Refurbishment & Lifecycle Management

Refurbishment & Lifecycle Management

Below are the work in progress details of a proposed design for managing lifecycle details on company assets, particularly those which are manufactured and refurbished internally. While I've sketched out details that pertain to all devices with the plan to explicitly map out and account for all lifecycles, the current status only includes a full write-up for Fleet Devices, which are the devices most in need of management. Work continues on honing this document and building processes for more classes of assets. Some details remain to be determined.

Types of Assets

- Fleet Devices
  - RPi Based Manufactured Purpose-Driven Computers
  - V1, V2, SRN, RDS, Timer, etc.

- Manufacturing Inventory
  - Components for Manufacturing
  - Components for Research & Development
  - Components for Refurbishment
  - Cold-Storage Components

- Office Equipment
  - Workstations
  - Desk Phones
  - Peripherals
  - Other Assigned Equipment

- Operations Equipment
  - Cameras
  - Peripherals
  - Networking Equipment
  - Cabling

- Infrastructure
  - Network Architecture
  - IPAM
  - Server Resources

- NAS
- PDU

Lifecycle Verbs

- Build, Manufacture, Prototype
  - Creation of an asset, usually through the consumption of other assets
- Receive
  - Creation of an asset through purchase
- Inspect
  - Set of periodically recorded metrics for identifying incongruities from the ideal device, and changes over time.
    - Dependent on device use case
    - Dependent on device lifecycle stage (post-manufacturing, post-provisioning, pre/post-refurbishment, etc)
- Configure, Provision
  - Set of steps for preparing a device which has passed inspection for deployment.
- Deploy, Assign
  - Assignment of responsibility for a given asset
    - Deploy to Staff
    - Deploy as Accessory to another Asset
      - Defer Responsibility
    - Deploy to Team
      - Responsible Person
    - Deploy to Customer
      - Responsible Person
    - Deploy to Location
      - Responsible Person
- Recall
  - Process for initiating return of a deployed asset
    - Dependent on the responsible party
- Refurbish
  - Process for upgrading the returned device to the latest build-spec.
- Dispose, Decommission, Reclaim
  - Process for removing an asset from lifecycle management.

- - Optionally reclaim component assets to inventory
- Abandon
  - Process for assuming a device to be lost, with plans for inspection and re-integration if rediscovered later.

Lifecycle Chart

	Fleet	Mftg	Office	Ops	Infra
Build	✓	½		½	
Receive	✓	✓	✓	✓	✓
Provision	✓		✓	✓	✓
Deploy	✓	☐	✓	✓	✓
Monitor	✓		✓	☐	✓
Recall	✓		✓	✓	
Refurbish	✓		✓	✓	
Dispose	✓	✓	✓	✓	✓
Abandon	✓			✓	

Legend:
✓   Required
½   Limited/Partial
☐   Uncertain

Lifecycle by Device

Fleet Device

- Built in house according to the latest **Build Process** (BP)

The latest BP will be stored in Gitbook. The BP is a descriptive implementation plan for turning components into a particular manufactured product, defined for compliance purposes by a Build Spec. Once the device is completed, it's handed over to QA for inspection.

- Inspected to assert conformance to current **Build Spec** (BS)

The BS is a prescriptive document of objectively measurable assertions about the produced device, which can then be used for confirmation of compliance to the spec, as well as for generation of programmatic forms/checklists, to be stored in the <TBD> (currently listed in Clickup) **Lifecycle Management Tool** (LMT). The BS will be in the format of <TBD> and stored in version control at <TBD>. Any time the BS is updated, the BP SHALL be updated to match. However, changes to BP need not require updates to BS, unless the relevant changes cause the resultant device to be out of compliance with the extant spec.

- Received in SnipeIT

- Provisioned for intended use

Flash SD with the sd-card-boot-image, and install in device. Power up device and open the NodeRed UI Dashboard. Register the device as the proper type, assign hostname and asset code. Once the device is successfully registered, install the MeshCentral agent using the [installMesh.sh](#) script (available at [this link](#)).

- Inspected to assert conformance to BS & functionality for purpose

Once the device is assigned for deployment, it gets sent back to QA to confirm compliance with the BS as well as to confirm that the device's main functionalities are working. Results of inspection are recorded and stored in the <TBD> LMT.

- Deployed in SnipeIT

Assigned device to the same customer in SnipeIT, MeshCentral, and the SGL Backend.

- Monitored in MeshCentral.

As needed, the device may be monitored, accessed, and modified remotely via MeshCentral.

- Recalled when purpose filled

All devices should be returned to HQ for refurbishment at the end of season. They should go through a receipt process that un-deploys the devices in SnipeIT, MeshCentral, and the SGL Backend.

- Pre-Refurbishment Inspection

- Refurbished up to current Build Spec

Refurbishment Department should print the BS used at device assembly, and the latest BS. Visual inspection of device and changes to BS should dictate what components are replaced. If need be, tear down the entire device and rebuild according to latest BP. All changes, updates, repairs, etc should be logged, with the log saved into the <TBD> LMT.

- Inspected to assert conformance to current Build Spec

Device is passed off to QA for inspection to confirm the success of the refurbishment process. Functionality for purpose testing not required at this step.

