AUTOMATA

Technology Services

Mobile Device Management (MDM)

How MDM Works
Apple's MDM Framework
Device Ownership
Planning for Device Enrollment

Introduction to MDM

Lecture

What is MDM?

- Mobile Device Management (MDM)

- Consistent, Scalable management solution across many different kinds of devices.

- Allows you to configure both user-owned and organization-owned devices through wired, Wi-Fi, and cellular network connections.

- At a high level, MDM solutions enroll devices into a management organization, pushes configurations and commands to remote devices and also receives info back from the devices on task status and state.
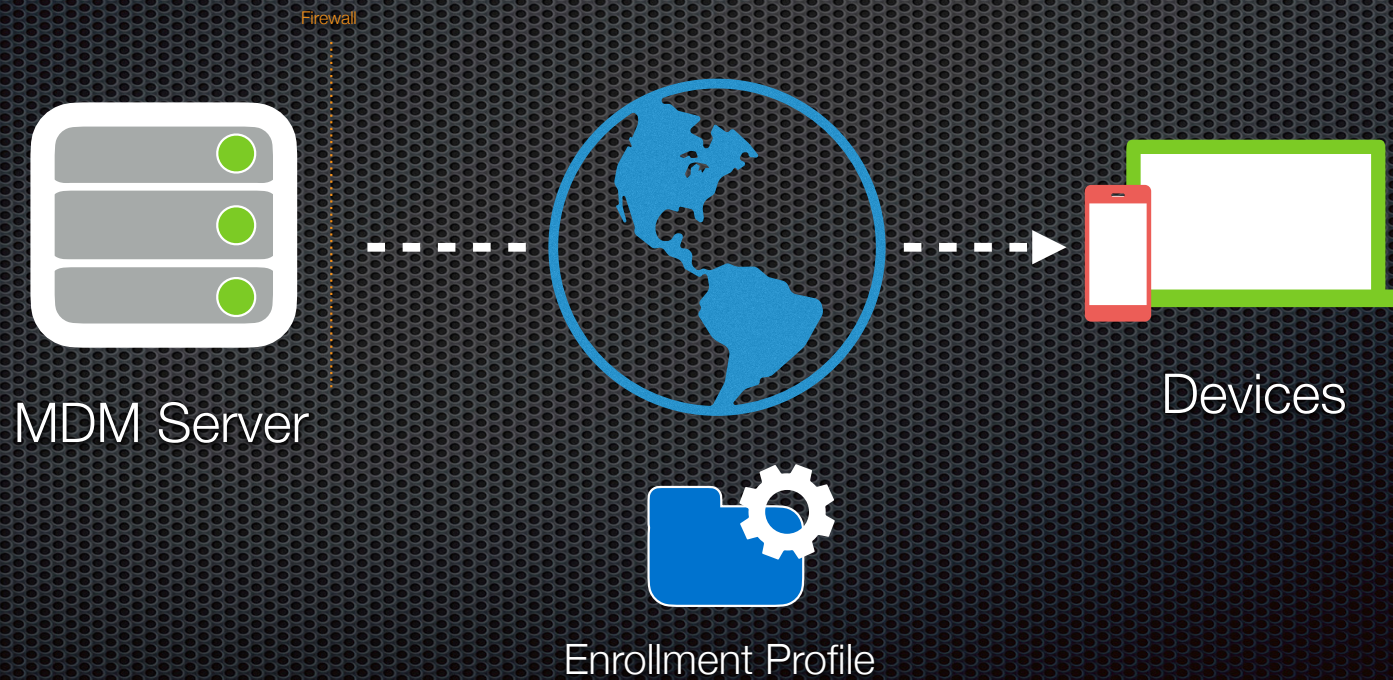
Device Enrollment
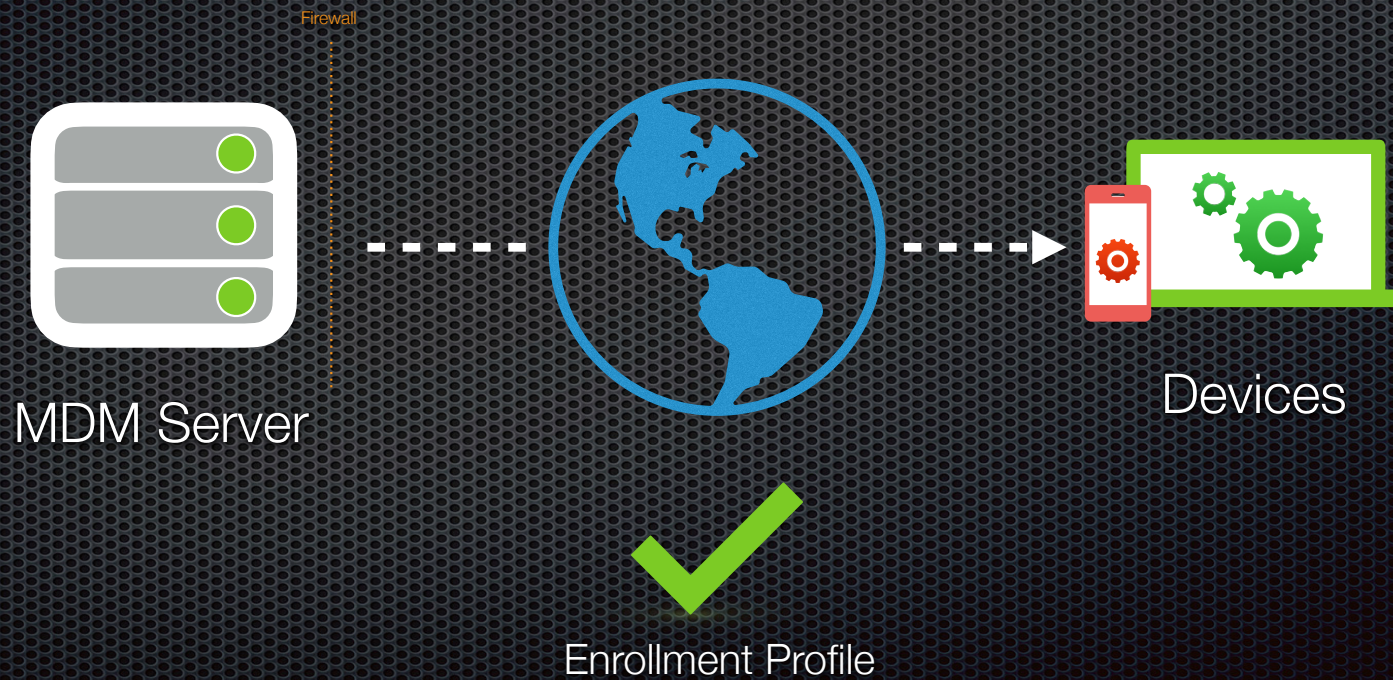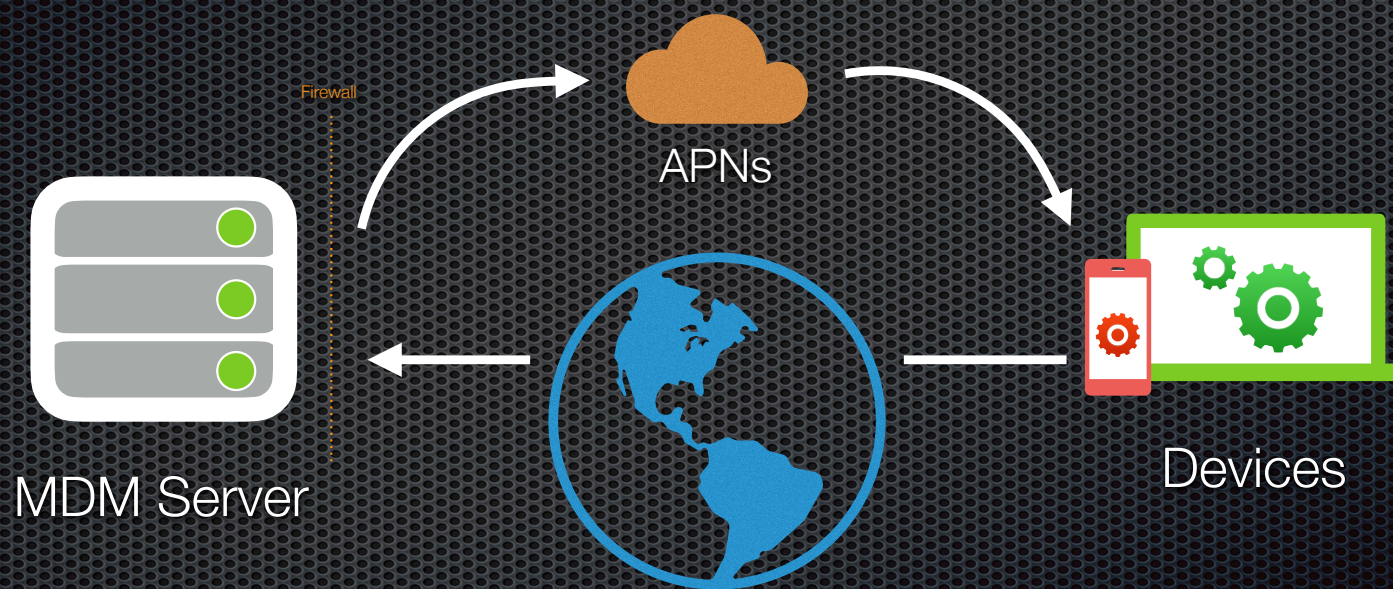
Lecture

