Inside the Apple Device Enrolment

build process



What's the point?

- Enables supervisory-level management features
 - Dilenates "company" versus "byod" devices
- "Out of box" deployment of a device, even remotely
- Doesn't require making hardware-specific boot images
- Helps in recovering a lost device¹

The major stages

- 1. Enrollment
- 2. Assignment
- 3. Remote Management
- 4. Bootstrapping MSC

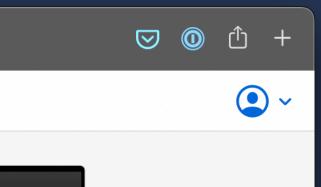
Enrolment

- Performed by the reseller: Tech Shop, CDW, or Apple directly
- Puts the device's serial number in our "pool"
- Typically the most annoying part

Assignment

- Done by the Mac team
- Tells Apple which server to send the device to at setup
- Sorta-kinda like pre-setting a task sequence
- MDM server is given new device serial number; match-making is configured

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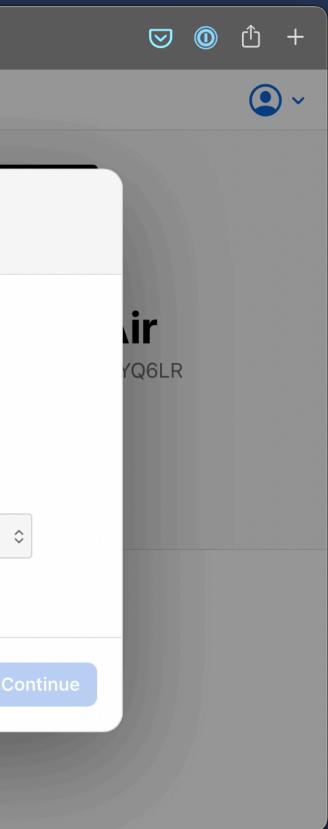
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Remote Management

- At first boot, the Mac reaches out to Apple's match-making server
- If the match-maker knows about the device (enrolled & assigned), it returns a configuration blob with server details
- Can be triggered post-build with profiles renew -type enrollment

Management Payload

profiles show -type enrollment

AwaitDeviceConfigured = 1; ConfigurationURL = "https://jss.euc.it.umich.edu/cloudenroll"; IsMDMUnremovable = 1; IsMandatory = 1;IsMultiUser = 0; IsSupervised = 1; MDMProtocolVersion = 1;OrganizationAddress = "3003 S. State St, 7071 WOTO, , ANN ARBOR, MI 48109";

Remote Management

- Setup is configured to create the UM-Support account
- MDM installs its own tools (jamf and Service Provider Support) and a utility called installapplications

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Bootstrapping MSC

- installapps pulls down a list of initial packages and scripts
- installapps installs and launches DEPNotify, which creates the progress screen you see
- installapps installs Managed Software Center and Izzy client
- Izzy does its initial registration steps
- MSC is started and installs everything else
- profit!

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                           🚾 jamesez — jamesez@styx: /efs/clients/dep — ssh styx — 108×40
jamesez@styx:/efs/clients/dep$ jq . bootstrap-oncampus.json
  "setupassistant": [
    ł
     "name": "DEP Notify",
      "type": "package",
      "file": "/Library/installapplications/depnotify-1.1.6.pkg",
     "url": "https://izzyfile.dsc.umich.edu/clients/dep/pkgs/DEPNotify-1.1.6.pkg",
      "packageid": "menu.nomad.DEPNotify",
      "version": "1.1.6",
      "hash": "afff824c905fce04f4a8b9ce6a3ed13d71f3a61e84ca13aba94ea46bb0dad9fa"
    }
  1,
  "userland":
      "donotwait": true,
      "file": "/Library/installapplications/caffeinate.sh",
     "hash": "da63f80067e35ed2d0f4efb99641dca2ab0a3c6a3ab0044f2c532dd770555802",
      "name": "Caffeinate",
      "type": "rootscript",
     "url": "https://izzyfile.dsc.umich.edu/clients/dep/scripts/caffeinate.sh"
    },
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     "file": "/Library/installapplications/depnotify-on-campus-title.sh",
      "hash": "4c4b37db0d6e8fbf9392ac3eeada1655e78c95a62fa63dd8360530b90850be1d",
     "name": "Trigger Managed Software Center",
      "type": "rootscript",
     "url": "https://izzyfile.dsc.umich.edu/clients/dep/scripts/on-campus-build-title.sh"
    },
      "file": "/Library/installapplications/userscripts/depnotify_user_launcher.py",
     "hash": "693666c34a0c82da5ec0e963c739c65a42f53f9291edc5c78d8358b972fec1f3",
     "name": "Izzy Morsels",
      "type": "userscript",
     "url": "https://izzyfile.dsc.umich.edu/clients/dep/scripts/dep-notify-launcher.py"
    },
     "name": "Managed Software Center",
     "type": "package",
      "file": "/Library/installapplications/munkitools-5.6.3.4401.pkg",
```



ssues

- Match-making misses are stored
- What about Apple Store / BestBuy purchases?





Thanks.