

Break

Restart at 11:00am

- Tweet using @mactech or #MacTechPro
- SSID: **Westin Meeting**
Choose “**Access Code**” tab
Enter Access Code: **mactech2018**
(Note: all lower case)

Marc Grayson

iCloudMainFr@me.com

Marc is the Apple Product Manager of the Apple Support and Development Team at Montefiore Medical Center.

- Supported Apple Products for 16+ years
- Industry speaker since 2012
- Following the MDM / EMM space for 8 years
- Architected Enterprise Implementations of AirWatch and Maas360
- Evaluated countless other MDMs.
- Owner of most Apple Service Accounts



Native NY'er, recovered PC user and just visited the mothership.



Find me:



Mac Admins as @macad

Imaging Is Dead.

No more cloning.

Now What?

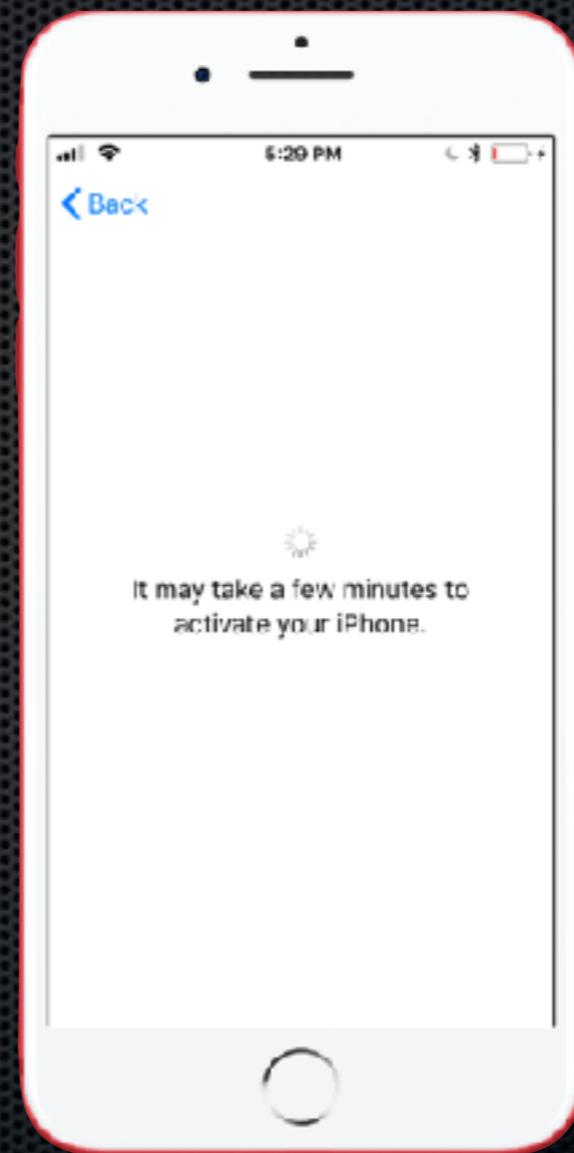




“Apple T2 chip includes a **Secure Enclave** coprocessor that provides the foundation for **secure boot** and encrypted storage capabilities.”

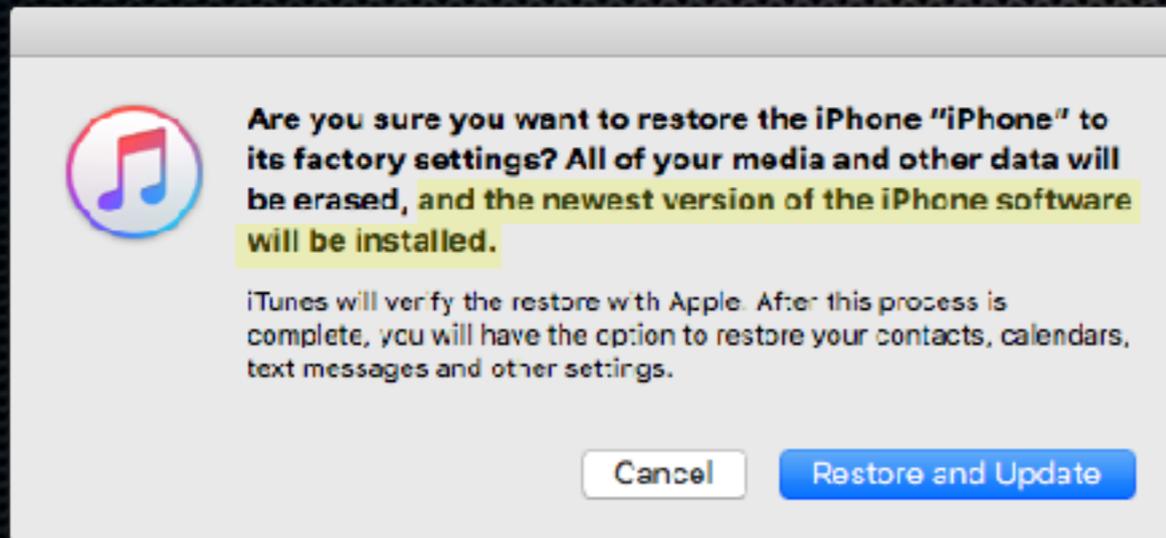


“And **secure boot** ensures that the lowest levels of software aren’t tampered with and that **only operating system** software **trusted by Apple loads** at startup.”





