



# AUTOMATA

Technology Services LLC

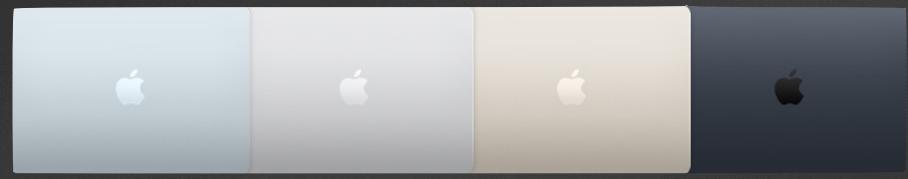
## Apple Device Management Framework

# Introduction to Device Management

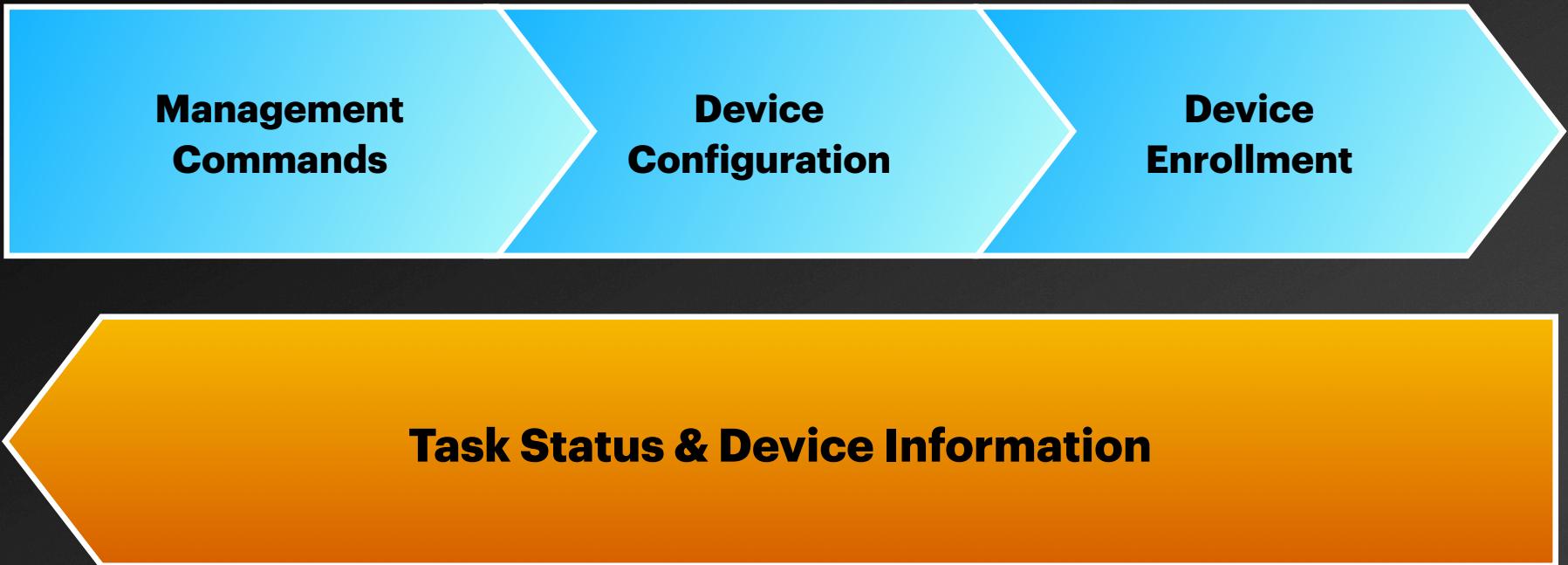
Lecture

# What is MDM?

- Mobile Device Management (MDM)
- Also known as Device Management Service (DMS)
- Required for Managing Devices at Scale
- Manages Devices “Over the Air”
- Supports both Organization-Owned and User-Owned Devices