Device Enrollment

Firewall

MDM Server

Devices

Device Enrollment

Firewall

MDM Server

Enrollment Profile

Devices

Device Enrollment

Firewall

MDM Server

Enrollment Profile

Devices

Push Notifications (APN)

Firewall

APNs

MDM Server

Devices

MDM Certificates

- MDMs require a number of installed certificates on the device to work correctly.

    - Apple Push Notification certificate

    - Secure Socket Layer (SSL) certificate

- You may see other certificates or profiles on a managed device just needed to establish a management baseline.

Declarative Management

Lecture

Declarative Device Mgt

- New type of mobile device management protocol.

- Uses declarations from the MDM server to asynchronously update device settings.

- Uses a status channel from the client to the server to proactively provide updates.

- Not as 'chatty' as the traditional APN approach.

- Must be supported by your MDM vendor.

Apple's MDM Framework

Lecture

Features

- Every MDM solution that supports Apple devices, utilize the Apple MDM Framework.

- Enables -

  - Device Enrollment/Management

  - Device Configuration

  - Device to Server Communication

- Not all MDM vendors implement all of the framework's available features. Review the MDM vendor's documentation for details.

Features

- Categories of MDM Settings -

  - Configuration Profiles (payloads)

  - Restrictions

  - Commands

  - Queries

- Read Apple Platform Deployment Guide in Resources.

Apple's MDM Protocol

- Built into every Apple operating system.

- The protocol is what allows a device to respond to an MDM's command and knows what to do.

- Key functions enabled by the protocol include:

  - Enabling device management, assignment, enrollment.

  - Configuration, commands, queries, status reports.

  - Declarations, check-in, content management.

Profile Payloads

- Payloads are the specific configuration or restriction settings that are applied to a device through MDM.

- Payloads can be OS specific and not all payload are supported on all operating systems.

- Payloads can be stacked/combined to create a curated experience for all of your end-users.

- Payloads are detailed in the Apple Platform Deployment guide and we'll use several of them through out this course.