- Restart deployment cycle

If device is able to be refurbished, return to the SnipeIT Reception step, confirm that device is Ready for Deployment, and continue the next cycle from there. If device cannot be refurbished for any reason, move it to Disposal.
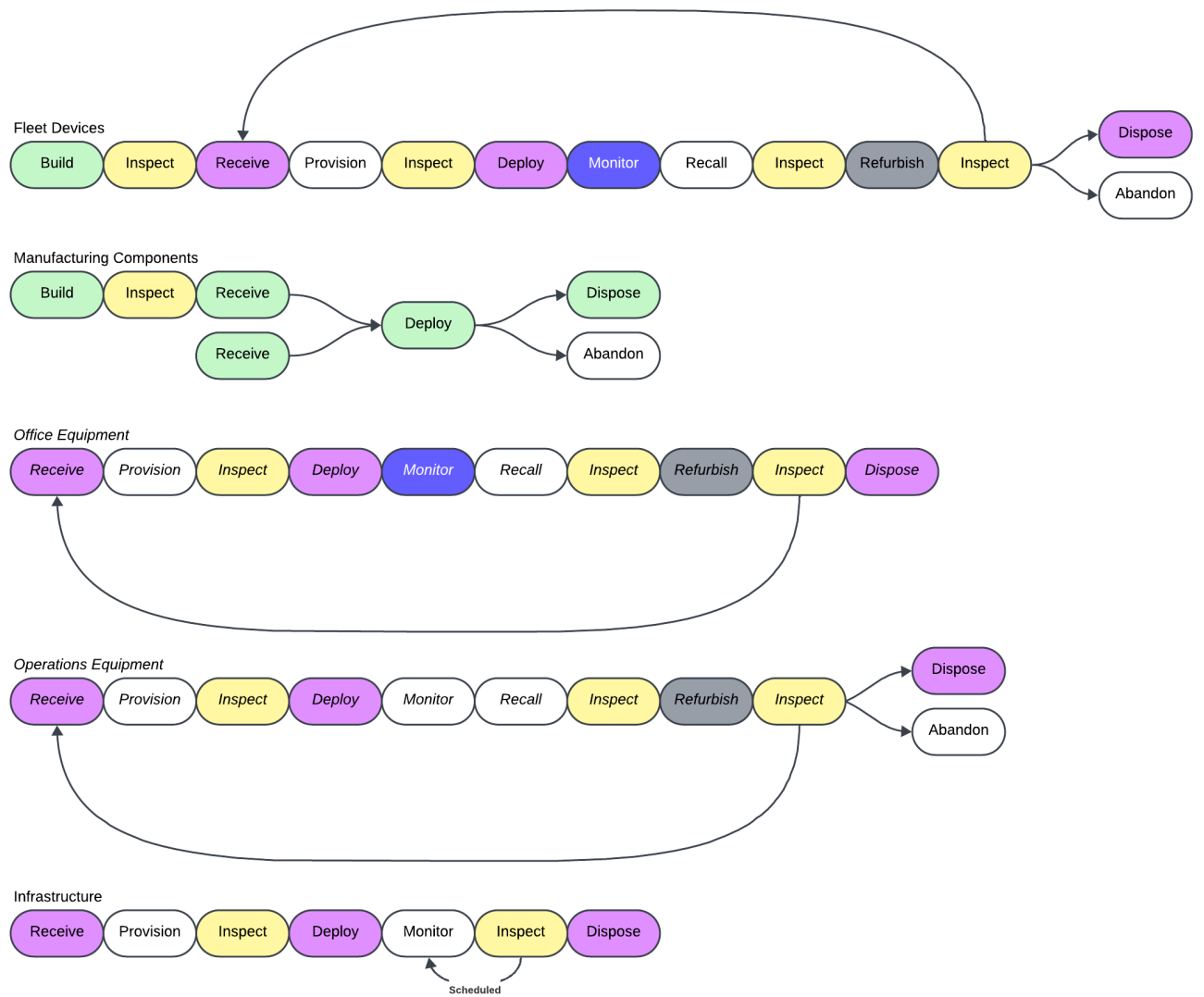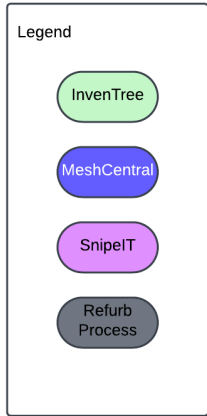
- Disposal Process

Device should be disassembled, with any functional and useful components retained for future use. Device should be deregistered from RemoteIt, MeshCentral, SnipeIT, and any other management tools. Set as disabled in <TBD> lifecycle management tool, and include any details associated with the disposal process. Log disposal form.

- Abandonment Process

If a device is lost or missing for an extended time, it should be assumed abandoned. <TBD> Steps should be taken to remove the device from as many systems as possible, while retaining minimal monitoring and management tools for establishing recovery if the device reappears in the future.

Diagram of all device lifecycles, with colors representing partial division of labor:

Legend

- InvenTree
- MeshCentral
- SnipeIT
- Refurb Process

Fleet Devices

Build → Inspect → Receive → Provision → Inspect → Deploy → Monitor → Recall → Inspect → Refurbish → Inspect → Dispose / Abandon

Manufacturing Components

Build → Inspect → Receive → Deploy → Dispose / Abandon
Receive → Deploy

Office Equipment

Receive → Provision → Inspect → Deploy → Monitor → Recall → Inspect → Refurbish → Inspect → Dispose

Operations Equipment

Receive → Provision → Inspect → Deploy → Monitor → Recall → Inspect → Refurbish → Inspect → Dispose / Abandon

Infrastructure

Receive → Provision → Inspect → Deploy → Monitor → Inspect → Dispose

Scheduled

---

snipeassets.showgroundsonline.com

http://snipeassets.showgroundsonline.com/hardware/664