# What Is MDM ?



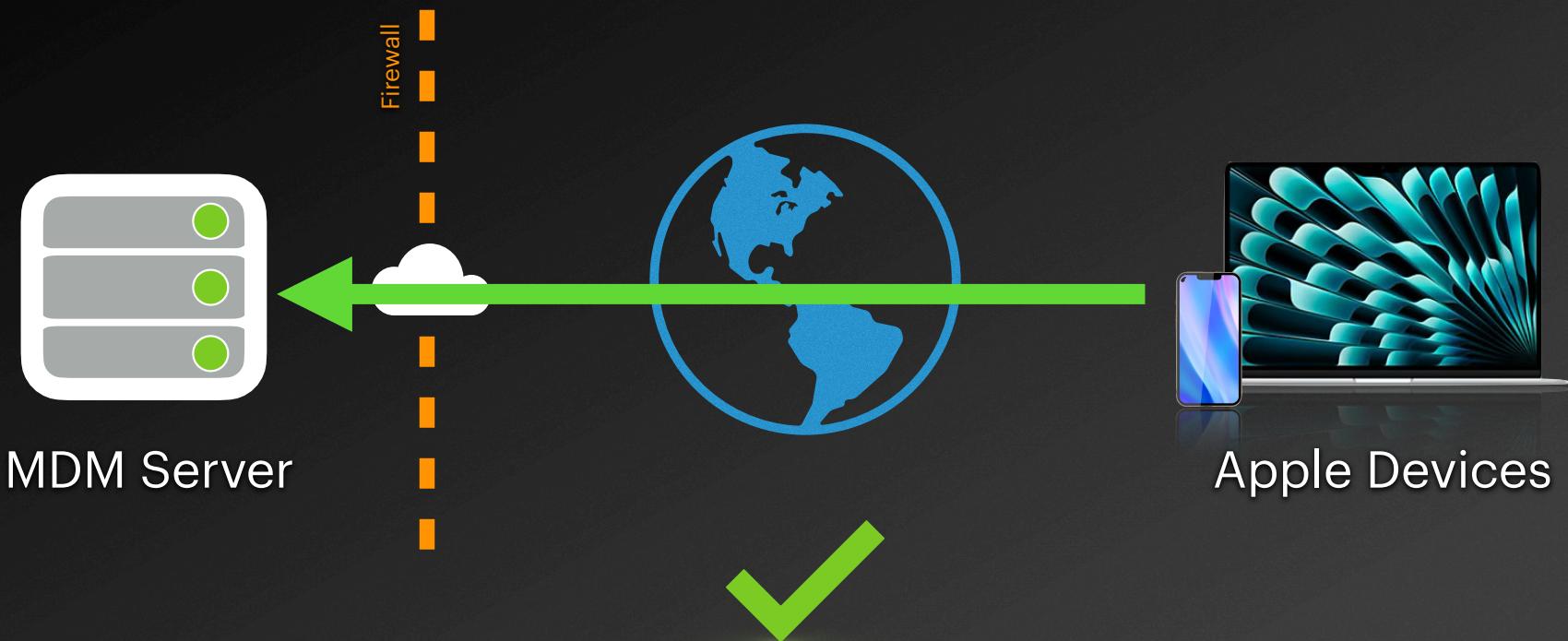
# Apple Device Enrollment

Lecture

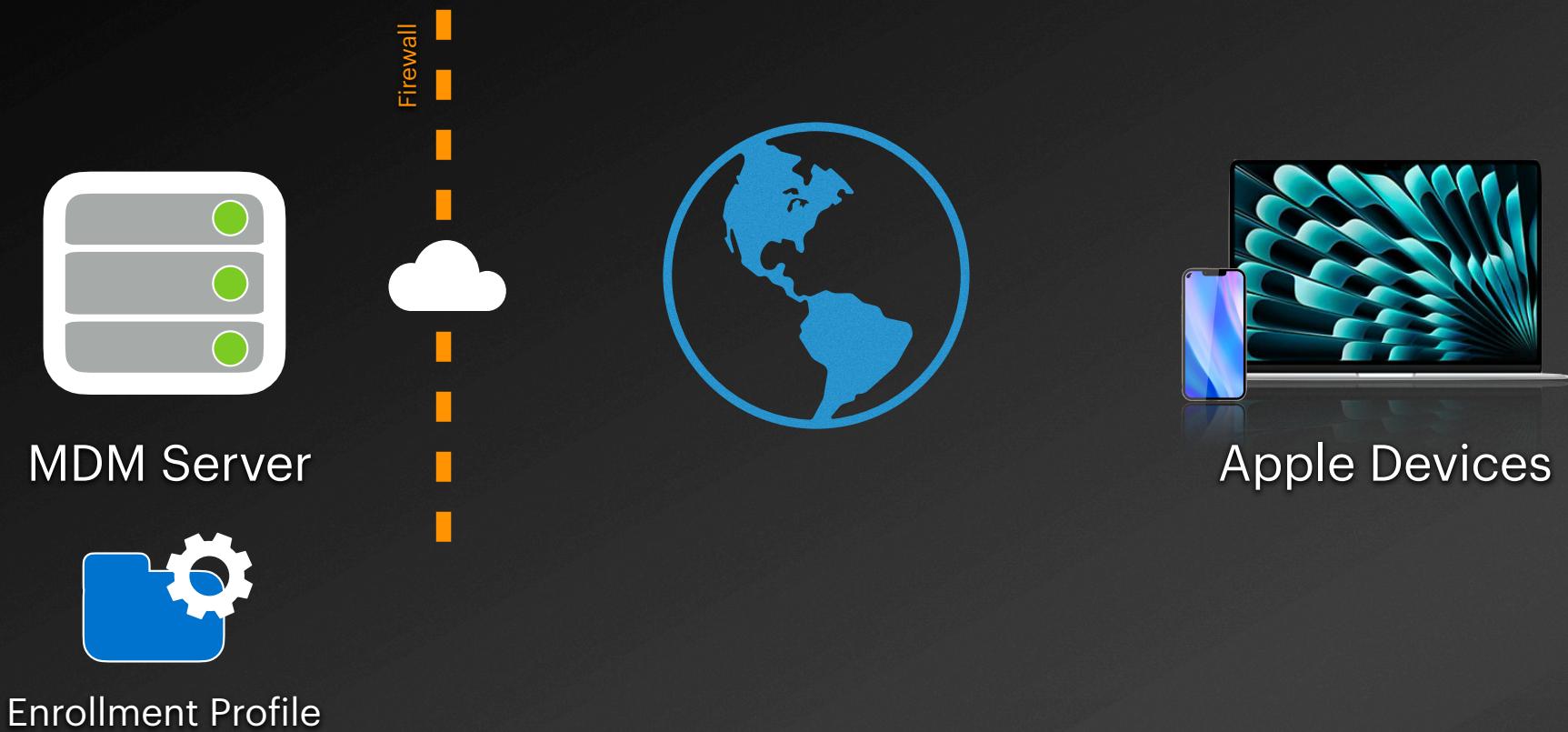
# Device Enrollment



# Device Enrollment



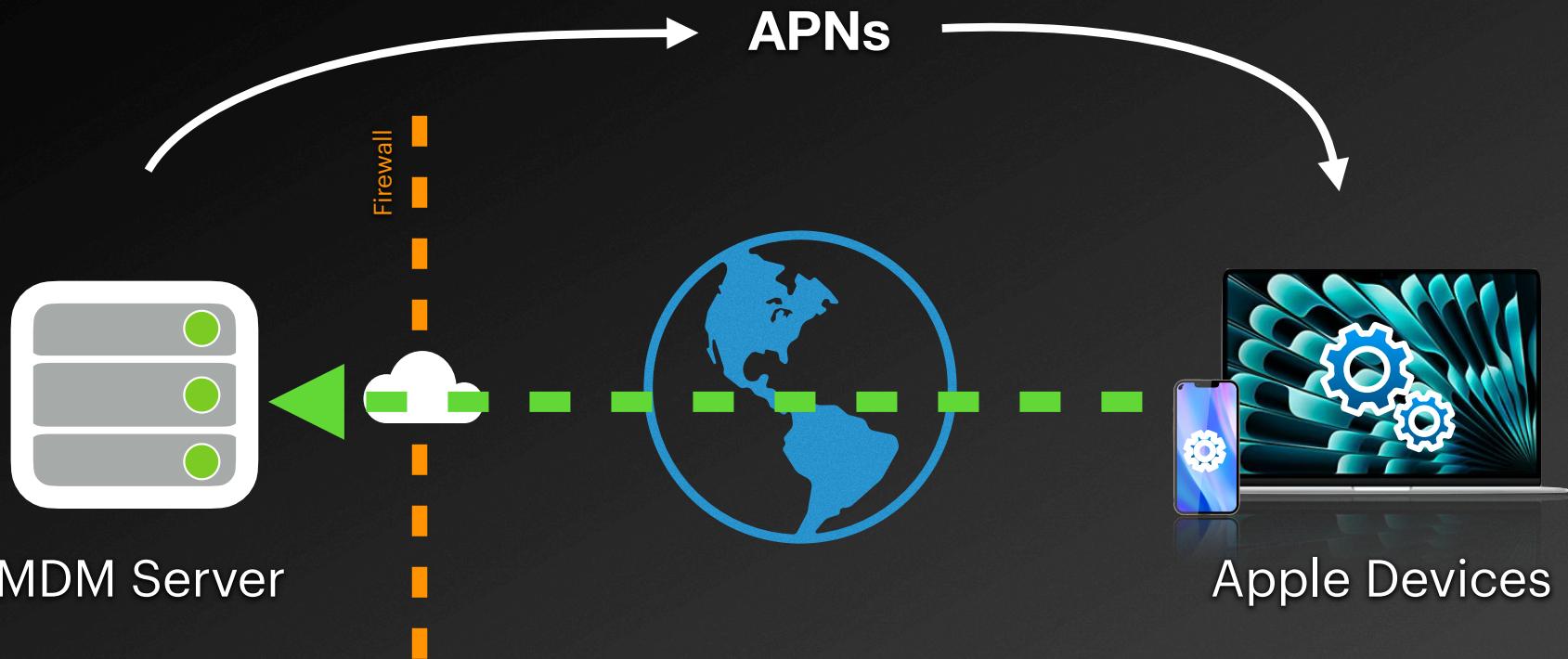
# Device Enrollment



# Device Enrollment



# MDM Communication



# MDM Certificates

- MDMs require a number of installed certificates on the device to work correctly.
  - Apple Push Notification certificate
  - Secure Socket Layer (SSL) certificate
- Other certificates as required by the DMS/MDM solution.



# Apple's MDM/DMS Framework

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# Features

- Every MDM solution that supports Apple devices utilize the Apple MDM Framework.
- Enables...
  - Device Enrollment & Management
  - Device Configuration
  - Device to Server Communication (Secure)

**Note: Not all MDM/DMS vendors implement all of the framework features. Read the MDM vendor's documentation for details.**

