Download and Install your Server Token.

Your Server Token

Contact your MDM vendor for installation instructions.

Previous Done

1. Download Public Key from your MDM.
2. Upload Public key to DEP
3. Download newly created token
4. Upload new token to MDM

Device Enrollment Program (DEP)

Next Steps

3. Assign Devices -
Devices can be manually
added by serial, or purchase
order #.

Devices can also be disowned
from DEP, but this is
PERMANENT.

The screenshot shows a web interface titled "Manage Devices". It is divided into two main sections:

- 1. Choose Devices By:** This section contains three radio button options: "Serial Number" (which is selected), "Order Number", and "Upload CSV File". Below these options is a text input field containing the serial number "DN6FVZKFDHW".
- 2. Choose Action:** This section contains two dropdown menus. The first dropdown menu is currently set to "Assign to Server" and its menu is open, showing four options: "Assign to Server", "Unassign Devices", and "Disown Devices". The second dropdown menu is labeled "Choose MDM Server".

Volume Purchase Program (VPP)

Volume Purchase Program (VPP)

- Apple program that allows you to find, buy and distribute Apps in bulk for your institution.
- Available for Business as well as Educational Institutions.



Discounts available on bulk purchases of
Apps (20 or more).

Volume Purchase Program (VPP)

Enrollment Process

1. Create Account or use existing ADP Apple ID
2. Provide additional institutional information
 - Verification Contact
 - Physical Address Information
3. Submit to Apple for Approval

Volume Purchase Program (VPP)

Linking to your MDM

Download **token** from VPP Account Summary, and upload it to your MDM.