- iOS = Activate with Apple Servers or Wait
- iTunes, Apple Configurator, Wifi, Cellular

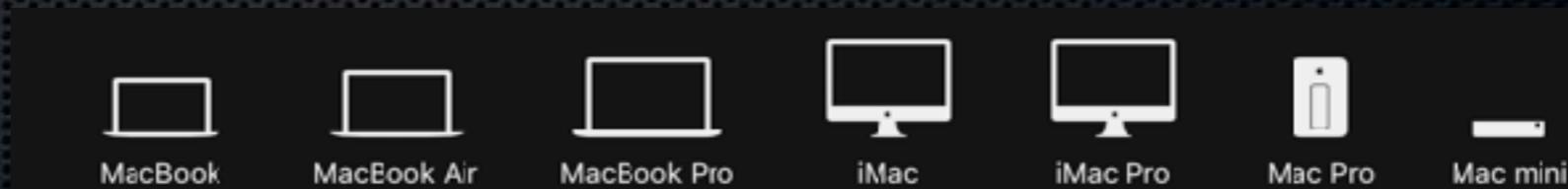




Mac Pro (2017)



13" and 15" MacBook Pro (2018)



How to: Imaging



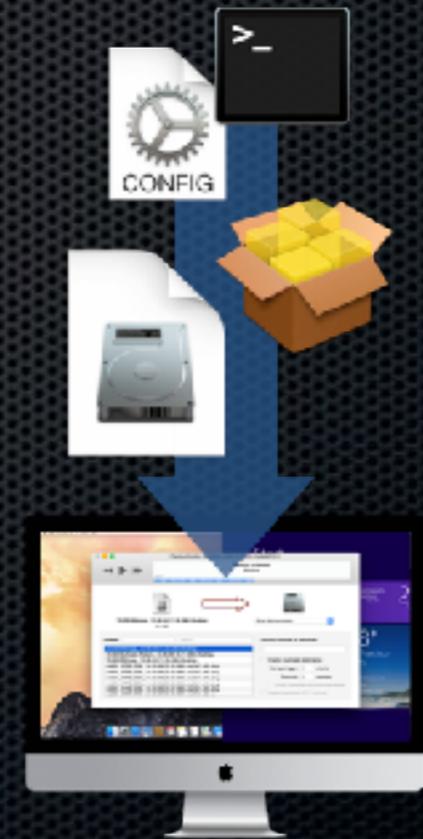
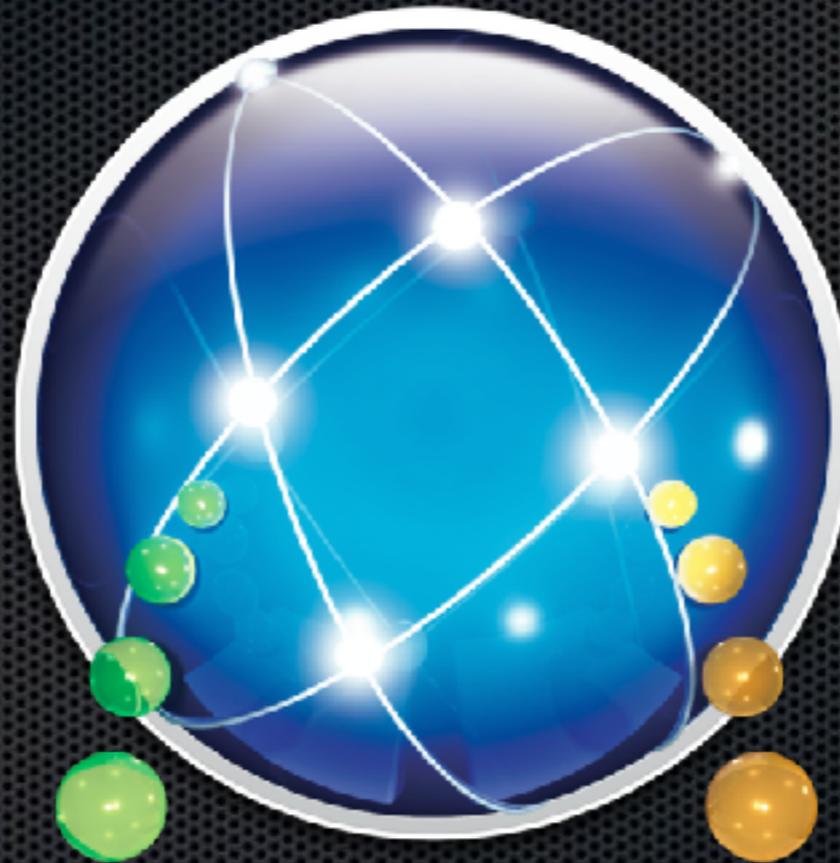
How to: Imaging



How to: Imaging



How to: Imaging



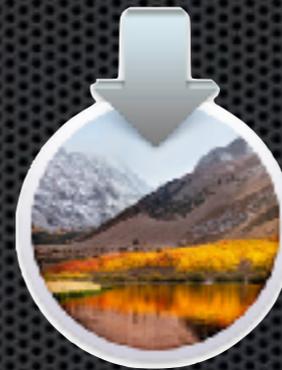
Is Imaging Dead?