# Categories

**Configuration  
Profiles**  
(payloads)

**Restrictions**

**Commands**

**Queries**

Detailed in the *Apple Platform Deployment Guide*

# Apple's MDM Protocol

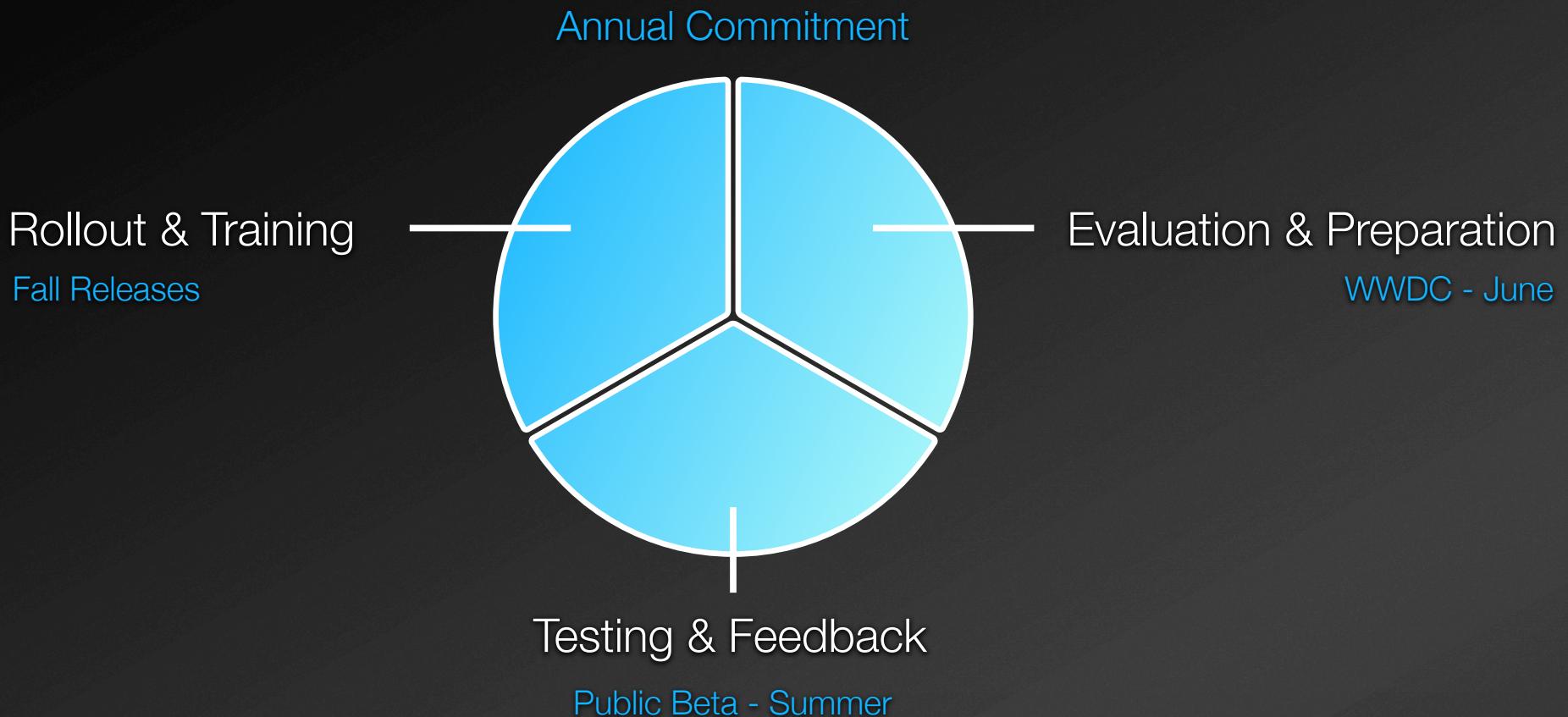
- Built into every Apple operating system.
- The protocol is what allows a device to respond to an MDM command and take action. It's essentially an API.
- Key functions enabled by the protocol include:
  - Enabling device management, assignment, and enrollment.
  - Configuration, commands, queries, and status reports.
  - Declarations, check-in, and content management.

# Profile Payloads

- Payloads are specific configuration settings that are applied to a device through DMS/MDM.
- OS Specific.
- Payloads should be stacked or combined to create a curated end-user experience.
- The full MDM payload spec listing can be found in the Apple Platform Deployment guide.
- Each DMS/MDM names their payloads differently.