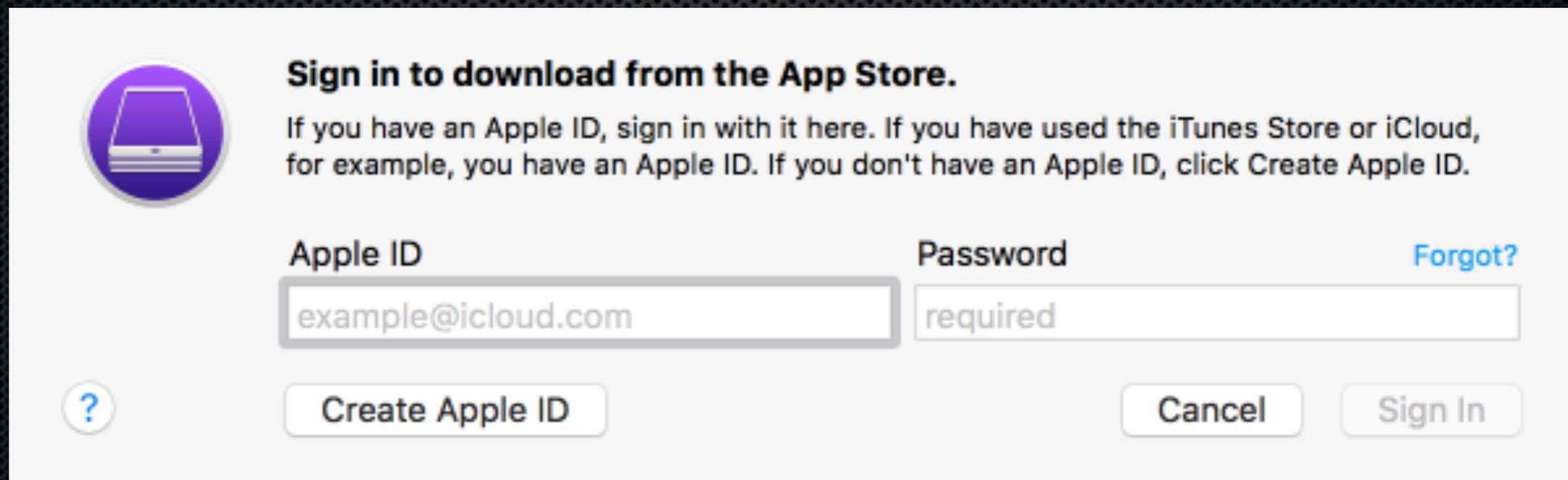
Account Summary

Managed Distribution	Easily assign apps or books to users on iOS 7 or later or on OS X 10.9 or later using a Mobile Device Management (MDM) solution, such as the latest version of Apple Profile Manager. If you have an MDM solution, you can download a token which can be used to link your MDM solution with your VPP account. Once linked, you can invite users, assign apps and books, and revoke and reassign apps directly through your MDM solution. This token will expire after one year or after a password reset.	Download Token
Latest Purchase	Dec 09, 2015 Stack the Countries™ Quantity: 15	View Purchase History ▶

Volume Purchase Program (VPP)

Sync with Configurator

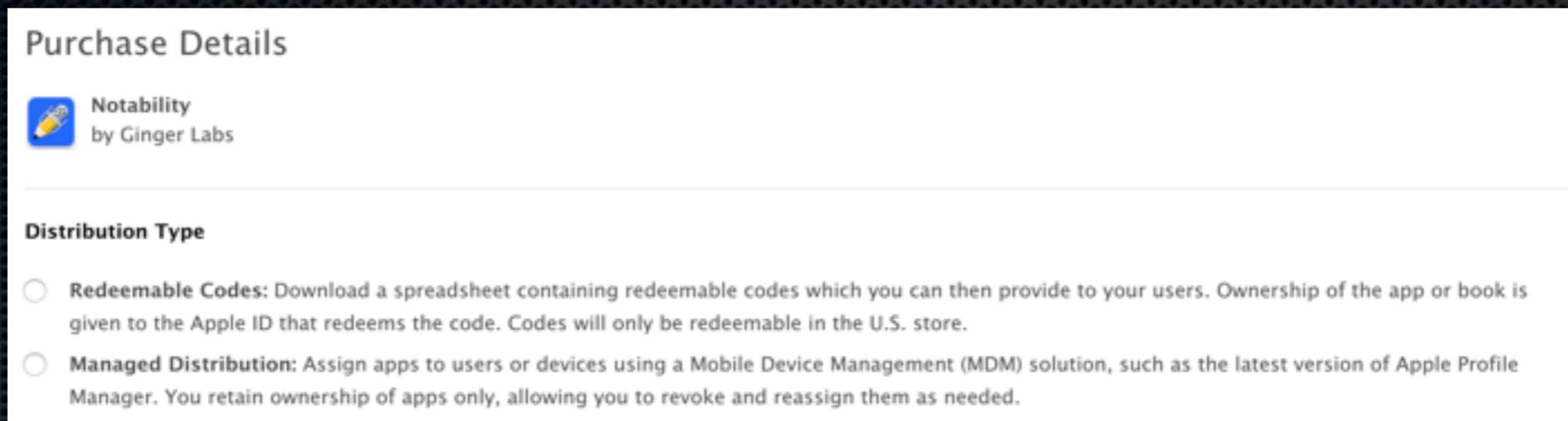
- Log into your VPP account in Configurator to access Managed Distribution apps.



The screenshot shows a sign-in dialog box with a purple laptop icon on the left. The title is "Sign in to download from the App Store." Below the title is a paragraph of text: "If you have an Apple ID, sign in with it here. If you have used the iTunes Store or iCloud, for example, you have an Apple ID. If you don't have an Apple ID, click Create Apple ID." There are two input fields: "Apple ID" containing "example@icloud.com" and "Password" containing "required". A blue link "Forgot?" is next to the password field. At the bottom left is a question mark icon. At the bottom are three buttons: "Create Apple ID", "Cancel", and "Sign In".