~~No~~ not yet

Is Imaging Dead?



+



Is Imaging Dead?



1st Boot

=



How to: Imaging



Minority Report Imaging

How to: Imaging



Minority Report Imaging

Deployment Options

- Apple School / Business Manager (DEP / VPP)
- Apple Configurator
- Mobile Device Management
 - JAMF Pro
 - AirWatch
 - Maas360
 - Meraki
 - FileWave
 - Everyone Under the Sun



Apple DEP



Apple DEP

Device Enrollment Program (DEP) allows devices ordered through Apple resellers or direct from Apple to automatically have MDM activated and supervision enabled.



Apple DEP

Allows for device supervision to be enabled without ever connecting the device to a macOS.



Apple DEP

Manual enrollment of iOS devices, and tvOS devices available through Apple Configurator once you have a DEP account with Apple.



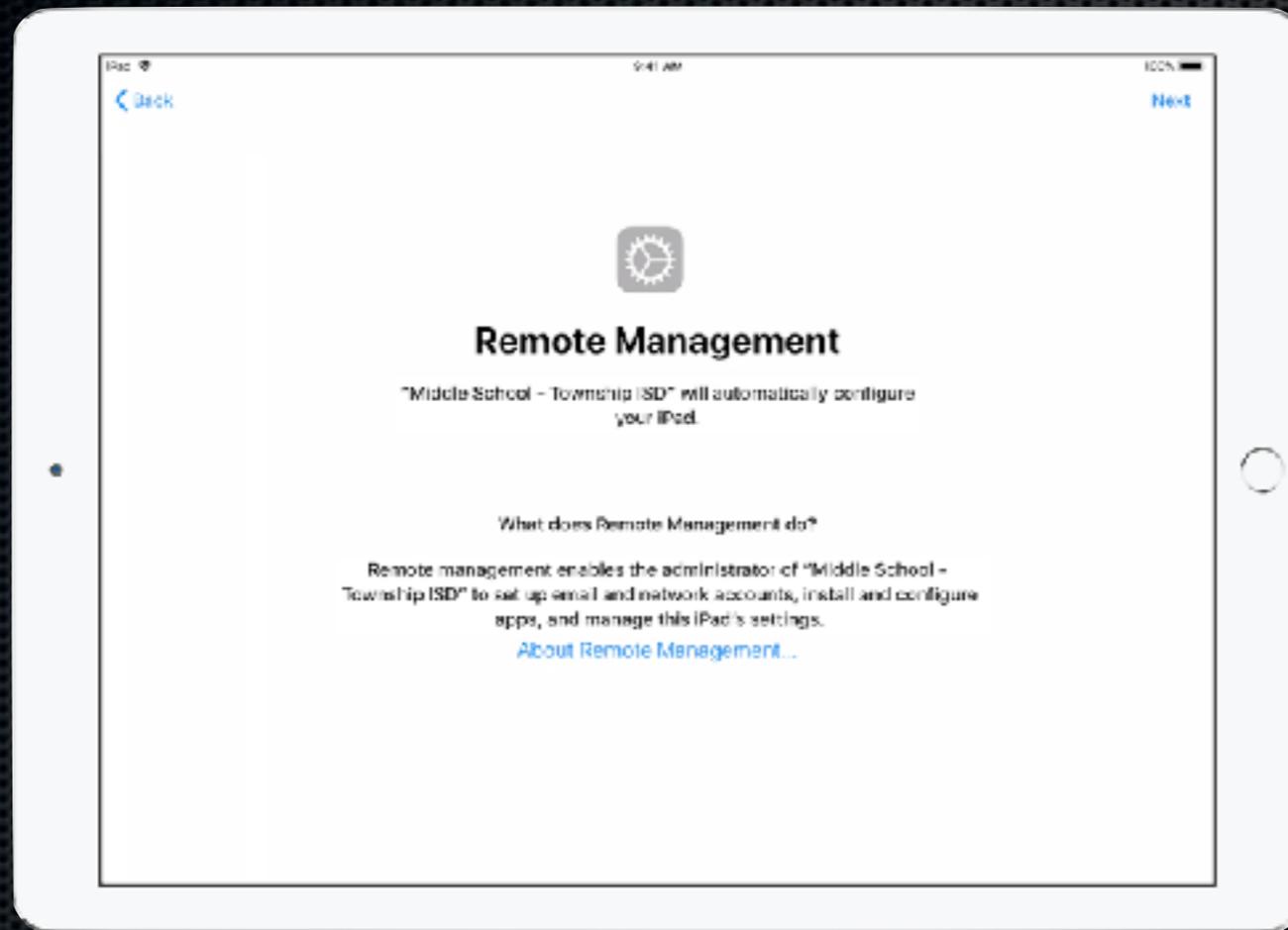
Apple DEP

Zero touch configuration for IT means reduced overhead IT costs and faster to-the-desk delivery of new devices.