- Payloads are named differently depending on MDM solution.
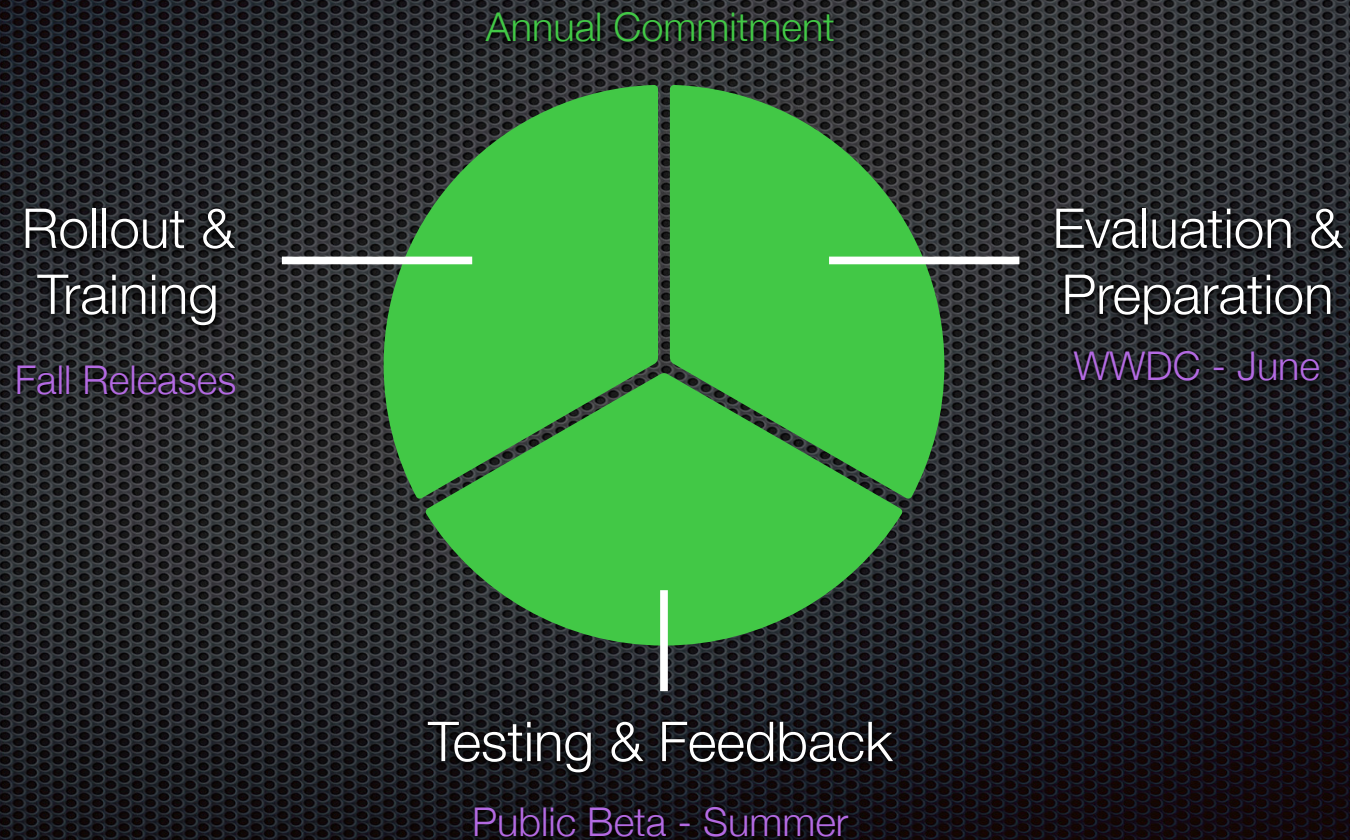
Ownership Models

Lecture

Ownership Models

Organization Owned

- Organizations purchase devices.

- Automated Device Enrollment and Device Enrollment available.

- Devices can be Supervised.

- Supervised Devices restrict the removal of MDM.

User Owned

- Bring Your Own Device (BYOD) model.

- Only User Enrollment is available.

- MDM can be removed by the end-user.

Device Enrollment Options

* Automated Device Enrollment

  * Devices automatically enroll. "Zero-touch".

* Device Enrollment

  * Installed on devices already in use or not eligible for Automated Device Enrollment.

* User Enrollment

  * End-users enroll their own device into MDM using a managed Apple ID or through a profile.

Personalization Strategy

- **Personally Enabled Devices**

  - Device assigned to a specific user (1:1)

- **Non-personalized Devices**

  - Multiple users sharing the same device like a computer lab.

- **Shared iPad**

  - Multiple users share the device, but each user has a personalized experience and their data is stored in iCloud.