Volume Purchase Program (VPP)

Purchasing Apps



- **Redeemable Codes:** Apps delivered as a spreadsheet of one-time use codes. The codes are permanently attached to the Apple ID that redeems them.
- **Managed Distribution:** Apps can be assigned to an Apple ID or Device, and then revoked later. (MDM/Configurator 2)

Volume Purchase Program (VPP)

Managed Distribution

- **User Based:** Assigned via apple ID, available on any device that Apple id is associated with. (MDM)
- **Device Based:** Assigned based on device - only can be used on that device. (Configurator 2)

iOS 9.3 - Education is focus

Apple School Manager

- New site - better/easier than deploy.apple.com
- Adds “Managed Apple IDs” and Classes

Shared iPad

- Multiuser iPad
- Student login (w/picture), data cached and synced

Classroom App

- Teacher App to manage classroom use
- “Consolidate” classroom management apps
 - Screensharing



Apple School Manager

- <https://help.apple.com/schoolmanager/>



Apple IDs for Students

Put a fork in them,
Use Managed Apple IDs

What is a Managed Apple ID

Apple IDs owned by you

- Create:
 - Import accounts from your Student Information System (SIS)
 - Upload accounts from a .CSV file, or manually
- What can't they do
 - App Store (allow browsing but not purchasing, paid or free)
 - iTunes Store (allow browsing but not purchasing, paid or free)
 - HomeKit connected devices
 - Touch ID
 - Apple Pay
 - Find My iPhone
 - Find My Mac
 - Find My Friends
 - iCloud Mail
 - iCloud photo sharing
 - iCloud Keychain
 - FaceTime (can be enabled for your institution)
 - iMessage (can be enabled for your institution)

Profile Manager

Apple's MDM - Built into OS X Server App

Features

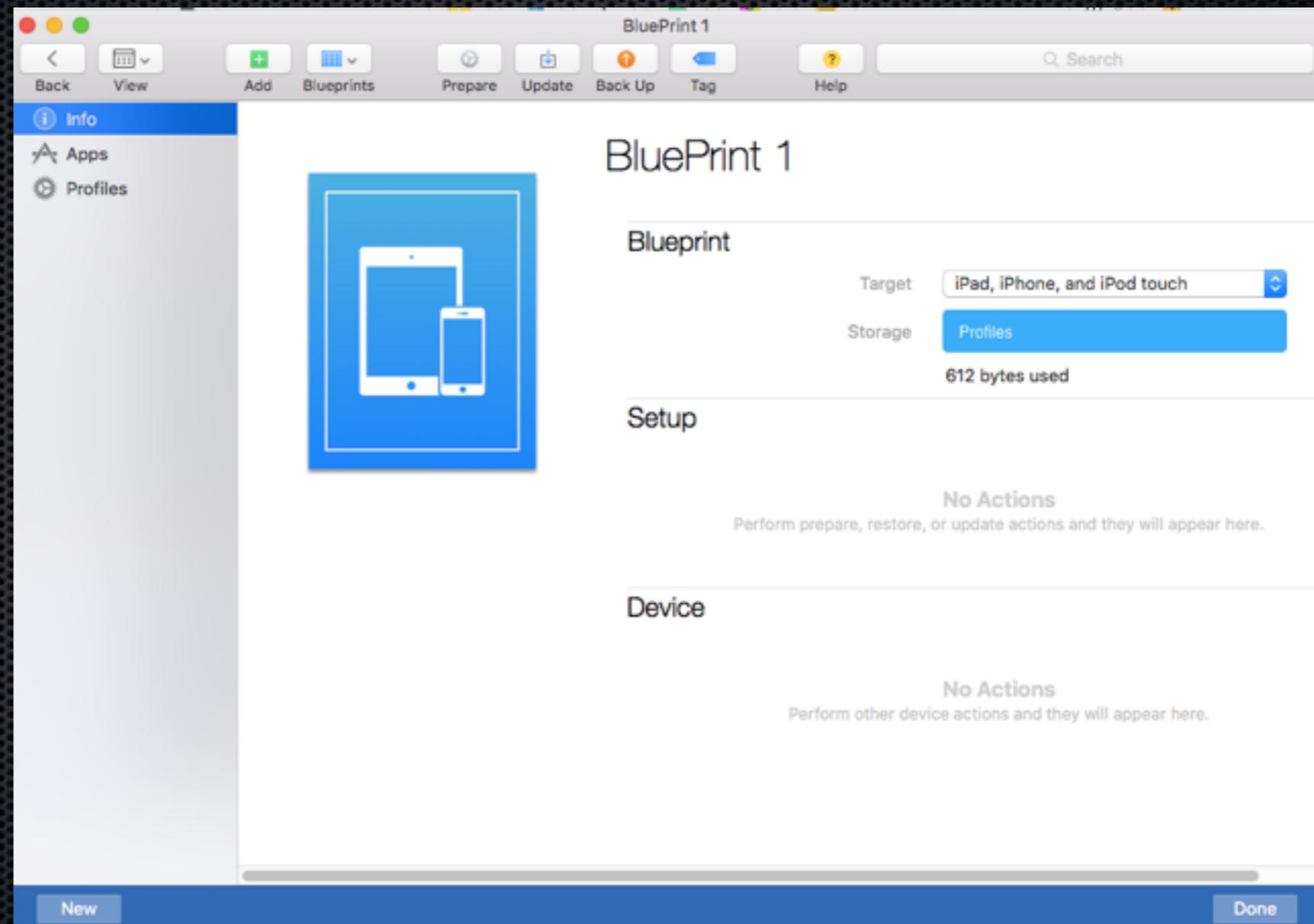
- Links with DEP and VPP
- Policy Setting
- Set Security Restrictions
- Assign Apps
- Inexpensive (if you have a machine to host.)