Zero touch configuration limited by your choice in Mobile Device Management solution, and skill implementing said solution, including creation of third party package installers, scripts, etc...



Apple Support Article



Apple Support Article

[https://support.apple.com/en-us/
HT204142](https://support.apple.com/en-us/HT204142)



Apple VPP



Apple VPP

Volume Purchase Program (VPP) allows for the purchasing of App Store based apps from a single account for distribution to users and devices through a mobile device management solution, or through Configurator if iOS.



Apple VPP

Includes all apps available through the Apple App Stores for iOS and macOS.

Apps can be distributed to users via invitation and acceptance with a personal or managed AppleID, or to device via device serial number.



Benefits of Apple VPP

Admins control the licenses, not the users.

App licenses may be revoked or “clawed back” by admins for use by other users or other devices.

Apps may be purchased and if MDM is used to deploy, apps may be “pushed” over the air

If device assignment is used, installation happens with zero user interaction.



Disappointments of Apple VPP

Books purchased through VPP must be assigned to users, no device based assignment.

Books do not enjoy the “claw back” feature.

Books assigned to managed AppleID’s (students) are permanently attached to those AppleID’s even though the ID will likely be retired upon matriculation.

So...buy a book once per user at least.



Where is it?

<https://volume.itunes.apple.com/>



Apple Support Article

<https://support.apple.com/en-us/HT207867>



Volume Purchase Program

CoreQuick \$0.00
D-U-N-S# 022313299

purchasing+vpp@corequick.com

[VPP Home](#) > [Account Summary](#) > [Purchase History](#)

Purchase History

[Refresh Purchase History](#)

Order Date	Order	Name	Type	Quantity	Total	
Nov 05, 2016	MV0Y9914K7	Microsoft OneNote	Mac App	5	Free	Managed Licenses
Nov 05, 2016	MV0Y99T4K7	Microsoft Word	iOS App	5	Free	Managed Licenses
Nov 05, 2016	MV0Y9914K7	iBarcoder Lite - barcode generator	Mac App	5	Free	Managed Licenses
Mar 22, 2015	MHQ8J36K7K	Algebra Explained c. 1 Order of Op...	iOS App	1	Free	Managed Licenses
Mar 22, 2015	MHQ8J36K7K	Wolfram Algebra Course Assistant	iOS App	5	\$9.95	Managed Licenses
Feb 21, 2015	MHQ8518Z9F	Edmodo	iOS App	10	Free	Managed Licenses
Jan 21, 2015	MHQ7QVWB9G	Quick Fractions	iOS App	5	\$9.95	Download Codes
Jan 21, 2015	MHQ7QVWB9G	Quick Fractions	iOS App	1	\$1.99	Download Codes
Nov 25, 2014	MHQ72LF80N	Afterlight	iOS App	1	\$0.99	Download Codes
Nov 02, 2014	MHQ6TK1NQV	CoPilot GPS - Car Navigation & Offl...	iOS App	5	Free	Managed Licenses
Aug 24, 2014	MHQ60H3LNK	Biology and Human Body Anatomy ...	Mac App	10	Free	Managed Licenses
Aug 24, 2014	MHQ60H3LNK	Lynda: Learn New Skills with Onlin...	iOS App	1000	Free	Managed Licenses
Mar 24, 2014	MHQ4KV32XN	proVPN VPN Free VPN, protect yo...	iOS App	2	Free	Managed Licenses
Mar 24, 2014	MHQ4KV32KN	Angry Birds Go!	iOS App	5	Free	Managed Licenses

Setting Up Apple Managed Systems



 **School**

Manage your institution's devices, apps,
and accounts.

Apple ID 

Remember me

[Forgot Managed Apple ID or password?](#)

[Not yet an Apple School? Enroll now.](#)

 **Business**

Manage your organization's devices,
apps, and accounts.

Apple ID 

Remember me

[Forgot Managed Apple ID or password?](#)

[Not yet an Apple Business? Enroll now.](#)

Apple School Manager

VPP and DEP rolled into one solution

Add the ability to import users from a school Student Information System via direct connect or SFTP upload (see your SIS for compatibility)

iTunes U integration



Apple Business Manager

Apple took what they learned deploying ASM into Education, and created Apple Business Manager.