# Apple Platform Lifecycle



# Declarative Device Management

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# Declarative Device Mgmt

New



Async



Status



Quiet



MDM Spec



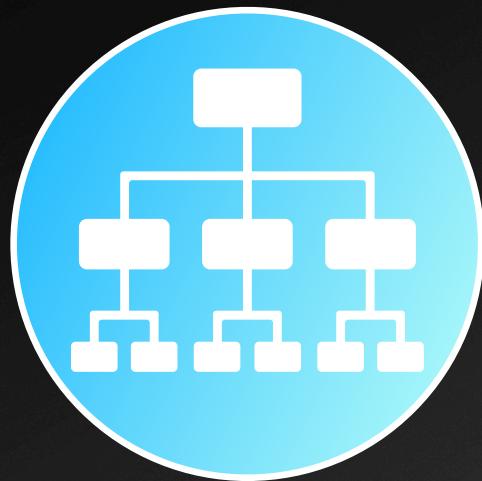
# MDM Communication



# Apple Device Ownership Models

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# Ownership Models



**Organization Owned**



**User Owned**

# Ownership Models



## Organization Owned

- Organizations purchase devices.
- Automated Device Enrollment and Device Enrollment options.
- Device Supervision.
- Restrictions on management removal.

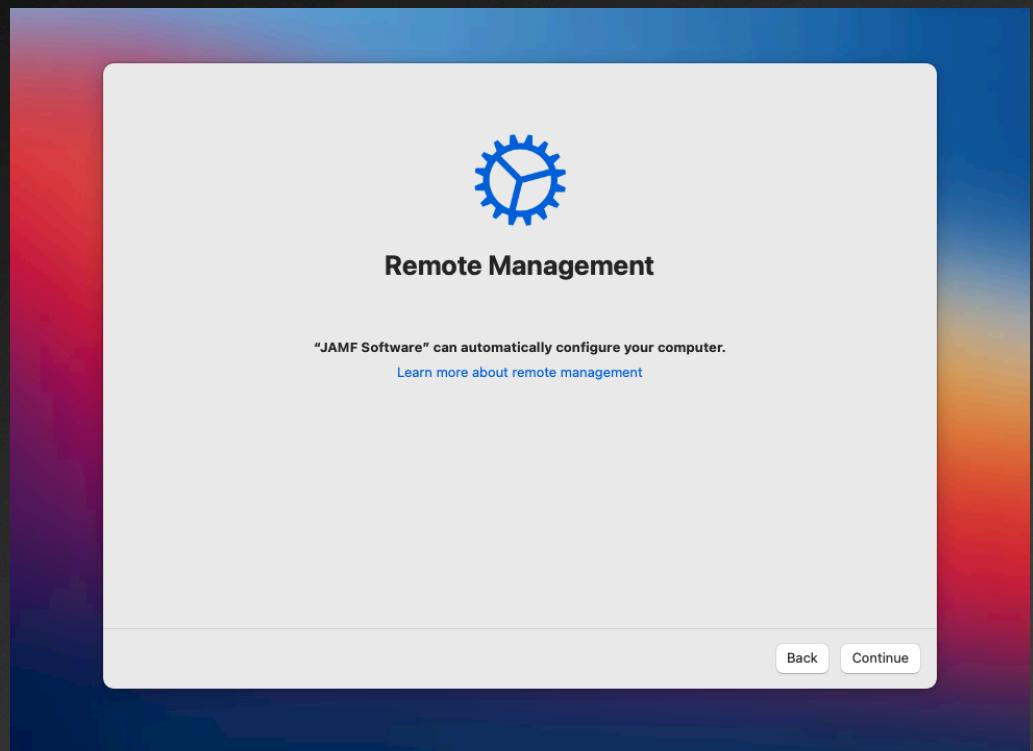


## User Owned

- Bring Your Own Device model (BYOD).
- User Enrollment only.
- Limited set of management payload options available.
- Management can be removed by the end-user.