Configurator 2

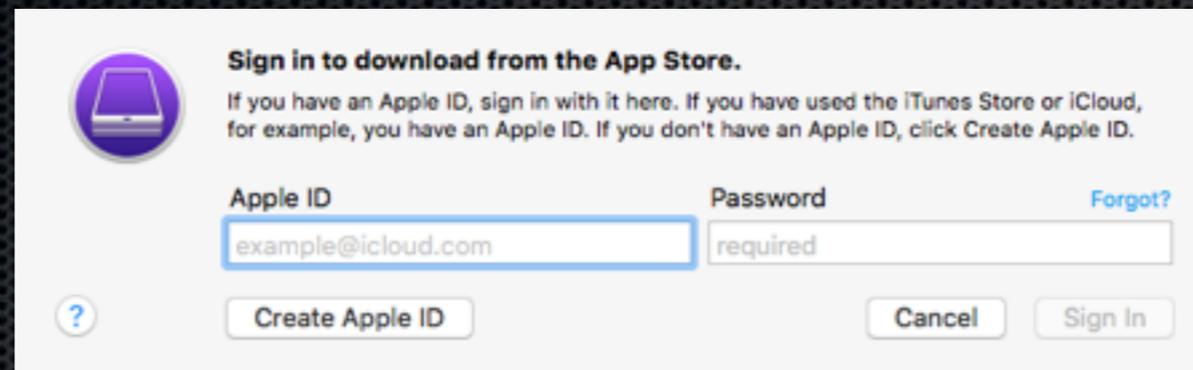
Updates in Apple Configurator 2

- Interface
- Blueprints
- Links with Apple Deployment Programs (DEP and VPP)



Configurator 2

Managed Distribution



The screenshot shows a dialog box titled "Sign in to download from the App Store." It contains a text input field for "Apple ID" with the value "example@icloud.com" and a "Password" field with the placeholder text "required". There is a "Forgot?" link next to the password field. At the bottom, there are three buttons: "Create Apple ID", "Cancel", and "Sign In".