VPP and DEP in one place

No Managed Apple ID's, no Directory Integration (aside from admins and managers, no user management at all)

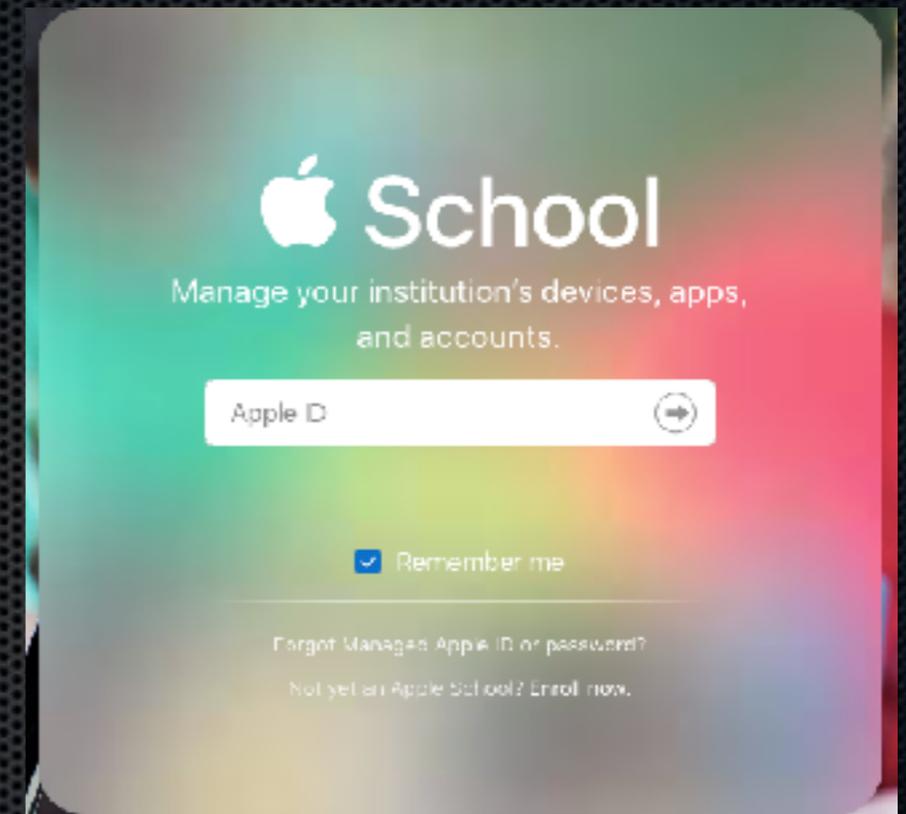
No iTunes U integration



Where are they?

Apple School Manager

<https://school.apple.com>



Apple Business Manager

<https://business.apple.com>

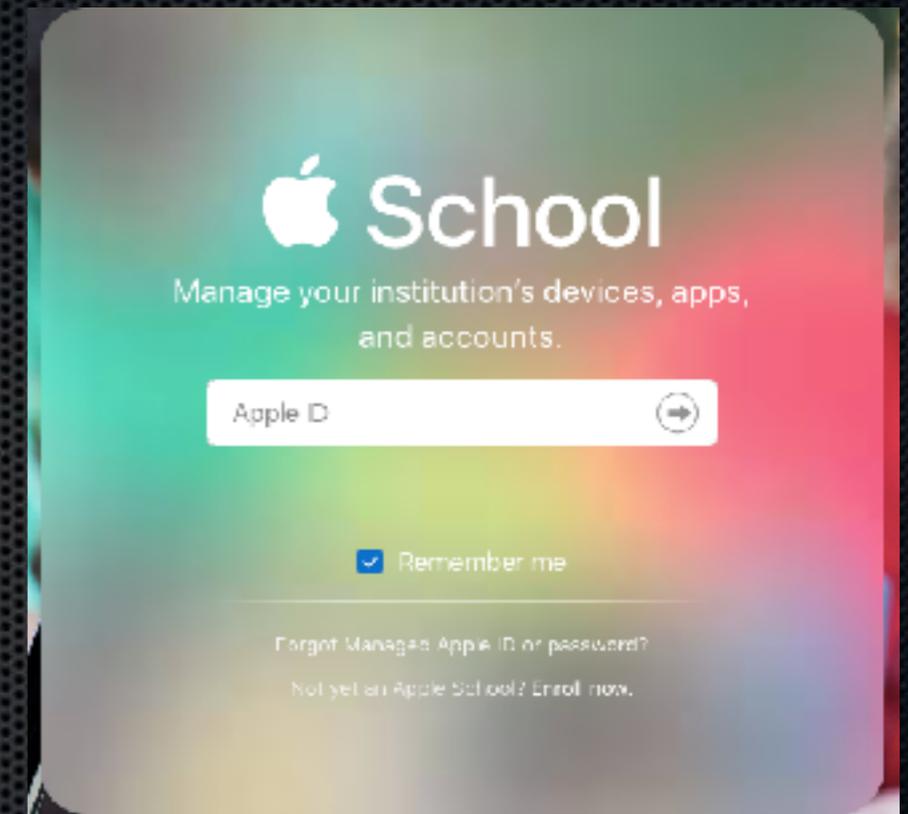


How to use?