# Device Enrollment Options

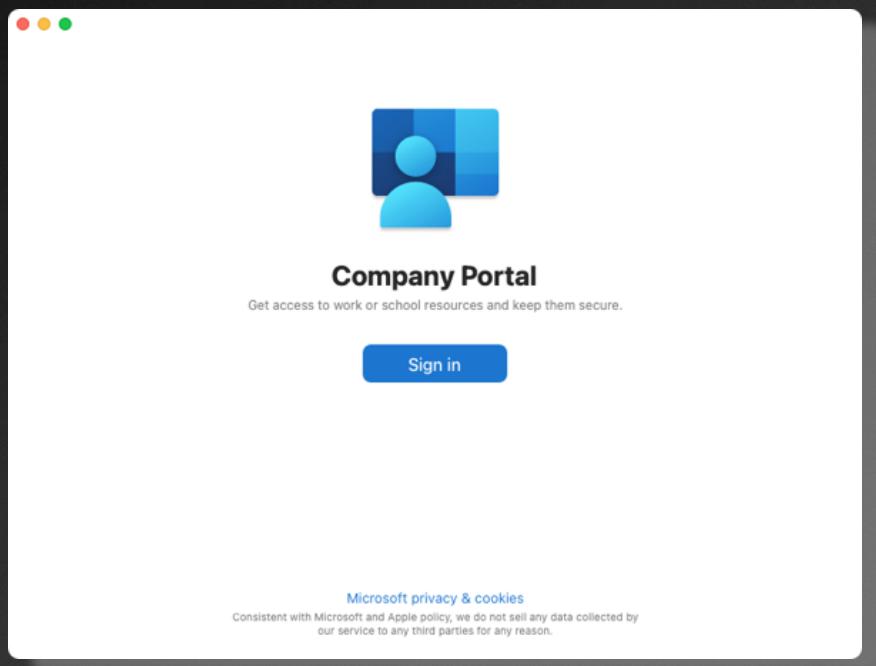
- **Automated Device Enrollment**
  - Devices Automatically Enroll in Management via Setup Assistant.
  - Enables 'Zero Touch' Configuration.



# Device Enrollment Options

- **Device Enrollment**

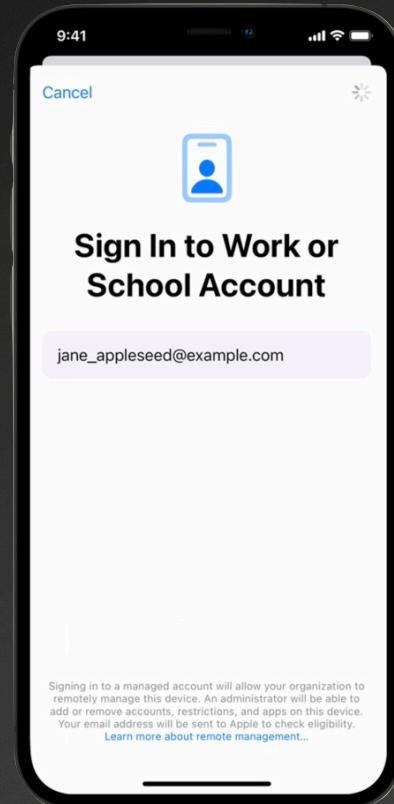
- Manually Installed.
- Useful for devices already in use or those not eligible for Automated Device Enrollment.



# Device Enrollment Options

- **User Enrollment**

- End-Users enroll via Self Service process.
- Utilizes a Managed Apple Account.



# Personalization Strategy



## Personally Enabled

Assigned to a specific user (1:1).



## Non-Personalized

Multiple users sharing the same device.



## Shared iPad

Multiple users share but each device is personalized.