- Links to VPP directly, no more iTunes.
- Migrate redemption codes to VPP
 - Business: <https://www.apple.com/support/itunes/vpp/>
 - EDU: <https://www.apple.com/support/itunes/vpp-edu/>
 - Migrates all apps, and is **one way process**
- Link VPP Account in Configurator 2
- Assign and Revoke Apps

Deployment Scenarios

- Shared Devices Model:

Configurator - Managed Distribution - Device Based Assignment

- 1:1 Device Model:

MDM - Managed Distribution - User Based Assignment

3rd Party Options

- **Mobile Device Management:** MDM suites manage the whole device, that includes remote lock and wipe capability, policy enforcement, and data tracking.
- **Mobile Content Management:** MCM focuses on secure document management through authentication, authorization, and access. Users gain access to content based on usernames, passwords, IP address, and mobile device authentication.
- **Mobile Application Management:** MAM focuses on securing access and actions of applications rather than entire devices. MAM provisions, controls, monitors, updates, and removes applications from a user's device.

3rd Party Options

Points to consider

Features:

- Single or Multi Platform
- Security?
- Reporting levels?
- Scalability?
- Size of your organization?
- Cost?
- Who are your users?

– AirWatch

– MobileIron

– MaaS360

– JAMF

– Casper & Bushel

– Meraki System Manager

– Filewave

– AbsoluteManage

– Centrify

3rd Party Options

Airwatch

- **Initial Rollout:** Easy when using the paid setup assistance.
- **Pricing:** High per device cost.
- **Supports:** Mac, Windows, Chrome OS, iOS, Android and Blackberry
- Tiered "Management Suites"
- Good for BYOD programs- easy enrollment.



3rd Party Options

MobileIron



- **Pricing:** Tiered levels, fairly inexpensive per/device
- **Supports:** Mac, Windows, iOS and Android
- Scalable for large fleets or large BYOD programs
- Excellent security profiles
- Content Management

3rd Party Options

MaaS360



- **Initial Rollout:** Fast initial deployment
- **Pricing:** Inexpensive per/device for MDM, can purchase additional tools if desired.
- **Supports:** Mac, Windows, iOS, Android, Blackberry
- Easy to use interface

3rd Party Options

JAMF - Casper



- **Initial Rollout:** Lot's of support through Jumpstart program, but expensive at start.
- **Pricing:** Dependent on #s, discounts for Education
- **Supports:** Mac, iOS
- Great customer support team
- High focus on Education customers and features

3rd Party Options

JAMF - Bushel



- **Initial Rollout:** Easy setup
- **Pricing:** Inexpensive
- **Supports:** Mac and iOS
- Good for smaller rollouts
- Now supports blueprints!
- Easy to use interface, good for anyone.

3rd Party Options

Meraki System Manager

- **Pricing:** Free for 100 devices or less. Per device cost is high.
- **Supports:** Mac, Windows, Chrome OS, iOS, Android, Windows phone and Blackberry
- Ties into Cisco Meraki systems
- Used to be a free service, but now only Enterprise version receives updates.



3rd Party Options

Filewave



- **Pricing:** Inexpensive for Edu
- **Supports:** Mac, Windows, iOS and Android
- Works with institution owned or BYOD programs
- Offer site licenses as well as per device pricing.
- Can manage multiple OS through a single UI

3rd Party Options

Absolute Manage



- **Pricing:** Dependent on package
- **Supports:** iOS, Windows Phone, and Android
- Excellent inventory and reporting system
- MDM is an Add-on option to main software package

3rd Party Options

Centrify



- **Pricing:** Per/user pricing (up to 5 devices) for MDM
- **Supports:** Mac, iOS, Android, Samsung Android
- Identity Management & MDM Combined into one.

Resources

- ADP: <https://deploy.apple.com/>
- ADP Help: <http://help.apple.com/deployment/programs/>
- iOS 9 Deployment: <http://help.apple.com/deployment/ios/#/apd5b9e6434f>
- Migrate VPP codes: <https://support.apple.com/en-us/HT202863>
- Configurator 2: <https://help.apple.com/configurator/mac/2.1/>
- MDM Comparison: http://enterpriseios.com/wiki/Comparison_MDM_Providers

Questions?



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