If you haven't already set your customer up with VPP or DEP, you will want to start at one of these two pages depending on school or business status.

There is a link right on this page to sign up if you don't have an account.

Instructions are clear, just follow them. No preparation necessary.



What Do I Need?

- No need to prepare before following the links, but as you go through the process you will be asked to create or find the following:
 - A dedicated Apple ID
 - DUNS Number
 - DEP Reseller ID Number, if you purchased devices to be managed from someone other than Apple directly
 - Apple Customer Number if you purchased devices to be managed from Apple directly

DUNS Lookup

- DUNS Website:
 - <https://fedgov.dnb.com/webform>
- If you are a member of the Apple Developer Prog
 - <https://developer.apple.com/enroll/duns-lookup/#/search>

NOTICE Apple Developer Program use <https://developer.apple.com/enroll/duns-lookup/#/search> and for FDA please use <https://www.fda.gov/downloads/ForIndustry/ImportProgram/EntryProcess/ImportSystems/UCM483667.pdf> ***NOTICE*** PLEASE USE IE AND ENABLE JAVASCRIPT WHEN USING WEBFORM.

- Begin D-U-N-S Search/ Request Process
- About the D&B D-U-N-S Number
- Frequently Asked Questions (FAQ)
- D&B, SAM, Grants Contacts
- D&B's Privacy and Data Policy
- Accessibility

Welcome to the D&B D-U-N-S Request Service for US Federal Government Contractors and Assistance Awardees

Dun & Bradstreet (D&B) provides a D-U-N-S Number, a unique nine digit identification number, for each physical location of your business.

D-U-N-S Number assignment is FREE for all businesses required to register with the US Federal government for contracts or grants.

Click here to request your D-U-N-S Number via the Web. If one does not exist for your business location, it can be created within 1 business day.

For technical difficulties, contact SAMHelp@dnb.com

Spam-blockers and other security features on your computer or network could block our email responses which may include your DUNS Number. Please ensure that you are able to receive emails from SAMHelp@dnb.com. Adding SAMHelp@dnb.com to your address book may help prevent our emails from being inadvertently blocked.

The screenshot shows a web browser window with the URL `developer.apple.com/enroll/duns-lookup/#!/search`. The navigation bar includes links for Discover, Design, Develop, Distribute, Support, and Account, along with a search icon and a 'Sign Out' link. The main heading is 'Look up your D-U-N-S Number'. Below it, a paragraph explains that users should check if their organization has a D-U-N-S Number assigned by Dun & Bradstreet, or if not listed, they can submit information for a free one. At the bottom left, the text 'Organization Information' is partially visible.

Look up your D-U-N-S Number

Before enrolling, look up your organization to see if you have a D-U-N-S Number. Dun & Bradstreet may have already assigned one to you. If your organization is not listed, you'll have the option to submit your information to D&B for a free D-U-N-S Number.

Organization Information

Some common DEP Reseller ID's

ATT: 722D390

Verizon: 19DA1870

Sprint: FA49BB0

Apple School

Institution
Activity
 Locations

People
Accounts
Classes
 Roles

Devices
MDM Servers
 Device Assignments
 Assignment History

Content
Apps and Books
iTunes U

Add New MDM Server Marc ▾ ?

- Devices Added by Apple Configura...**
0 Devices
- ds22.airwatchportals.com**
34 Devices
- Maas360 Production**
1,299 Devices · Default Server for Apple T...
- Maas360 Test**
1 Device



Maas360 Production

1,299 Devices · Default Server for Apple TV, iPad, iPhone, iPod, and Mac


[Upload Key](#)


[Get Token](#)


[Edit](#)

Name
Maas360 Production

Last Date Connected
9/26/2018, 8:00 AM

Last IP Connected
 [REDACTED]

Apple School Search Devices

Manage Devices

Choose how to assign, unassign, or release devices

1. Choose Devices

Serial Number Order Number Upload CSV File

Serial Numbers

CT23456

2. Choose Action

Perform Action

- ✓ Choose Action
- Assign to Server**
- Unassign Devices
- Release Devices

Apple Configurator



USB connected iOS and tvOS deployment

Apple Configurator

Enable Supervision on Mobile Devices.
(supervision default in future)

Install Apps from VPP/ASM/ABM

Build and Install Mobile Config Profiles
without an MDM

Easy iOS & AppleTV deployment without
MDM

Update OS and Apps on Devices if not
managed by MDM



Apple Configurator

Can be used to initiate device enrollment into DEP enabled iOS devices

Efficient way to update iOS on iPads and iPhones pre-enrollment into DEP

Erase and Reset device in Configurator

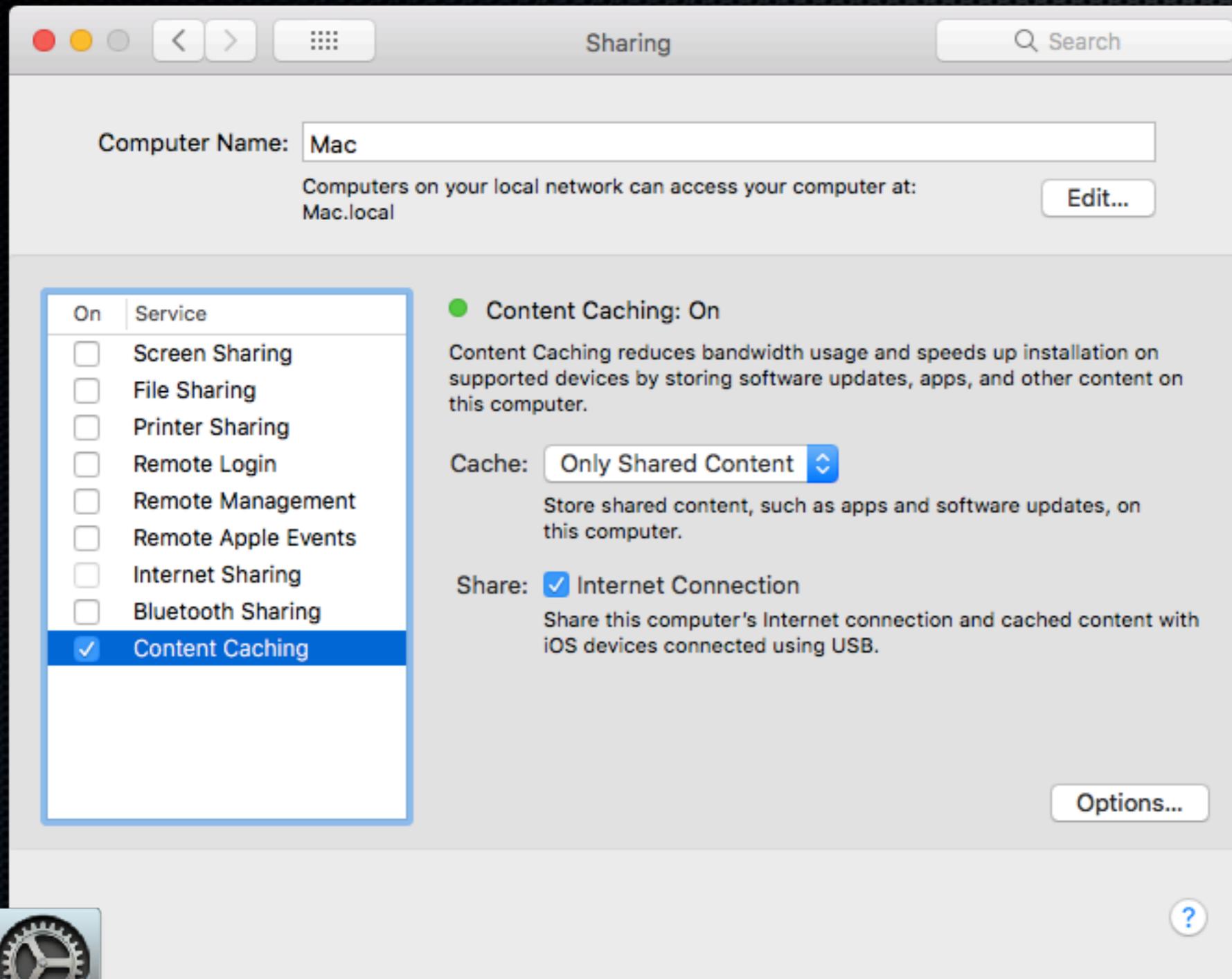
Update OS

Prepare Device on Automatic

Wait for MDM to push everything else



Apple Content Caching



Apple Content Caching

Couple Apple Content Caching and Network Sharing to provide a locally cached USB to Ethernet connection to devices to avoid using Wifi when MDM pushes apps during initial setup.

Apple support Article:

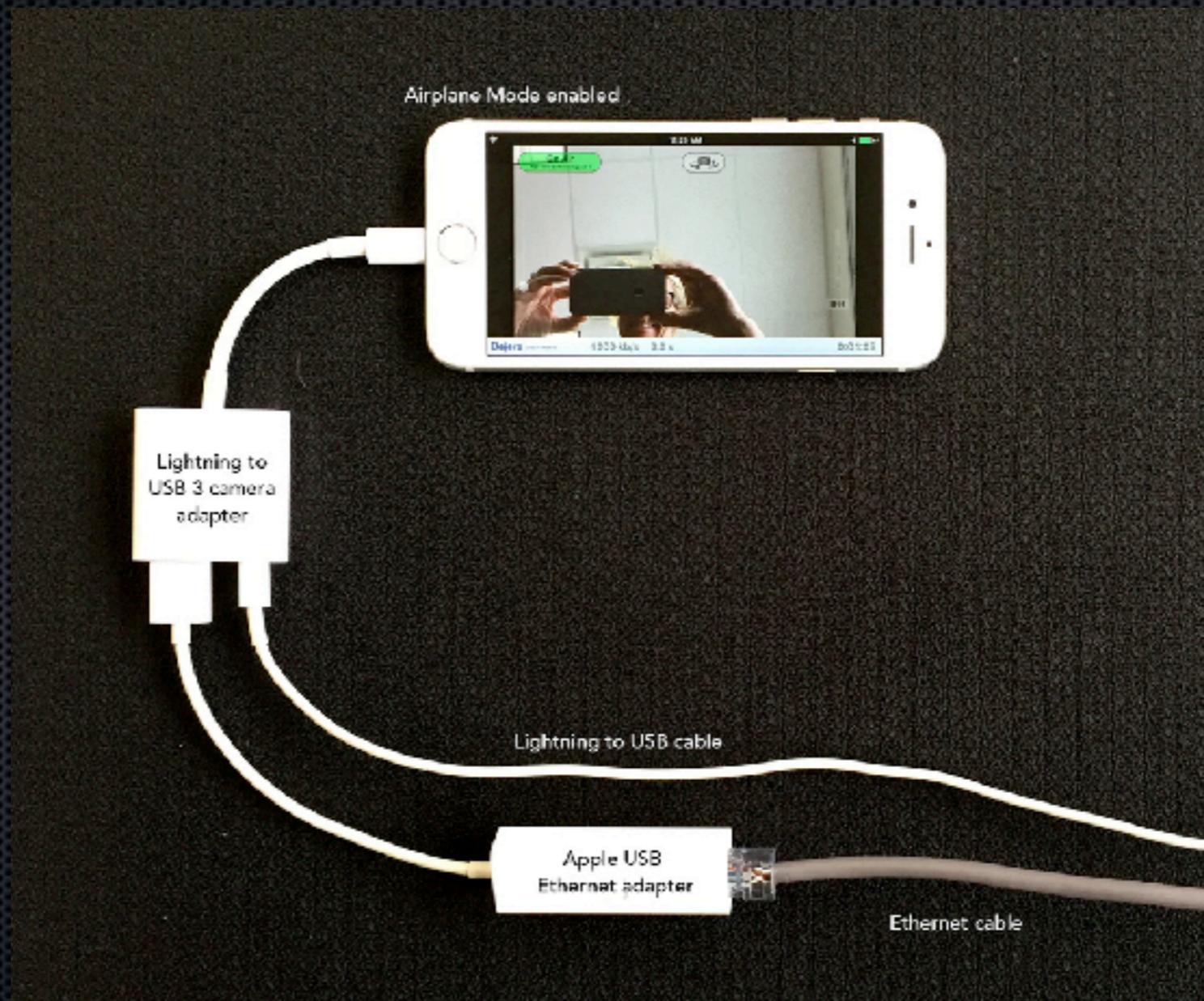
<https://support.apple.com/en-us/HT208025>

man tethered-caching



Apple Content Caching

USB to Ethernet connection to devices to avoid using Wifi



MDM Options

Profile Manager

Apple's option is Profile Manager, but that is part of Server and Server has been eviscerated little by little over the years.

Apple's own internal people recommend not using Profile Manager in a production environment

Think of Profile Manager as a reference platform that Apple uses to show MDM vendors how Apple would implement the UI for different management API's they release with new versions of iOS, macOS, tvOS and who knows what next...

MDM Options

JAMF Pro

If you don't know what to do, don't have time to research what is best for your organization and want to make a choice nobody can question, you choose JAMF

Reputation as the Gold Standard for many years for Imaging, which they capitalized on expertly to lend credibility to their MDM offering. Imaging is still part of their offering

Their JAMF Nation community is used by EVERYONE

<https://www.jamf.com/request-trial/>

MDM Options

AirWatch

If you have to manage a whole lot of iOS alongside other platforms that are maybe not of the fruity variety, AirWatch is going to be your choice.

Many large deployments, they scale. Well.

Education specific tools for the classroom are nice.

<https://portal.vntestdrive.com/>

MDM Options

IBM Maas360

2nd largest MDM with the power backing of IBM

Highly focused on using their Watson Engine to highlight noncompliant devices

0 Day support Apple's MDM protocols

[https://www.ibm.com/account/reg/us-en/signup?
formid=urx-30629](https://www.ibm.com/account/reg/us-en/signup?formid=urx-30629)

Resources

Mac Deployment PDF from Apple:

https://www.apple.com/business/resources/docs/Mac_Deployment_Overview.pdf

iOS Deployment PDF from Apple for Business:

https://www.apple.com/business/resources/docs/iOS_Deployment_Overview_for_Business.pdf

Apple Training:

https://training.apple.com/us/en/courses/ios/ios_deployment_workshop

https://training.apple.com/us/en/courses/ios/ios_deployment_essentials

Questions?

Marc Grayson

iCloudMainFr@me.com



Mac Admins as @macad